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9.30 SALUTI AUTORITÀ

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Prof. **Nic JAMES**
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Prof. **Filippo GOMEZ PALOMA**
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EMBODIED COGNITIVE SCIENCE AND ADAPTED PHYSICAL ACTIVITY

BREAK

Prof. **Goran SPORIS**
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TRAINING OF STRENGTH IN SPORT SCIENCE

Prof. **Henriette DANCS**
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INTERNATIONAL SCIENCE MANAGEMENT IN SPORT SCIENCE THROUGH INSHS AND SPORTPROFNET

Prof. **Gaetano RAIOLA**
Adjunct Professor of Teaching Method of Physical Activity - University of Basilicata
MOTOR CONTROL AND LEARNING PROCESS

12.30-13.00 DIBATTITO E CONCLUSIONE DEI LAVORI

Segreteria organizzativa
Dott. Cimmino Giuliano, Dott. Mirabile Mario, Dott.ssa Corcillo Carmen

La S.V. è invitata a partecipare all'Evento Scientifico

International Conference on Sport Science and Disability

Aula Magna dell'Università degli Studi di Napoli "Parthenope"
Napoli, Sabato 15 febbraio 2014 ore 9.00

INTERNATIONAL CONFERENCE ON SPORT SCIENCE AND DISABILITY

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SESSION MAIN PRESENTATIONS

Chair: Prof. Filippo Gomez Paloma

Embodied cognitive science and adapted physical activities

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Abstract

Researches on Embodied Cognitive Science (ECS) are promising to become a rich interdisciplinary endeavor offering an opportunity to address, in a simultaneous and coordinated way, problems of philosophical and educational nature including the development of the mind-body-brain and its consequences in the teaching and learning of Sport Activities and Physical Education in the classroom.

These phenomena cannot be understood and studied outside the living and acting sentient beings coupled to a particular socio-ecological situation. Thus, the embodiment paradigm presents both conceptual and practical consequences that allow new ways to understand cognition, learning and teaching.

In parallel to this, a strong interest in Adapted Physical Activities (APA) has grown stronger over the years; an activity that, according to what Simard C. (1973) has been affirming from many years, includes any movement, any physical activity that can be practiced by individuals limited in physical, psychological and mental skills.

This work presents, in an integrated way, some of the consequences and reflections on embodiment, notably the role of physicality and corporeality on teaching-learning processes in APA, and the potential of an enactive approach in educational relation between teacher and athlete. In doing so, it offers ways to challenge and reframe problems and issues in APA to improve teaching, learning as well as research practices.

Introduction

Disembodied perspectives of cognition and learning linked to cognitivsm, computationalism and Cartesian dualism are still the prevailing and often unchallenged framework that guided the research in education (Pagé, 2013). In opposition, Wilson and Golonka (2013) suggest that the most exciting idea in cognitive science is the theory that cognition is embodied.

Embodiment is the surprisingly radical hypothesis that sees behaviours as emerging from the interplay of different resources distributed across the brain, body and environment, coupled together via the perceptual systems. The object of analysis and research of the embodied perspective on cognition and learning is the living, feeling, acting, knowing and learning being situated in a brain-body catalyzed by the opportunities and constraints stemming from its historical, cultural and social context (Campbell & Pagé, 2012).

There is no single "embodied" theory, but there are various ones: some of them primarily emphasize the importance of experience and perception, some others specifically that of the body and action. These theories have found their way in very different disciplines, ranging from neurosciences to psychology, from robotics to philosophy of mind, to reach anthropology.

It is a new theoretical perspective, according to which we understand the natural language expressions by the reactivation of brain areas devoted primarily to perception, movements and emotions (F. Gomez Paloma, 2013). Therefore, cognition is "embodied", and it also depends on body characteristics: in particular on the perceptual and motor systems.

If these systems are compromised, will even cognition be compromised? It depends. Who presents difficulties equally "perceive" the world. It must implement targeted activities.

APA, Adapted Physical Activity, includes any movement, physical activity, which can be practiced by individuals limited in physical, psychological and mental skills (C. Simard, 1973).

In this regard, education plays a key role: it aims to health education and prevention. But it is relatively easy to make understand what are the good things and those harmful to health, and it is rather difficult to be able to observe the essential directions, especially in relation to the fact that they must be pursued constantly and throughout life (C. Macchi, 2008).

But what are and where do the Adapted Physical Activities come from?

A first definition was given in Berlin in 1986: "*includes any movement, physical activity, which can be practiced by individuals with limited skills due to physical, psychological and mental deficits or alterations of main functions*" (Bianco A., Tasso E., Bilard J., Ninot G., Varray A., 2004). The idea underlying this practice was that everything that can be done must correspond to the real skills of the subject, and that it needs to start from him/her and the handicapper's residual skills.

APA programs are promoted and coordinated by the Local Health Companies. Each program is targeted to a specific

chronic disability. For each program the criteria for inclusion/exclusion, access methods, exercises and verification of quality are made explicit. From all APA programs, however, subjects with clinical instability for which the therapy is exclusively healthcare are excluded.

Objective

The objective of this study is the link between a new theoretical perspective that gives the body a main role, Embodied Cognition, and APA, Adapted Physical Activity, which includes movement, which can be practiced by individuals limited in physical, psychological and mental skills. The aim is to find a possible correlation and highlight discrepancies.

Method

To understand if it's possible to use the theory of the Embodied Cognition to create new methods in the field of the didactic proposals of APA it needs to analyse two specific topics, each one concerning one of the two fields (ECS and APA).

The first topic, linked to the ECS, concerns the need to justify the mechanisms of technical-relational process between educator/trainer and student/athlete.

Thus it needs to make the following questions and give them an answer.

- Is there a difference between motor and cognitive learning?
- Does the motor learning process follow the same neurobiological mechanism of the cognitive learning?
- Which line of research of the ECS is more appropriate to APA?

For what concerns the second topic it's mainly important to analyze the type of technical-educational procedure required by APA. But we have found other questions to be answered.

What does it take to run APA?

Are there specific and restricted protocols according to the problems?

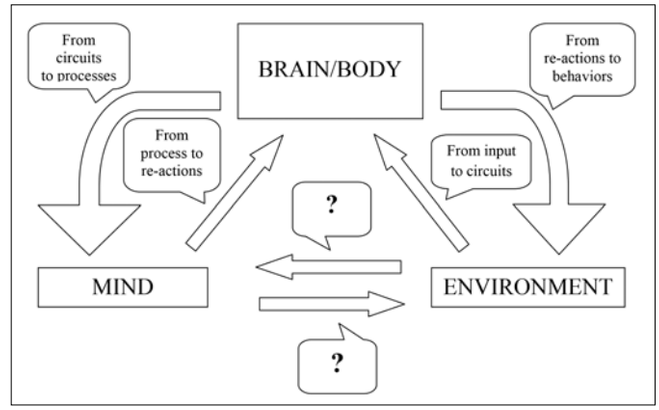
Do the exercises focus more on the objective or on the process?

This theoretical-argumentative study has carried out a research starting from the scientific evidences to try to give an answer to the above mentioned questions.

Results

The epistemological framework of this Embodied Cognitive Science is consistent with the phenomenological positions by Merleau-Ponty (1962) and Varela, Thompson et Rosch (1991), who argued that cognition and learning are embodied, thus they're physically situated; it leads to a total rejection of the idea that the relations among the mind, brain-body and behavior are inaccessible to the scientific studies. In particular, the radical embodiment (Thompson & Varela, 2001) presupposes that any change in the subjective experience, first of all, must objectively manifest, somehow, as a change in the brain, the body and the behaviors, and vice versa. In this way, this perspective proposes to view the mind-body-brain as one unit of analysis, leading to look for links among subjective experiences, brain-body behaviors and the socio-ecological "milieu" (Pagé, 2013).

Starting from these mentioned principles it's possible to contextualize the paradigm of the ECS according to this model:



[Fig. 1] Relationship among Environment – Brain/Body – Mind

More in detail it's possible to analyze the development of the new lines of research of the ECS starting from its origins. Indeed, if the Classical cognitive psychology has laid the basis for giving the mind the primacy of the elaborative computational function, the ECS drastically revisits this scientific interpretation and bases its raison d'être on two peculiar elements of the learning process: *perception and action*.

Depending on the predominance of one of these two elements the ECS structures itself in a specific way or another but, in both cases, it's the body that represents the scientific essence and justification that cannot be ignored and, thanks to which, the processes of the human mind are developed.

Against this very intriguing scenario, on both a professional and scientific level, it needs to reflect on how much and how is it possible that APA use the basic principles of that school, creating contexts for the development of new experimental research protocols and new didactic methods congruent with the learning environments in the world of sports.

Indeed, if it is true that the ECS and APA are quite different from each other, it is also true that the personalization of the process strongly connects to both them. It is certainly a formula that fully responds to the perceptive and active participation in the development of the conceptual representation (indispensable humus for the ECS).

So in relation to the problems of handicapped individuals practicing APA, it needs to study on a methodological "binder" working at the root of the problem, on the interpretation of the 2001 ICF, or International Classification of Functioning, Disability and Health.

With this classification we see a major conceptual leap; indeed, the ICF describes the health status of people and identifies their difficulties within the context in which they live by highlighting what positive there is in them to enhance their residual skills. The terms impairment, disability and handicap are replaced with those of bodily, psychological, physiological functions and structures, activity, namely the description of a task or an action performed by the subject and his participation, indicating his involvement in a life situation. The logic of this document is that disability is a normal feature of the human being, its intrinsic feature, thus it's no longer a characteristic element of a minority group, i. e. of someone with an illness or a disability but it belongs to everyone, because we all can experience the condition of disability in life. Therefore, the ICF concerns all people, in every situation, and not necessarily those disabled.

In a holistic vision of the person, the problems relating those who practice APA, mainly concern:

- The perception of the information (sight – hearing – touch), mainly in the case of the *sensorial disability;*
- The planning of the movement (interpretation – attention – memorization…), mainly in the case of the *mental disability;*
- The performance of the movement (global and segmental coordination, equilibrium), mainly in the case of the *physical disability.*

In this work it will be paid much attention on the performance of the movement by reflecting on the scientific directives that the ECS may offer, particularly thank to Gibson's American pragmatism, and on the possible consequences that this line of research of the ECS can have of the coordination process.

Discussion

Let's start this reflection on Gibson's ecological position on the re-evaluation of the motor action. His psychology is mainly based on the concept of "affordance" according to which the individual does not perceive a copy of what the outside world resends to him, but he picks up a series of high order information useful to his action.

This concept is the result of three basic points of Gibson's ecological approach that can be summarized as follows:

- the perception is direct, i. e it doesn't require mental representations;
- the perception i sto lead the action and not to collect information;
- if the perception is direct to the action and improve it, thus the environment must offer sufficient and appropriate information to lead the action.

It's precisely on this third point that wee need to focus on.

For example, analyzing the coordination process, it uses proprioceptive, exteroceptive and interoceptive information to elaborate, on the basis of their interpretation, a possible and optimal motor response.

If what Gibson affirms is true the elaboration does not come according to an absolutistic model, but according to the motor inclinations and conditions that will lead the subject to work for the achievement of that specific objective.

In practice, there's no possibility for the subjects with motor disability to do what they have been specifically required, not for the limits due to their disability but for the sense and interpretation they give to the environmental inputs. Therefore a person meets an aim as a whole and, since he/she's characterized by a motor action, he/she leads perception.

This complex but very interesting scenario questions the principle of perception/cognition/action, overcoming the idea that the elaborative system of the mind can work without considering all the variables that the ICF classification issued by the WHO invites us to take into consideration for some time.

Turning to the coordination process, the performance of the movement (global and segmental coordination, equilibrium), especially for what concerns the physical disability we must consider the principles that belong to the theory of affordance; principles that emerge from a specific health condition so it results difficult to work educationally on a sporting level by classifying the subjects accurately and with rigid protocols. Indeed, very often there are difficulties in relationship, verbal and non-verbal expression, self-esteem, awareness and autonomy that condition all that's really necessary to perform motor actions.

Due to this problematic situation, therefore, it needs that the individualized work plans are proposed by taking into account the multiple aspects involved and are formulated in close cooperation with sports and motor professionals with experience in APA.

The adjustments should be based on the potentialities of disabled persons in relation to:

- bio-mechanical features of the motor action;
- coordinative complexity and cognitive/attention skills of the subject;
- affective/emotional part of the sense-motor pleasure it generates. (Cazzoli, 2007)

It is right for those who work with subjects in difficulty and want to carry out APA activities that enhance the principles of the ECS to absolutely take into consideration two indispensable requisites:

- the *culture of the task*;
- the method of the *task analysis*.

The culture of the task requires that all learning group participates in the teaching/learning process. The same line in the ECS focuses on the value of the "situation" as an interacting element of and in the process.

For the task analysis (Gardner, Murphy, Crawford, 1985), however, we mean the need to consider:

- innovative stimulus situations
- use of the positive results.

Therefore the motor task analysis requires that the tasks have a degree of inclusiveness in their implied structuring. It is essential to pay particular attention to the special educational needs, as in accordance with the pedagogical theories of the most authoritative scientists (Vygotsky, and Bruner) and the latest researches carried out by Ianes (2013) on BES.

The motor learning is recognized as the acquisition of motor skills, seen as motor task, i. e. ability to solve a motor and/or functional problem for a purpose that guides the perception itself (Gibson, 1979).

This circularity of information is also investigated by the French physiologist Alain Berthoz who, with great determination, is studying hard to understand the intuitive and simplex mechanisms (that's how the author defines them) with which the body can solve the problems put to the subject by the variable and complex environmental dynamics (Berthoz, 2011).

Conclusion

Therefore it clearly emerges that, taking advantage of the successful contribution of the new paradigm of the ECS, the carrying out of all physical activity and any proposal make possible the acquisition of new elements by empowering the already delicate role of the educator/trainer.

This role, in fact, is really difficult: it includes both the role of the technical and professionally prepared expert and that of the animator able to spread vitality and enthusiasm; moreover, he/she must be able to involve the subject in all proposed circumstances, especially when they feel they're not able to do something. Caring for both the individual and the group, he/she must seek an empathetic relationship and should focus on the information from participants and their needs.

The proposed activities must be always motivated even functionally, with an explanation that can be easily understood in order to recognize the subjective meaning of all movements, even those seemingly trivial. The proposals must be leading and involving in order to stimulate an active and sharing motor response.

In conclusion, it could be very interesting in the future to launch fieldwork testing protocols not only in sports (APA). Specifically in physical education carried out in schools of other countries, in fact, the concept of Adapted Physical Education (APE) already exists. Some authors understand it as a specialization of physical education for students with disabilities (Block, 2000), others as "sub-discipline of physical education that allows the experiences of personal safety, satisfaction and success for students with different abilities" (Winnick, 2005).

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Performance analysis – A 2004 perspective

Mike Hughes
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Over 10 years ago the British Olympic Association's Biomechanics Steering Group was redefined to include notational analysis and become the Performance Analysis Steering Group. This was clearly explained and rationalised by Bartlett (2001), the then new group's Chair. Later, the Group expanded further to include representatives of motor control. What were the principles behind these integrations? In what ways can performance analysis teams composed of such experts help the coach? Can they advance our understanding of performance as scientists? How are performance analysts adopting each others' skills and information? How are the workers in the field adapting to the changes in technology and the increasing demands of professional sports and National Governing Bodies? Where do we go now – where is the technology taking us? Is it taking us towards integrated analyses systems, bringing the three disciplines closer, or are we being pushed further apart?

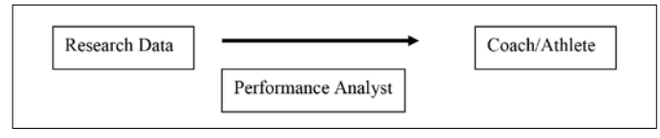
What is a definition of performance analysis? I was recently badgered by a colleague to give him a definition of this area, I was reluctant to begin an attempt. Explaining why is difficult. I feel that by delimiting this new area of analysis, we may then restrict with what, where, and how we can analyse performance and, more, how we can then apply these analyses. By imposing boundaries to the area, we might limit the scientists who can contribute and could validly expand the subject areas, thus reducing possible horizons of development. By applying a strict definition, do we not then define the confines of our world – risk becoming pigeon holed and thus becoming limited in our analyses of sport? At this moment I have not seen a definition of performance analysis – does this then question the point of this article? Sports science is an applied science of sporting behaviour. There are few sports scientists then who could not be classed as performance analysts.

To introduce level two students to the area of notational analysis, we explain, "notational analysis is an objective way of recording performance so that key elements of that performance can be quantified in a valid and consistent manner". The role of feedback is central in the performance improvement process, and by inference, so is the need for accuracy and precision of such feedback. The provision of this accurate and precise feedback can only be facilitated if performance and practice is subjected to a vigorous process of analysis.

The applications of notation have been defined as:

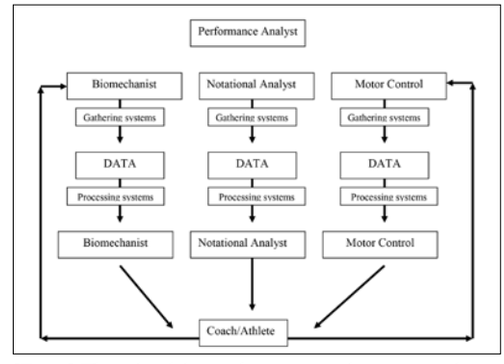
1. tactical evaluation;
2. technical evaluation;
3. analysis of movement;
4. development of a database and modelling, and
5. for educational use with both coaches and players.

Most pieces of research using notation, or indeed any practical applications working directly with coaches and athletes, will span more than one of these purposes.



[Fig. 1] Linear relationships in data gathering and feedback

When I first started working in sports science, using stone digitiser tablets, the relationship between the scientist, the research data and the consultancy data was linear. Research data were often used to prescribe to the coach the training, tactical and technical strategies to be used with their athletes. As performance analysts became more experienced and more skilful, and often an integral part of the coaching and feedback processes with coaches and athletes, they tended to develop systems that were capable of providing in-event and post-event analyses of performance for the coach and the athlete. This also coincided with the introduction and development of computerised data gathering systems, the analogue nature of which inhibited, in some ways, the data analysis and presentation to the clients, it did aid the process in other ways.

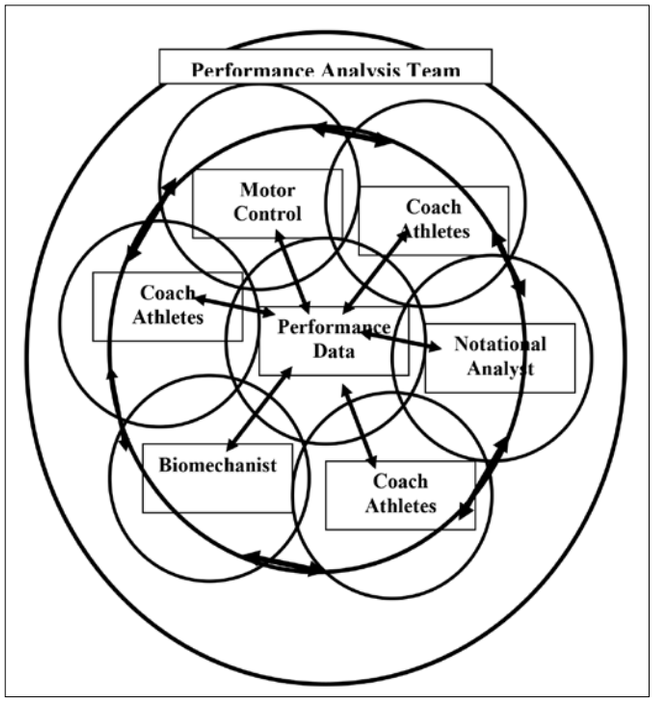


[Fig. 2] The role of the performance analyst using early analogue video and computer systems to gather and process performance data for the coach.

Because the performance analyst was now the 'technogeek', writing programmes, expanding data sets, exploring different ways of presenting the information, unfortunately most coaches were excluded from the process because of the accepted 'technophobia' of the time. There were one or two coaches who more than kept pace with the then current technology. In fact, it is interesting that most of the performance analysts of the late 80's and 90's were themselves coaches of different standards.

Figure 2 presents a schematic of how analysts worked in the mid-80's through to the late 90's. Feedback loops from the coach/athlete teams to the separate analysts, when they existed, were separate – the sports science support teams of these times rarely talked to each other. The analysts in their separate disciplines collected the data, invariably they did all the videotaping themselves. The analogue VHS video cameras were unwieldy and bulky, so they were not generally used as leisure tools – so even operating video cameras was not a common skill amongst coaches and athletes in the late eighties/early nineties. Analysing the video, with either commercial software (there was not a lot) or specifically designed systems, precluded the coach and athletes. Processing the data and presenting them in forms that the coach and athletes could understand was another problem area – it was only in the late eighties that PC's began to include colour screens and graphic capabilities. Commercial graphics packages arrived in the early 90's. The analyses of the data were yet another interface between the performers, the coaches and the analysis of performance. No matter how educated and enlightened the coach, the interpretation of these outputs (and the performance) was in the hands of the respective analysts. So, consciously or unconsciously, the analyst acted as a 'filter' on the interpretation of the data twice – many analysts attempted to involve the coaching teams in the design of these filter systems, but this was not always possible.

Notational analysis changed radically with the introduction of digital technology. Coincidental with this new technology was the availability of the first commercial data gathering systems, and much more user-friendly computerised video-editing systems. The introduction of digital video cameras not only enhanced the quality of the recordings and the access to instant recall of any part of a performance (when accessed from digital storage not tape), but they immediately invaded the leisure market. In a couple of years everybody could operate video cameras. In recent years, computerised interactive analysis software, available commercially, improved step by step. These systems have become more and more easy to use and a lot of the mystery has been removed from producing edited videotapes of a performance. This means that coaches and athletes are now becoming more and more comfortable with handling the hardware and the software and can then take a more informed position in the partnership of the performance analysis team. This means the 'data mining' process can be one in which the whole team can be involved, it no longer means that the analyst is the only one understanding the process and the output. Inevitably the analyst will do the major part of the work, but performance data are best gathered and analysed as a product from a performance team – a combination of analysts from different disciplines, coaches and athletes, sharing as much information as they can (Fig. 3).



[Fig. 3] A digital systems approach to the data sharing that the interactive commercial systems have enabled for performance analysts working with coaches and athletes (apologies to Popper).

Digital technology makes this process so much easier now as the process becomes easier for all to assimilate.

The software houses have not yet grasped the nettle of providing generic quantitative data analysis systems, in any depth or sophistication, integrated with their data gathering, but that cannot be far off. The data made available from these systems can then be easily interpreted. Therein lies a host of dangers for the coaches and athletes.

Interpretation of complex multivariate data is usually a job for experts (brain scans, 3D partial differential equations, piston engine tuning, repairing a TV, setting the timer on the video) and human performance is a very complex interaction of limitless performance indicators (see Hughes and Bartlett, 2002, for a discussion of their importance). In addition, before analysing the data, it is very important to establish reliability of these data through consistent operational definitions (see Hughes, Cooper and Nevill, 2002), and ensure that enough of these data have been collected to enable a stable profile to have been defined (Hughes, Evans and Wells, 2001). Data interpreted simply gives simple messages, and as long as the data are accurate then the messages must be true? Not so, British football went down the tactical cul-de-sac of the 'long ball' game for 30 years, because of simple interpretation of sets of data, incontrovertibly correct, but analysed in such a way that it only gave half the story that the data tell (Reep

and Benjamin, 1968; Hughes and Franks, 2004 and 2005). To analyse these types of multivariate data appropriately you need to be trained to the level of an expert, and you need to be experienced in working with elite coaches and athletes. The current working performance analyst is constantly updating their knowledge and skills due to the widening scientific base from which they are working, and the constant race of improvement in digital video technology, their computerised interfaces and the computers themselves. So much so that UWIC, Cardiff (now Cardiff Metropolitan University) pioneered an MSc in Performance Analysis – in addition, analysts trained at the Centre for Performance Analysis occupied many of the posts offered by professional sports organisations. There are now a number of universities in Britain offering these or similar courses.

The working practise of notational analysts embraces most sports utilising a spectrum of software packages, together with the occasional application of a hand notation system. All systems of data collection, such as Focus or Sportscode, are carefully tested for reliability using clearly defined operational definitions, and statistical techniques applied to ensure that enough data has been collected to define stable profiles of performance. These will be used by coaches with their own players, to explore their strengths and weaknesses in technique, tactics and movement. Edited videotapes will then highlight the work that will need to be done to eradicate weaknesses and maintain their strengths. The same methods of analyses will be used on possible opponents, to examine best tactical strategies to employ against them. Movement analyses can explore fitness levels and/or movement technique, fundamental to success in many match play sports. Qualitative biomechanical analysis systems, such as Silicon Coach, Quintic and Dartfish, can be used in conjunction with the coach to explore technical problems, using still frame or slow motion analyses. Some analysts are finding high speed video cameras (400 fps) particularly rewarding, in this way, with racket sports coaches and players. Analysts spend half their time now editing videotapes for feedback, feed forward purposes for players and teams, motivation tapes, education tapes and coach analysis tapes. So in that way, their modus operandi has undergone a huge change over the last ten years. These new systems do aid that process immensely. There are now generic tracking and action analysing systems that can yield an immense amount of data of a whole team performance - Prozone is one commercial example of this (used by England RU, and a number of Premier Division Clubs in England). These are expensive in terms of capital outlay for the equipment and software, but they do yield huge databases of information, which in turn will demand expensive amounts of time to analyse them appropriately.

Recent research has reformed our ideas on reliability, performance indicators and performance profiling in notational analysis – also statistical processes have come under close scrutiny, and have generally been found wanting. These are areas that will continue to develop to the good of the discipline and the confidence of the sports scientist, coach and athlete. Data gathering systems exploring any performances gather thousands of bits of data when attempting to describe the whole performance. To distil this process, some analysts have examined the rhythms of some games and then recorded just those events that disturb the natural rhythms, these were called 'perturbations'. Some perturbations can lead to a critical event, such as a shot on goal (soccer), or a winning shot (tennis, squash or badminton), others may be 'smoothed out' by some good defence mechanisms. By focusing on these types of events the analyst reduces the datasets by an order of magnitude, making the analyses more relevant, if not always simpler. A new application of analysis techniques is to develop 'momentum profiles' through notational analysis.

Momentum is described as being positive when a player executes a series of 'positive' skills, negative when a series of errors or mistakes occur. Players in all sports have the hot and cold streaks – but do the champions control their 'streaks'? In squash we defined positive momentum as a player hitting successive winners, negative momentum, as a player hitting errors, and if the player is passive, not hitting winners or making errors, then the player's momentum will stay the same. Our study demonstrated a quantitative, yet qualitative, approach to psychological momentum. Both the world #1 male and female players have average performance indicators of positive momentum significantly higher than their peers. Further research needs to be done to analyse why their peaks are longer and steeper.

Some exciting trends are to be found in modelling performances and match play, using a variety of techniques, many examples can be found in the Journals now available in these disciplines, the International Journal of Performance Analysis of Sport (electronic - eIJPAS) and the International Journal of Computers in Sport Science (electronic – eIJCSS). The simplest, and traditional, form is using empirical methods of producing enough performance data to define a performance profile at that particular level. Some researchers are extending the use of these forms of data bases to attempt to predict performances; stochastic probabilities, neural networks and fuzzy logic have been used, singly or in combinations, to produce the outputs. So far results have been a little disappointing in practical terms, but it does seem to have potential.

Where does this leave the Performance Analysis group? It is rare that biomechanists, motor control scientists and notational analysts actually get together, let alone work together. Apart from Prof. Bartlett, biomechanists seem reluctant to take up the challenge of working in this new environment, with shifting and changing technology. Motor control are still exploring the possible horizons of collaboration.. The current technology does seem to have the potential of bringing us all together but it is sometimes difficult to explore a new modus operandi, especially away from the safe confines of a laboratory. This could be a unique opportunity to implement all

the promise offered by digital technology (Fig. 3). Coaches and athletes always want simple answers, yesterday, for tomorrow's problems, it is not an easy environment in which to work. I am conscious of not answering many of the questions that I posed at the start, but I am not unhappy about that – perhaps just one of them is a good question?

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The experimental protocol in Sports Science

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Introduction

When undertaking a research project careful planning is required to ensure that data collection is sufficient to enable the research question to be answered. This effectively means that the subsequent data analyses can adequately test the experimental hypotheses. This paper will present an example of the research process highlighting the formulation of the experimental hypotheses, data collection planning and implementation, analysis procedures, results and final conclusions.

Journal article used

Vučković G., James N., Hughes M., Murray S. R., Sporiš G. & Perš J. (2013), *The effect of court location and available time on the tactical shot selection of elite squash players*, Journal of Sports Science and Medicine, 12, 66-73.

Formulating an hypothesis

Previous research in squash had suggested that individual patterns of play (consistent shot selections) were difficult to determine (McGarry and Franks, 1995; 1996) but the authors also pointed out that the preceding shot condition alone might be too simplistic a predictor of shot response. We thus considered the time between shots and the proximity of the ball to a wall as potentially two important variables that could influence shot selection. We hypothesized that sorting shots according to where they were played from and how much time was available would differentiate specific patterns of play, which would otherwise not be seen.

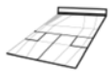
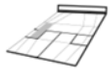
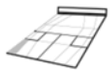
Data collection

In order to collect enough data we had to consider how the analysis would proceed. Each shot played was classified by shot type e. g. straight drive, boast (n=25) and court location (n=15). Whilst some shot types are played very frequently e. g. straight drives others occur relatively infrequently e. g. volley boast. Similarly most shots in squash are played from the back of the court and relatively few from the front of the court. This means that even after collecting quite a large sample of matches some shot types from some court locations would not occur frequently enough to make analysis worthwhile. For this study we therefore tried to limit the research questions to make data collection manageable.

The first decision made to limit the data collection was to only sample right handed players since it may be the case that different shot selection strategies are used when playing against left-handers. Of course this is a limitation of the study as no information will be derived for right against left handed players or left versus left handed players.

Ten elite matches, contested by fifteen of the world's top right handed squash players (age 27 ± 3. 2, height 1. 81 ± 0. 06 m, weight 76. 3 ± 3. 7 kg), at the men's World Team Championships were processed using the SAGIT/Squash tracking system with shot information manually added to the system. Once all the shots had been input (n=13,014) the incidence of shot types in each area could be calculated. After assessing the data for incidence of each shot type for each court area we decided to only analyse court areas (n=11) where over 3. 5% (n=455) of shots had been played and only shot types (n=9) which occurred over 2. 5% of the time (n=325). This reduced the sample of shots to 10,062. However we also wanted to consider the time available to play the shot and this obviously removed the serve from the analysis, which meant the total sample of shots available for analysis was 9587 (73. 67% of original sample).

In order to assess if the availability of time affected the shot selection we needed to categorise the time available into sensible time frames. After some experimentation we realized that the time frames needed to be different for the front, middle and back of the court areas since different distances needed to be covered to get into these areas. Since we were now splitting the data again (this time into three time zones of low, medium and high) we were again lowering the data available for analysis. Again this meant that data was limited and therefore too low for meaningful analyses in some area. Consequently we only analysed data from the area most frequently played from at the front, middle and back of the court (31. 93% of the original data, Table 1).

Area of court ball hit from	Area of court ball hit to	N	Mean time (s)	St dev	Min	Max
	Low (<1.06s)	79				
	Mid (1.06s to < 1.22s)	179	1.20	0.22	0.84	2.52
	Long (≥1.22s)	132				
	Low (<1.00s)	206				
	Mid (1.00s to <1.20s)	276	1.11	0.24	0.56	2.56
	Long (≥1.20s)	221				
	Low (≤1.20s)	1005				
	Mid (1.21s to <1.60s)	975	1.48	0.40	0.76	2.76
	Long (≥1.60s)	1083				

[Table 1] Descriptive statistics for time prior to shots played from selected areas in the front (6), middle (10) and back (2) of the court.

Results

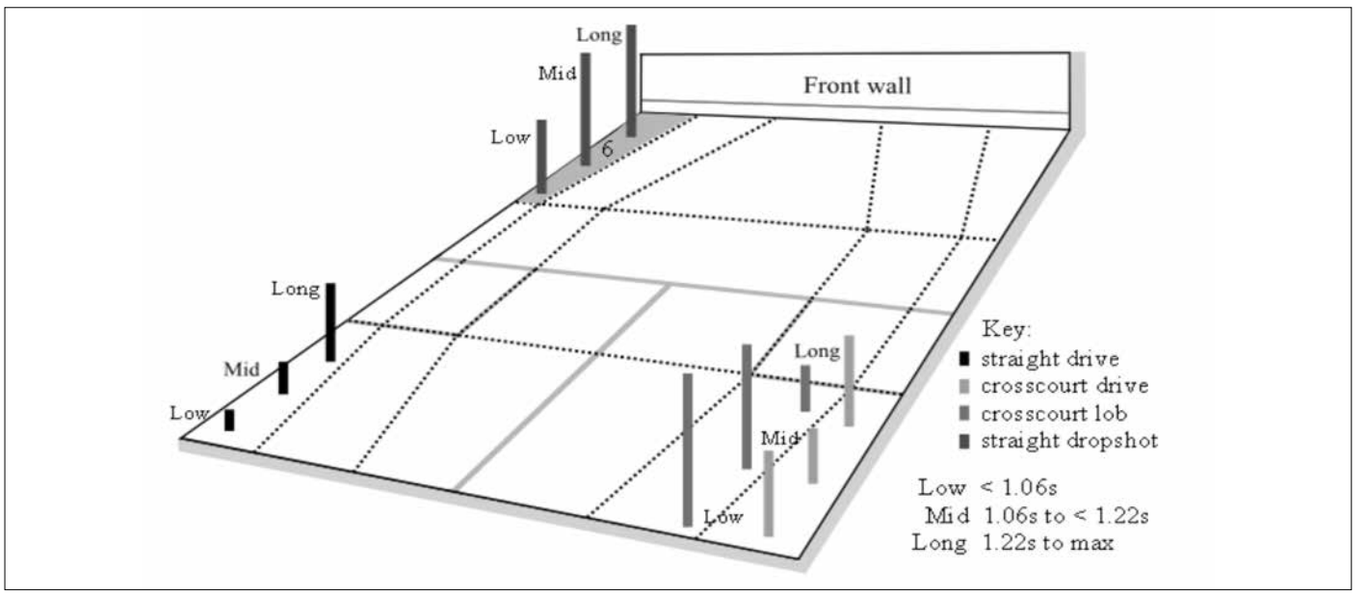
In area 6 the front right of the court was played to very occasionally using two wall boasts (2. 31% of total shots) and crosscourt drop shots (2. 05%) and so were not shown in the Figure 1. It was clear that when players did not have a lot of time to hit the ball (low and mid time) the crosscourt lob was used frequently (44. 30% and 36. 31% respectively) whereas when there was more time this shot was seldom used (13. 64%). In contrast it was only in the long time category that the straight drive was used over 10% of the time (22. 73%).

Discussion

When the time available to play a shot was considered it was evident that shot selection exhibited both variance and invariance (McGarry and Franks, 1996). In area 2 (back left corner) players predominately played straight drives irrespective of the time available. This is indicative of players being able to maintain a general strategy of keeping the opponent in the back of the court using a relatively invariant shot pattern. It was shown that as the time a player had to play a shot decreased the variation in shots played also decreased. The greatest variations in shot selection were found when shot times exceeded about 1. 2s.

Conclusion

Invariant behaviour i. e. a playing pattern, was found despite the fact that the 10 matches analysed involved 15 different players, suggesting that typical responses can be identified although this is most common when players have small response times (<1. 2s).



[Figure 1] Percentage occurrence of shot types for area 6 determined by the time interval in relation to the previous shot.

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Motor control and learning process

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Abstract

The didactics traditionally is imparted by the coach/trainer/teacher with tutorials that have the theoretical basis in the Cognitive approach. It means the coach/trainer/teacher illustrates in greater detail by the coach, are of Partial type, Varied, Randomized and Mental Training. It refers to the models of motor control to Open Loop, Closed Loop, and Motor Program Generalized. Teaching Methods of Physical activity is also imparted by another approach called Ecological-Dynamic where the coach does not require the tutorials, but builds a setting learning environment aimed at variety of learning. It refers to the models for the control of the Motor Imagery and Freedom Degrees. The first one could be in first person and in third person; the second one is three consecutive steps: Reduction, Exploration and Capitalization of the degrees of freedom.

Aim is to study the issue of motor control theory and its relation to learning process. It carries out specific aspect of learning approach. Main results show two types of correspondence: 1) between cognitive approach and motor control closed loop, open loop and generalized motor program; furthermore, there is a significant correspondence among order, demand, sequence and timing on movement learning: 2) between ecological dynamic approach and motor control Motor Imagery and Freedom Degrees; furthermore, there is a significant correspondence among setting, learning environment and specific strategies of teaching method such as cooperative learning, role playing, circle time, brain storming, peer education, tutorship, focus group. In this way it can see the invasive role of the coach/trainer/teacher in cognitive approach and non-invasive role in ecological dynamic approach.

Keyword

Cognitive approach (Open Loop, Closed Loop, Motor Program Generalized), Ecological Dynamic approach (Motor Imagery, Freedom Degrees)

Introduction

In the teaching method of physical activities is traditionally makes use of tutorials that have the theoretical basis in cognitive approach. The physical activities is traditionally imparted by the coach/trainer/teacher with tutorials that have the theoretical basis in the cognitive approach. They, illustrated in greater detail by the coach, are of Partial type, Varied, Randomized and Mental Training. Refer to the models of motor control to Open Loop, Closed Loop, and Motor Program Generalized The partial tutorial consists in making exercise a motor skill complex initially in a simplified form. Movements with a certain degree of difficulty, very complex, can be simplified by dividing the exercises or reducing the speed or requests for precision. For all forms of partial tutorial is the rule that is obtained of learning only as long as the techniques of partial tutorial, that is fragmentation, segmentation and simplification, does not adversely affect the deep structure of the motor program generalized. The tutorial randomized and that varied are other techniques of tutorial that find their justification in theory engine programs generalized. The theory of the programs motors has generalized methodological implications-didactic on direct choice of which provide information in the feedback. This choice depends on the type of error made by the athlete/student. The techniques of mental repetition consist in think about the aspects cognitive and procedural of the action, while the mental representation is to imagine the conduct of an action. In the teaching of motor activities there is also another approach called Ecological-Dynamic where the coach does not require the tutorials but builds a setting learning environment aimed at variety of learning. It refers to the models for the control of the imagination and mobility of the theory of the degrees of freedom in three consecutive steps for learning impairment: Reduction, Exploration and Capitalisation of the degrees of freedom. According to the ecological approach "learn" means being able to find progressively the mobility solution best for a given task in a given context. Emblematic is the expression, coined by Bernstein, "repetition. without repetition": practice does not mean always repeat the same solution to a given task, but repeat over again the process of solving the task itself. If learn movements means optimizing the process of solving tasks engines, resulting didactic implications different from those prescriptive

own cognitive approach. In heuristic learning the teacher must assist the student in research autonomous mobility solutions. If the learning tasks too complex, you should not impose constraints to the learner in telling him how prescriptive him how prescriptive simplify the implementation mobility, but you must apply constraints to the environment. Aim is to study the issue of motor control theory and its relation to learning process.

Methods

It uses an integrated method that joins, in one hand, a historical and documentary approach to describe the evolution steps, particularly on theoretical paradigms on didactics on motor learning. In other hand, it uses an argumentative deductive approach to talk about on new discoveries on motor control and learning.

Discussion

It analyses the current state of the affair of how and why the body and movement are central in the learning process, through methodological and didactic choices in teaching activities at whose foundation there is scientific evidence. "Conceptual knowledge is embodied, that is mapped in our sensory-motor system. This not just provides the structure to the conceptual content, but characterizes the semantic content of concepts according to the way we function in the world with our bodies" (Gallese & Lakoff, 2005).

Below is presented a brief summary of the main currents of thinking in the context of motor control and learning, in order to evaluate the resulting of teaching methods, and so to verify if the indications presented in the educational documents can be traced back to such theories. They are synthesized in Cognitive approach and Ecological-Dynamic one.

Humans have, in the brain, a series of motor programs, or sequences of commands that, in the central nervous system, coordinate the execution of movements. According to a first formulation, processing of information from sense organs, particularly proprioceptors, allows the system to correct the movement at timing execution. The closed-loop motor control theory (Adams 1968) assumes that the movements are sufficiently slow to allow correction during implementation, based on the data from the feedback. The movement is sufficiently slow when every information on movement, scientific called feedback, could be processed by mind in two hundreds milliseconds and so it is used by the effectors. The longer the execution time, the wider the opportunity to use the motor control circuits based on feedback and comparison between memory trace and perceptual trace. Memory trace is the ideal motor program to take place and effect as well as is in the mind without errors while Perceptual trace is the real motor program that is effected with the errors (Adams 1975). Comparison is the process which the mind to determine the differences between to ideal motor program and real one to carry out the errors by the feedbacks. In other word, when motion is quicker than of nerve impulses conduction (up two milliseconds), the movement is not susceptible of correction in progress and is programmed completely in the central nervous system due to the inability of the brain to process information and data below the time threshold of two hundred milliseconds according to open loop motor control theory (Schmidt 1985, Keele et al. 1986). Learning movement consists of developing cognitive structures, known as motor program, through information processing. These processes allow the opportunity to compare in real time, by closed-loop motor control, or later, by open-loop motor control theory, obtain results, triggering a process of adjustment and refinement of movement. Its structure is such that allows the performer to adjust the movement in order to meet the changing needs of the environment. In this way, the generalized motor program (Schimdt, Wrisberg 2004) joins the feedback and comparator between memory trace and perceptual trace, as occurs in closed-loop, and the innate properties of motor centralized program and the exceeding the limit of time threshold of two hundreds of milliseconds to elaborate, the perception, as occurs in open-loop. All of these three motor control theory, open-loop, closed-loop and generalized motor program, are the basis of the cognitive approach. Cognitive approach is used by prescriptive style teaching and has its basis on the preeminent role of the voluntary and determined movement on the environment.

The ecological approach, opposite approach of to cognitive one, does not consider necessary to use prescribing mental structures: the action is directly available to those who act in their own environment, the self-organization that do not require the use of a motor program (Edelman, 1987).

In this approach, learning is defined as an education of attention (Gibson, 1986). Learning means to optimize the processes of perception and develops the ability to dictate the specific stimuli.

In two these approaches presented here, the perception of the context is different and the learning process is defined differently. In cognitive approach, motor learning means to stabilize an efficient motor program according to special processing information. In ecological-dynamic approach, motor learning is to seek the adaptability of the movement as resulting by the diversity of the environment and the specificity of the individual (Carnus & Marsualt 2003). This approach, the other one, considers evolution of behaviour of complex systems, where a complex system is a set, where the body moves, composed of multiple interacting factors made by body segments. In the dynamic perspective learning is to build and stabilize a new state not included in the initial coordination dynamics of the system.

The direct consequence of the cognitive theory in educational applications is a prescriptive approach, with a teacher who directs the structure of motor programs, with increasing complexity, and the optimization of their parameters. The aim of the exercises will be to stabilize and improve motor program by reducing the variability in execution through the repetition method and other didactics such as exercise varied, segmented, randomized and idea motion training.

Teaching, in ecological approach, is designed to stimulate the emergence of spontaneous solutions, called heuristics to motor problems, taking advantage of variability in executive search process that implements a mobility solution that passes through the continuous variation of motor gestures. Mainly, the basis of this approach is the freedom degrees theory or Bernstein's problem by Nikolay Alexdrovic Bernstein (1967) that introduces, for the first time, the interaction of single movement in the holistic vision. His research showed that most movements, like hitting a chisel with a hammer, are composed of smaller movements by three steps to learn the movement. Any one of these smaller movements, if altered, affect the movement as a whole. The three steps are: reductions freedom degrees, exploration freedom degrees and capitalization freedom degrees. The first one consists to immobilize one or plus articulations to execute by repetitions the same action, the second one occurs when in consequence to immobilize one articulation to explore other movements to aim the same outcomes or to give freedom some of articulations that before are immobilized. The last one is when it organizes the whole movement with the feedbacks by reduction freedom and exploration degrees to perform the movement by repetitions which are differently among them because one movement is different to others. For this reason, Bernstein called this phenomenon "repetition without repetitions" (Bernstein, 1991). Later, this motor control system has been considered as motor imagery (Lotze & Halsband, 2006).

The knowledge of structural and functional organization of the motor system has evolved and deepened in recent years, gradually abandoning the idea of a brain where the processing of sensory information was entrusted to different and dedicated cortical areas, according to a model in which sensory and motor information are very interdependent (Latash, 2004).

A central role in this reversal of perspectives is due to the discovery of mirror neurons, early in monkeys and later in humans.

Open loop and closed loop are two of the most important theory of motor control and learning, nowadays it must includes a new theory that can better explain the motor learning. It is motor imagery theory. Before to talk about it, it has to introduce some new neurological discoveries: Mirror neurons system. "Mirror neurons are for neuroscience what the DNA was for biology" (Vilayanur Ramachandran, in Iacoboni, 2008).

Studies in human brain have shown the existence of mirror neurons system similar to that discovered in monkeys while the "Group of Parma of Giacomo Rizzolatti" (1996) has noted that they responded both when the monkey performed directly the movement of reaching the food, either when was another individual to perform the action by recording the activity of certain neurons of motor area called F5 in grasping tasks in the brain of a monkey, a group of researchers (Rizzolatti et al., 2001).

"Whenever we see someone performing an action, in addition to activation of the visual areas, there is a concurrent activation of motor cortical circuits that are normally active during the execution of these actions. In other words, the observation of an action involves the simulation of the same. The fact that the motor system is active not only during the run, but also during observation of actions, suggests that exists a relationship between control and action representation" (Gallese et al., 1996). The discovery of a same group of neurons involved in both perception and action dismisses the idea of specialized brain areas and implies interdependence between perception, cognition and motor system and motor learning produces parallel dynamic functional changes during the execution and imagination of sequential foot movement (Lafleur & Jackson 2002).

The first phase of motor learning is characterized by imperfect movements, a high dependence on feedback and a large cognitive and attention load (Atkeson, 1989). The evolution and stabilization of learned movements is reflected in neuroanatomical level, on a change in brain areas recruited and activated neuronal circuits (Halsband & Lange, 2006).

While the immediate repetition of an observed action is supported almost exclusively by the mirror neuron system, learning by imitation requires the intervention of the prefrontal lobe, particularly in the area 46 of Brodmann, and some areas of the cortex anterior mesial. The area 46, generally associated with functions related to working memory, in this case plays a role in combining elementary motor acts in more complex motor patterns. During the learning process, in fact, mirror neurons are responsible for the allocation of the observed action into individual pieces, which are then reassembled into a sequence so that appropriate action is reproduced as close as possible to that observed (Zwicker et al. 2011).

The motor imagery is a cognitive process of mental simulation of an action in the absence of physical movement. MI was deeply investigated also by Marc Jeannerod. One of the most scientist about the neurological process. He had lived between 1935 and 2011, its scientific life was entirely dedicated at neurology and neurophysiology, as well as other Scientifics about cognitive neuroscience and experimental psychology are interested. Specially, the mechanisms underpinning motor control, motor cognition are investigated by Decety in 1996, Driskell and Copper in 1994, Gallese and Rizzolatti between 1996-2012, Lafleur in 2002, Sanders in 2004. It also defined as a state of general activation during which a person feels himself to perform an action. The motor imagery should be distinguished from mental practice, the first refers to the cognitive process while, the second refers to the process of mental training that takes advantage of the first process. There are two types of motor imagery: in first-person and in third-person. In first person mode, the subject imagines himself to perform an action but not in the sense of seeing himself as an external or reflected image, in the sense to see what he would see, if he performed a movement and at the same time feel emotions, excitation, stress and changes of arousal. In third person mode, the person sees himself or another person as an external image, as with the use of a camera. The most effective for learning is that first-person. Numerous studies have shown that the performance is optimized through the cognitive process of motor imagery. During the motor imagery the cerebral areas of the pre-motor cortex, the same which a muscular contraction would put in action, are activated. The pre-motor cortex is responsible for

complex sequences of movements and selects them in response to a stimulus. The pre-motor cortex is located in front of the primary motor cortex and laterally on the surface of the frontal lobe The execution and imagination activate the same regions of the cerebellum, basal ganglia and motor cortex. All this is possible thanks to mirror neurons which are the biological basis on which is based the motor imagery. Mirror neurons are a class of neurons which are activated when we make a move and when we observe it, as if the observer did the movement. Mirror neurons were discovered in the 90's by a group of researchers in a macaque, group coordinator is Giacomo Rizzolatti. In 1995, the same group of researchers demonstrated the existence of a neuronal group, similar to that of macaques, also in man. Mirror neurons have been found in the pre-motor cortex and the parietal lobe, area to which deputed only motor function and not the cognitive function. The activation of mirror neurons allows to map on the same nervous substrate actions performed and observed or imagined. In this way you create an internal image released from execution. Mirror neurons are a particular class of visual-motor neurons which allows to learn and optimize a motor gesture without executing it. Mirror neurons represent the space of internal sharing that allows us to imitate, learn and understand the intentions of motor events. The ability to create an inter-subjective space which is then shared with the world is connected to the role played by embodied simulation, neuro-scientifically based on mirror neurons.

Conclusion

Cognitive approach is an usual way to understand the movement, that is the historical way to study and investigate the issue in behaviorist/cognitive interpretative key. Ecological Dynamic approach is an extraordinary way to understand the movement, that is the innovation way to to study and investigate the issue in gestalt/phenomenology interpretative key.

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Motor Abilities of Female Soccer Players

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Motor abilities

Modern soccer constantly requires players to answer different complex tasks during 90 minutes or more. Besides optimal morphological characteristic and functional abilities female soccer players have to possess high level of speed, agility, strength, power, endurance, accuracy, flexibility, balance and coordination. Development of motor abilities can be influenced with programmed conditioning (Milanović, 2010). Muscular strength, as well as the anaerobic power, may be important for female soccer players in order to increase running performance throughout the force production, intramuscular glycogen or anaerobic enzyme activity increase, and improvements in the stretch-shortening cycle or force development rate (Sporiš, Jovanović, Krakan and Fiorentini, 2011). Strength and power training main purpose is to increase the abilities of force production during the situations in the game which requires explosiveness (jumps, turns, kicks), to prevent the injuries and decrease the recovery time duration. Explosive strength training can be effective since it increases neuronal activation and muscles adaptation (Sporiš et al., 2011).

The implementation of functional training focused on soccer-specific drills and plyometrics in order to improve explosive power may help conditioning in female soccer players as well as decrease the risk of ACL injuries which are 3-8 times more likely to happen in female athletes (Bien, Brent et al., Grandstrand et al., Yap and Brown). Plyometric training includes jumps and hops in order to influence stretch-shortening cycle of the muscle. Rubley et al. (2011) investigated the effectiveness of low-impact and low-frequency plyometric training in adolescent female soccer players and found that plyometric group showed significant increase in kicking distance from pre-test to 7th week (11. 5%) and increase of 11. 3% from 7th to 14th week. Furthermore, control group showed significant decrease in kicking distance between the pretest and 14th week (15. 6%), and a significant decrease between 7th and 14th week (11. 6%). Studies (Rubley et al., 2011; Bien, Brent et al., Grandstrand et al., Yap and Brown) has shown that implementation of low-intensity and low frequency plyometric training into a regular training process once a week in order to increase lower-body power (vertical jumping and kicking distance). The frequency of training (1 day per week) allows adequate time for rest and recovery.

Muscular strength and power can be improved by resistance training in female soccer players. Studies (Sporiš et al., 2011; Oberacker et al.) indicate that this type of training performed on unstable surfaces improves balance, force production and power in female soccer players. It induces greater neuromuscular stress which could theoretically result in greater neural adaptations compared to resistance training on stable surface. Results indicates no benefits of resistance training performed on an unstable surface in speed and explosive strength performance among female soccer players (Oberacker et al.), unstable surface improves balance. Also, study showed that resistance training on unstable surface isn't recommended when developing strength, power or agility (Sporiš et al., 2011; Oberacker et al.). It can be used as a method to improve balance in order to decrease the risk of injuries.

Muscle strength can be increased by programmed strength training and use of supplementation improves it further more (Larson-Meyer et al., 2000). Creatine supplementation has become widely used among athletes in order to improve strength and lean mass by stimulating muscle myosin synthesis and enhancing work performance. Larson-Meyer et al. (2000) report that creatine supplementation in combination with strength training and conditioning during the off-season improves muscle strength and fat and bone-free tissue in female soccer players. Results of their study showed that creatine supplementation enhances gains in muscle strength after 5 week of use. This finding concludes that creatine supplementation enhances female soccer players muscle strength and improves the abilities of a high intense activity.

During a 90-minute soccer match female player performs 1000 to 1500 movement changes and approximately 700 are direction changes requiring turns at angles up to 180 degrees (Upton and Ross, 2011). Accordingly, agility plays a great role in successful female soccer performance, especially when accelerating, decelerating and reaccelerating. Usual sprint distances are between 5 and 10 m and therefore in soccer acceleration, as the rate of change in velocity, is more important than maximal velocity. Results showed significant improvement in maximum velocity, measured by the 40-yd sprint, as

a result of both assisted and resisted sprint training compared to traditional training (Upton, 2011). Furthermore, female soccer players after asisted training program increased their acceleration during the initial 5-yd (4. 6 m) and 15 yd (13. 7 m), while players in the resisted training group increased their acceleration during the final 25 yd (22. 9 m) (Upton, 2011). Also resisted sprint training increased vertical jump height and peak power, while 13. 7 m sprint and T-test time stayed unchanged (Upton and Ross, 2011). Improvement in short distance speed and speed with direction changes in the absence of an increase in peak power indicates that neuromuscular factors combined with supramaximal training can bring benefits in order to improve this variables in female soccer player. It can be indicated that resisted training improves strength, while improvements caused by assisted training; because they were found on short distances (4. 6 and 13. 7 m), occurred due to neurological adaptations. This finding demonstrates that both assisted and resisted training result with improved 40-yd maximal velocity (Upton and Ross, 2011, Upton, 2011). Improved acceleration up to 5 and 15-yd as a result of assisted training can be more useful in female soccer because of similar game demands. Improved acceleration up to 25-yd (22. 9 m) can be more significant for wingers, whose playing position demands more longer distance runs.

Sprint performance in female soccer players can be improved by using different methods of training such as resistance, speed and strength, velocity-specific strength and movement specific sprint associated exercises (Bonnette et al. ; Albertini et al., 2011). Assisted training enables a female player to run faster than their maximal speed (overspeed training) by increasing stride length, stride frequency, activity of the neuromuscular system as well as reducing flight time and ground reaction time (Albertini et al., 2011). Also, sprinting mostly relies on the effective use of muscle stiffness during the stretch-shortening cycle (McCurdy et al., 2010). Study (McCurdy et al., 2010) showed stronger relation of the unilateral vertical jump performance with sprint performance and indicated that improvement of unilateral vertical jump height and flight time to concentric contact time ratio may enhance 25-m sprint performance of female soccer players. Therefore, coaches should be advised to integrate both unilateral drop and countermovement jumps into the training programs in order to improve sprint performance. Yap and Brown allege stride length, stride frequency and hand/arm action have to be increased in order to develop speed. They suggest exercises such as high knees for hip flexor strength and flexibility, glut kicker for hamstring strength and flexibility, resisted running for stride length and short high speed sprints for stride frequency.

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INTERNATIONAL CONFERENCE ON SPORT SCIENCE AND DISABILITY

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SESSION I

Chairs: Prof. Mike Hughes, Prof. Nic James, Prof. Goran Sporis, Prof. Henriette Dancs

Scientific writing and research method in sport science

Specific technical skills in wheelchair basketball

C. Borrelli, G. Capasso

Abstract

The wheelchair basketball is among the most popular sports for people with disabilities from the general public, but also the most practiced just think that you play in more than 80 countries and has about 25,000 practitioners. The wheelchair basketball is a Paralympic discipline and therefore an integral part of the IPC (International Paralympic Committee) and is governed dall'IWBF (International Wheelchair Basketball Federation). The wheelchair basketball, like other sports induces an improvement in cardiovascular and respiratory function, counteracting obesity and the onset of diseases such as diabetes, high cholesterol, blood pressure... thus improving the quality of life. It good to specify that the "mobility impaired" who are wheelchair users, are exposed to an increased risk of cardiovascular disease due to a lack of functional activity of the lower limbs compared to the able-bodied population. In the sports-disabled state that the approach should not be "therapeutic", which focuses on the "lack", but it is better to approach a "psycho-social sport" (Disabled Sports: a psychological treatment, Silvia Del Rosso, 2006 CIP). This aims to highlight the skills, resources and capabilities, thanks to the sport that is able to facilitate the possible compensations. From the perspective of sports training is defined as "a process of complex action" that arises is intended to affect, in a planned and aimed at an object (specific), state (level) of athletic performance and the ability to in the best way possible to achieve such benefits in competitive situations. The aim will be to identify whether there have been improvements with regard to specific skills in the three athletes covering among other things the same role which is to guard. The guard is close to the play, has a good shot and it must be a good passer to open defenses. Its main task is to penetrate enemy defenses, then serve the comrades free. Must be able to perform block mates and know how to exploit it to their advantage when they are taken.

Keyword

Paralympics, workouts, strength.

Introduction

The wheelchair basketball is among the most popular sports for people with disabilities from the general public, but also the most practiced just think that you play in more than 80 countries and has about 25,000 practitioners. The wheelchair basketball is a Paralympic discipline and therefore an integral part of the IPC (International Paralympic Committee) and is governed dall'IWBF (International Wheelchair Basketball Federation). If the practice of physical activity is important for all individuals, it becomes even more for the "disabled". And certainly given that sporting activities carried out at high levels is good for your health, leading to a healthy mental and physical balance, and these factors lead to an improvement in quality of life (FISD, Psychology, Sport and Other Skill, Isabella Round, Maria Cecilia joy, 2007). The wheelchair basketball, like other sports induces an improvement in cardiovascular and respiratory function, counteracting obesity and the onset of diseases such as diabetes, high cholesterol, blood pressure... thus improving the quality of life. It ' good to specify that the "mobility impaired" who are wheelchair users, are exposed to an increased risk of cardiovascular disease due to a lack of functional activity of the lower limbs compared to the able-bodied population. The sport can counteract the rapid physical decay induced by sedentary subjects paraplegics and limit the risk factors related to their lifestyle: allowing a better tone and tropism of the remaining dorsal and abdominal muscles providing better stabilization of the trunk, a better position sitting; opposing osteoporosis and preventing kidney stones. The sport then acts on two fundamental aspects of an individual's life: the physical, which we have described above, and on a psychological level allowing you to gain greater confidence in their own ability through the affirmation of self-efficacy and self-esteem and to mitigate the psychological tensions between their disability and the outside world. The disability will always be present, but through sport will be framed in a broader perspective: the disabled learn to accept all of the components that make up your own person and the experiences that make up their lives in a positive way. The age, sex, cause of disability (congenital or acquired), family environment, personal experience with respect to disability, personal-

ity and character of a disability must be considered from their sports, which will have to adjust their teaching the individual and the whole psycho-physical. The disabled "congenital" accept the report with their own limitations with greater ease than the one that "captures" the disability during their lifetime, because from birth has faced obstacles and quickly adapt its existence to the social context. The disabled "congenital" accept so well in their diversity while experiencing frustrations in life that determine personality suffering and psychological distress. In fact, in the sports-disabled state that the approach should not be "therapeutic", which focuses on the "lack ", but it is better to approach a "psycho-social sport" (Disabled Sports: a psychological treatment, Silvia Del Rosso, 2006 CIP). This aims to highlight the skills, resources and capabilities, thanks to the sport that is able to facilitate the possible compensations. From the perspective of sports training is defined as "a process of complex action " that arises is intended to affect, in a planned and aimed at an object (specific), state (level) of athletic performance and the ability to in the best way possible to achieve such benefits in competitive situations (Theory and Methodology of Training by Tudor O Bompa Kendall / Hunt Publishing Company, 1983). This work evaluated a team of wheelchair basketball in particular the physical preparation of three athletes suffering from the same disease: or spina bifida. The aim will be to identify whether there have been improvements with regard to specific skills in the three athletes covering among other things the same role which is to guard. The guard is close to the play, has a good shot and it must be a good passer to open defenses. Its main task is to penetrate enemy defenses, then serve the comrades free. Must be able to perform block mates and know how to exploit it to their advantage when they are taken. Attend all defensive actions. From this study it is expected that all three athletes can detect improvements on performance. In fact it has been revealed a correlation between the test and the "years of play in a wheelchair" of each player, which means that the disabled golfer who plays the longest time, expresses a benefit relative to the ability to sprint higher than those who play for less time.

Method

Preliminary study with theoretical and argumentative. With theoretical survey of the scientific literature and sitografica, argumentative to establish the causal link between the data in the literature and any differences between the typical cases of disability. In this work, there were three subjects with the same disability congenital or spina bifida. The first athlete is 27 years old, is an unemployed accountant, lives in family practice and discipline for fifteen years. The second athlete is 29 years old, unschooled and unemployed, living in a family and practice this sport for 15 years. The third and final athlete considered to be 52 years old, is an accountant and works at the Ministry of Education, practice this sport for 20 years. Considering the age of the subjects and years of dedication to the sport at a competitive level, were observed in speed and quickness workouts into two periods: preparatory and competitive. The speed training in wheelchair basketball means capacity and processing power of anaerobic energy alactacid and lactacid, rapid response capacity to a stimulus, the ability to overcome the inertia and speed up the body and mechanical means in space (maximum force and explosive strength, ability to express strength in a short time using also the phenomenon of the reaction, elastic muscles (speed-strength and elastic force); coordination skills and technical precision. While training for the mean speed: speed of complex action (act as quickly and effectively as possible by exploiting the technical- tactical and conditional capacity); rapid onset of action with the ball (shares at maximum speed with the ball), speed of movement without the ball (fast movements cyclic and acyclic); fast reaction (reacting to unexpected movements of the ball or opponents or playmates);rapidity of decision making (decide in the shortest possible time the most effective action among all possible); speed of advance (predict the actions of the opponent and how it will develop the game); quickness of perception (perception process and assess information quickly on the game).

In the preparatory period, and supports the principle of a gradual increase in effort, the qualities of strength endurance and speed will be developed through the prolonged run, with tests repeated at intervals training, with exercises in pairs, with loads of natural, with small loads and so ' away. Most of the strength exercises, is transformed into speed - strength exercises, is accentuated rhythm, labor intensity is increased and the loads are reduced. The preparation of the speed is obtained with the increase of the frequency of repetitions and with the increase of breaks to allow a full recovery. As far as the length and frequency of your workouts, you can establish five or six workouts per week from 120-150 minutes each. The competitive period is the period of greatest duration where the coach puts to good use the athletic work done earlier in the season. With a frequency of two training sessions per week of 120 minutes, which exercises aimed at maintaining and improving the physical in general. To assess the specific technical skills under the speed of these three players were given four tests:

- The ability to test sprint 20 meters: starting from the bottom line to the signal, making 20 m as fast as possible.
- The precision test: with a target (square 30x30 cm) placed to 1. 20 from the ground, it starts to pull from a distance of 8 m and continue choosing to continue from a distance of 8 m or 4 m for a total time of 2 ', adding up the total score, assigning 1 point for shooting from 4 m 2 for the shot from 8 m.
- The eight-test: the half-way line place two pins (at a distance of 2. 5 m from each other) and to take the figure "8" a) without the ball and b) with the ball. Counting the revolutions made by the stipulated time of 2 minutes.
- Test the ability of shooting: starting from the free throw line, add up all the shots turned out well inside the zone of the bell for a time to 2 minutes.

The ability tests were performed in the gymnasium of the

team where the players were tested one at a time. During the tests, each player has used his wheelchair basketball. Prams players meet the rules set by the Executive Council of International Wheelchair Basketball Federation (2006).

Expected results or expected

From the practice of this discipline Paralympic with disabilities will be able to detect a number of advantages. First, from the physical point of view as we go to press the muscles of the trunk, the lumbar spine, the Triceps, the deltoid, pectoralis major, and trapezius muscles that are used for all the normal functions of life in a wheelchair by gaining greater autonomy. They also developed skills such as coordination, concentration, accuracy, and self-esteem. Anxiety and depression in patients with spina bifida can be significantly reduced through a regular activity. It may be noted over time also increased with the improvement of cognitive functions of the ability to perceive a stimulus and responding to it so the Executive, as in wheelchair basketball, in which the circumstances of the game continuously vary the athlete must adjust its movements and race tactics taking into account both his teammates both opponents. Are stimulated interpersonal skills resulting from the chance to get out of the house to follow the workouts and play the games both home and outside the home. To become aware of their own limits, by bringing into play the residual forces with teammates affected by the same disability.

Discussion

From this study it is expected that all three athletes can detect improvements on performance.

In fact it has been revealed a correlation between the test and the "years of play in a wheelchair" of each player, which means that the disabled golfer who plays the longest time, expresses a benefit relative to the ability to sprint higher than those who play for less time.

Conclusions

This study suggests that training can improve some skills specific to athletes of a team of elite wheelchair basketball during the championship. You win then the need to perform a study specific applied on a sample of limited data and therefore it is advisable to perform a pilot study of the following type.

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Swimming for disabled people

A. Capasso, G. Borrelli

Abstract

The research analyzes the problem of how to treat the different results obtained by different processes in training workout considering otherwise and 4 athletes with able-bodied athletes.

In particular, the paper presents the main methods of training with different techniques to swim, that is the solution for all workouts. The paper also presents the similarities and differences with the subjects specifically with the swim, departure and arrivals. Results show the needs have to deep the issue to address the trainers to understand the whole question.

Keyword

Inclusion, Paralympic Swimming, IPC

Introduction

It is scientifically proven that swimming is good for health, longevity and well-being in general. (Ruben J. Guzman, 2013). With practice, you will usually have an increase in lean body mass and a decrease in fat. As the muscle with equal volume of weighs more than fat, you can swim with the workout natatorial, an increase in weight while being more slender. Limit the benefits of swimming only to diminish the value of aesthetic improvements. The benefits of swimming, in fact, are felt mainly on the development of bone scaffold, which will be full and harmonious, and the rib cage tends to grow; correcting the deviations of the spine, such as scoliosis, and at the same time not overloading the joints because it is practiced in an environment in which it is virtually absent the force of gravity.

Improves motor coordination, respiratory and reduces spasticity. Even the psycho- social aspect of the subject practitioner benefits from it because there is an increase of the capacity for learning, understanding and concentration that enhance the motivational aspect and a finding of self-confidence, which increases their potential in the context relational. The Paralympic Swimming is a variant of the traditional swim which is practiced by athletes with disabilities. (AA. VV., 2010)

In this disciplines the ' main objective is the welfare of the child, regardless of their disability. The Italian Swimming Federation Paralympic (FINP) is based in Rome and is the sports federation Paralympic referred by the Italian Paralympic Committee (CIP) for the organization and development of swimming Paralympic.

Institutional purposes of the FINP are:

- Promote and regulate the sport of swimming and other water activities to persons with disabilities;
- The technical preparation, competitive and organizational structure of National Teams when they participate in the Paralympic Games or other international competitions, according to the guidelines of the CIP;
- Start, organize, sponsor sporting events of swimming and other water activities for people;
- disabilities at all levels, in the field of provincial, regional, national and international level;
- To promote the sport of swimming for Paralympic athletes in each age group, spread the message federal sports, organizing youth events and sporting events aimed at the integration and socialization of the disabled person.

The International Paralympic Committee Swimming (IPC Swimming) is headquartered in Bonn (Germany) and is the non-profit international organization that governs the movement of the championships Paralympic swimming world. The IPC Swimming is part of the International Paralympic Committee IPC.

In regional and national events C. I. P. are recognized in the following categories

– Male and female – with its years of birth, valid for the physically disabled HF or F. C. (international abbreviation signifying Functional Classification) and for the blind / visually impaired HS or V. I. (acronym international means Visual Impairment).

Method and materials

The main objective of this study is to verify whether there are elements of distinction between able-bodied and the three

types of disabilities making a comparison with able-bodied athletes, considering some aspects of swimming: Type the starting blocks and the model of executive motor swim, that is, the technical characteristics of the stroke and of breathing. (De Vecchi, 2012)

Preliminary study with theoretical and argumentative. With theoretical survey of the scientific literature, to argumentative for establishing the causal link between the data in the literature and any differences between the typical cases of divers ability and able-bodied.

In this work were observed four subjects with different disabilities, two of dawn syndrome, an autistic person and a person with cognitive delay and able-bodied athletes. (Belloni L., 2007)

In particular they have been taken into account three periods of training: the transition period, the pre-race and post-race, with their goals they wanted to achieve as: to feel comfortable in the water, control of the immersed body, the handle ' emotion, anxiety, and share the adventure with others.

In the three training periods were observed: complete the swim, the departure from the block, the apnea and the collection of objects on the bottom. With the aid of a table I inserted the frequency of your workouts, activities and goals. Furthermore, the use of a stopwatch, has allowed us to evaluate four subjects in the speed in the stroke in 7 meters, the speed of the entire bath and swim.

The phases of the activities that take place in the pool are:

– knowledge of the environment until the meeting with the water through the game;
– slipping, subdivision, breathing, diving and teaching of the fundamentals of swimming and styles.

Results expected and Discussion

This study suggests that training can improve some skills specific to athletes able-bodied and disabilities (Broglio et al. 2009). Have emerged similarities but also differences in the type of subjects in the swim and in speed, Down syndrome and autism starting immediately after the whistle instead subject with cognitive delay after starting a small fraction. The 2 subjects with Down Syndrome departure from the block 2 others out the water instead of the able-bodied have had no difficulty in starting, but the difficulty has arisen in the swim.

Conclusions

It highlights the necessity to carry out a specific study applied on a sample of limited data and therefore it is advisable to do a pilot study of following type.

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Obligatory title of the service: under 12/13 and optionality in volleyball league championship under 14

C. Casalino, F. Parisi

Abstract

The Serve is the technical skill which a game of volleyball begins, and it can be performed by underhand, by a high float or drive and by a high jump. At the request of the coaches of national youth teams, the Italian Volleyball Federation (*FIPAV*) has adopted the mandatory underhand serve only for Under-12 and under 13 championships in order to favor the continuity of the game movement and passes of the ball over the net, which would be compromised in the event of a volleyball athlete who is particularly good at high jump serves. *Although the abutment from the bottom appears to be more easily learned, not having the characteristics of offensiveness, must be abandoned as soon as it is able to perform the services more insidious.* The increase in strength up to 11 years is very low and no difference between the sexes, he observes a slight increase up to 15 years, then intervenes when the phase of maximum development that leads to the peak at age 18. In this period there is also a progressive differentiation between females and males with a surge in favor of males estimated at a strength of about 40% greater than that of peers.

The aim of this preliminary study is to see if an experimental study can be implemented, preceded by a pilot study in order to verify the hypothesis for the accuracy of the mandatory rule for the Under-12 and Under-13.

Keywords

Cognitive approach, game rules, preliminary work

Introduction

The Serve is the technical skill which a game of volleyball begins, and it can be performed by underhand, by a high float or drive and by a high jump. At the request of the coaches of national youth teams, the Italian Volleyball Federation (*FIPAV*) has adopted the mandatory underhand serve only for Under-12 and under 13 championships in order to favor the continuity of the game movement and passes of the ball over the net, which would be compromised in the event of a volleyball athlete who is particularly good at high jump serves. *Although the abutment from the bottom appears to be more easily learned, not having the characteristics of offensiveness, must be abandoned as soon as it is able to perform the services more insidious.*

The underhand serve is only taught with a prescriptive method of teaching within a cognitive approach while other types of serves can be taught with an ecological-dynamic approach via heuristic learning.

The increase in strength up to 11 years is very low and no difference between the sexes, he observes a slight increase up to 15 years, then intervenes when the phase of maximum development that leads to the peak at age 18. In this period there is also a progressive differentiation between females and males with a surge in favor of males estimated at a strength of about 40% greater than that of peers.

The learning modalities, for psychological reasons, vary between the sexes. The girls are brought naturally to seek the help of the teacher, to follow his instructions. On the contrary, the boys resort to the help of the teacher only as a last resort. When it comes to motivating athletes males respond better to the stress resulting from the comparison tasks or bound by time, an approach that does not produce results with females. There was no difference on learning the same engines.

The aim of this preliminary study is to see if an experimental study can be implemented, preceded by a pilot study in order to verify the hypothesis for the accuracy of the mandatory rule for the Under-12 and Under-13.

Method

The work is preliminary; therefore the method is theoretical with the collection of documents on the rules of play, the educational teaching aspects, and on the expressiveness of force. It is also argumentative and calls for the preparation of a research design for a pilot study.

The research design provides the experimental method with collection of data on athletes receiving batting from below or from above in both categories Under 12 and 13 in the identi-

fication of indicators and descriptors of learning. It also provides a range of quantitative and qualitative tests that measure the effectiveness of the measure. The sample of the pilot study is composed of a group of 21 athletes aged between 11 and 14 years, 9 females and 12 males, all from the "Associazione Sportiva Dilettantistica Elisa volley Pomigliano". In each batch of training are alternate underhand and high float.

In training, the athletes will be divided into two teams:

- Team A composed of 10 subjects of mixed sex and age and with no experience of the game of volleyball;
- Team B will consist of 11 subjects of mixed sex and age but with experience in the game of volleyball at least one year.

The workouts will be performed 3 times a week, for one hour and a half each, with the presence of two coaches, always the same. In each practice match underhand serves and high jump serves will be alternated, the coach will mark the data including: correct/incorrect serves and receptions that allow the game to continue which will be placed in correlation with the data on the learning.

In official competitions athletes will participate in the Under- 12 Women's Championship and the Under- 13 men's championship, according to the rules decided by Fipav. Then the two teams will be divided simply on the basis of chronological age and sex of each individual athlete. The races will take place from February to April and also in this context, the coach will mark every keystroke made by both teams. The technique will be, as already mentioned, only one from underhand for regulatory reasons but also in this case will be scored the number of service, the number of errors made and how many receipts have actually allowed the continuity in the actions of the game.

The data thus collected, either through training or through the official races, will be compared in order to determine the real difference on maintaining the beat from below or from above, and if there really is a need for this differentiation in order to allow a greater number of exchanges of the ball over the net.

In addition, athletes will train together, so look gender differences that lead to the foundation of a championship exclusively female and one male-only, compared to a single championship mixed.

Through the results can be observed if there is really a need for this differentiation of championships in the age considered, under 12 and under 13, or would it be more profitable to make one mixed championship.

Results

The expression of force is not dependent on chronological age but by biological age; the learning of motor skills are equal regardless of the differences in age between the 2 categories. The research design includes an experimental method with the collection of data on athletes receiving serves from both underhand and high jumps in both the Under-12 and Under-13 categories with the identification of indicators and descriptors of the learning. It also includes a series of quantitative and qualitative tests that will measure the effectiveness of the serve.

The expressiveness of the force is not dependent on chronological age but biological age, so if your age range is near the boys are stronger by the year in which they were born, but based on biological age. The learning engines are the same without distinction of age and training can improve in pass that in both types of service.

It would therefore demonstrate the futility of obligatory service underhand and propose makes it possible to high float in both sexes also for the categories under 12 and under 13 and leave the mandatory service underhand only in the super mini volleyball.

Discussion/Conclusion

From the pilot study data will be obtained and interpretations useful for an experimental study large and detailed, or will be obtained with the method further indications of the pilot work. Therefore, the preliminary study may allow to address the issue of compulsory service underhand, as a way to promote continuity in the actions of the game, in both sexes of the two age groups are included.

In addition, you will derive the statistical data to determine whether it is best mixed activities, where children aged 12 and 13 years of both sexes train together, where are listed specific rules on service.

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Otherwise in dance with down syndrome

N. Casertano, L. Rio

Abstract

The purpose of this study is to analyze the progress made by a child with Down syndrome, through dance about motor coordination, fluidity and rhythm of movement. Dance as therapy is indeed a discipline that is not limited to an objective analysis of the skills and motor disability, or a proposal for exercises to be repeated mechanically, it gives you the opportunity to move towards a comprehensive study of the person, resorting to gestures and to movements of each individual for the recovery of the lost or hidden potential.

During the sessions of dance as therapy, the person discovers the functional pleasure of movement; it refines the psychomotor functions (as equilibrium, speed, accuracy, coordination and synchronization of the gesture, the space-time orientation, global motor skills, muscle power and mobility); it consolidates its body schema; develops corporeal symbolization through playful activity; it restructures in a positive way body image through favorable and reassuring environment that is created (H. Payne). The present study therefore is aimed to determine whether and how to create a new attitude toward the movement, the dance, the body and disability. It examined a group of 13 girls enrolled at "ASD Naty for Dance", aged between 6 and 12 years, where there is a 9 year old girl, with Down syndrome.

The direct observation of the progress achieved has been carried out during four years, from 2008 to 2011, using an evaluation grid where we analyzed the progress achieved in the motor, personal and social aspects. It was also elaborated a video in order to better observe the actual progress and to help to interpret the data of the grid. The objectives set at the beginning of this study are achieved, because the little girl, that we'll call Giusy, integrates with the group proving to have improved largely his motor skills, coordination, rhythm and fluidity of movement.

Keywords

Down syndrome, dance, disabled dance therapy.

Introduction

The dance is a time of union and overcoming of all differences. It is a sport that is based on social, cultural and educational values; it is an activity that can and should be a practice accessible to all, in accordance with the aspirations and abilities of everyone. The dance, cleverly adapted where necessary, has its usefulness to achieve therapeutic results; it makes it possible, in its various types to almost all people with disabilities, to play according to the conditions in which they are, some motor activity, from that they can lead a better understanding of body, a more correct conception of space and time, an improvement balance and motor coordination and all this is not separated from a global psychic improvement (Rolando Toro, 2000).

There are several techniques of dance for people with disabilities, among them the dance ability, a technique aimed to people with and without disabilities, and with every type of physical, sensory or mental disability. This technique was born in the 80s and developed in the United States thanks to the dancer and choreographer Alito Alessi, director of the Joint Forces Dance Company (USA). Through the practice of Danceability there is an exchange between the different abilities of the participants, so that the differences constitute an asset, not a limitation. People are stimulated to rediscover a deeper contact with themselves by increasing the confidence of others. The Danceability uses the basic principles of Contact Improvisation, a technique developed in the United States during the seventies, by a group of dancers led by Steve Paxton and Nancy Stark Smith. It is based on the research of a spontaneous communication through listening, fluidity and weight transfer, using the contact as the preferred means to learn how to improvise with one or more partners, by allowing musicians to come together as they do in the jam session. The first ballet presented with this technique was Magnesium (Steve Paxton, 1972). Paxton continued with the first performance of contact improvisation at the John Weber Gallery in New York. Then, he condividise different and scattered experiences, having always as the central point the adaptability of the body to support any extreme accidental contact, playing with the force of gravity and the relationships

between the protagonists. Improvisation is the way through which you develop this dance: There is no fixed sequence, but each one carries different movements, alone or, more often, together with other people, with their different abilities, moving with the others and going beyond the limits to which we are accustomed.

Music is used as a further pulse to the movement, but there are phases of work in which there isn't used an external music source, in order to give space to listen to the silence and the sounds produced by the body itself. The Danceability is not a "therapy", or a "dance therapy", but it is a real and creative expression of art. Modern societies or dance clubs are not always prepared to accommodate people with physical and mental disabilities, and, just in some cases, due to the availability of the instructor are accepted people with disabilities. Sport is a fundamental element in the lives of all people, whether they are disabled or non-disabled, it is the medium that allows us to understand the fundamental of life. Disabled people, maybe even more than others, they need the sport as a driving force in their lives.

Through this study we want to stimulate research and encourage everyone not to give up and to insist so that the disabled sports has finally its important place and in order to ensure that the segment of the population less lucky that every day is having to struggle to have a quality of life worthy of a human being, to be accepted without discrimination due to a deep "ignorance" that still exists.

Method

Since 2008 to 2011 in the "A. Š. D. Naty per la danza" is performed a study of a young girl affected by Down syndrome to assess the real progress through the dance about coordination, rhythm and fluidity. The technique used is the Danceability through contact improvisation. The study was set up with a preliminary stage of preparation of the group in order to promote primarily the integration of Giusy. Subsequently, the work was divided into two phases: in the first phase we worked on motor coordination through the technique of improvisation, in the second phase on the fluency and rhythm through predetermined choreography. The girl, initially, was not able to coordinate his body and to follow the music and quickly showed signs of fatigue. There was not a fixed sequence, a real choreography, but everyone realized movements every time different. The student, with a slight initial shyness, could move by itself or, more often, along with other people, with their different abilities, going beyond the limits to which she was accustomed. The music was used as an additional impetus to the movement, but there was phases of work in which there wasn't an external music source, in order to give space to listen to the silence and sounds produced by the body itself. Then, to assess his ability to learn and memorize the sequences, we have been created a predetermined choreography. From here, it is pointed out that the little girl couldn't remember the sequences and then copied the steps of her companions slowing his movements. Once learned the steps, to demonstrate its ability to execute the choreography, she was used to speed up excessively the sequences in danger of going out of time. The direct observation of the progress achieved was carried out using an evaluation grid which analyzed the progress achieved in the motor, personal and social aspects and it was reworking a video in order to better observe the actual progress and to help interpret the data. From the grill it is clear that the aim of seeking interaction with peers from the girl was partially achieved in the first year to have the full achievement from the second year.

The student, in the first year, don't know how to respect the programmed time of each choreography, in fact she copied the choreography and slowed his movements but then being able to remember the choreography and to respect the time of execution. The student, after learning the first choreography, showed no interest in new choreography. The first two years the student was able partially to have a postural balance, and the third and fourth years she had acquired such skills. Special attention goes to the skills acquired in the first year, including: running, jumping, cross the feet, be aware of your body, be aware of body parts and recognize, in relation to their body, up-down, up - down, forward - backward, newt - far away. The grid shows that initially she didn't have the rhythm, but from the third year onwards she could clap her hands, feet and walk to the beat of musical bases. The fluidity of choreography is partial the first two years but it reach the total achievement in the third and fourth year

Results

Through this study, in the course of the four years, we have seen the progress about the increase in muscle, posture, motor coordination and fluidity. In this regard it has been prepared an evaluation grid, designed in order to control the actual progress. After four years we have seen substantial progress. She is able to memorize the choreography, to understand the steps quickly without repeating them several times, and, most of all, the physique allows more training hours without getting tired too.

R.	Achieved
P. R.	Partly achieved
N. R.	Not achieved
1	First Year
2	Second Year
3	Third Year
4	Fourth Year

[Table 1] Key of evaluation.

	N.R.				P.R				R.			
	1°	2°	3°	4°	1°	2°	3°	4°	1°	2°	3°	4°
Search the interaction with his companions					x					x	x	x
Complete activities and respecting a programmed time	x					x	x	x				
Try interest in new choreographies					x	x	x					x
Owning postural balance					x	x					x	x
Walking on toes	x					x	x					x
Running, jumping									x	x	x	x
Making trips crossing the foot									x	x	x	x
Be aware of your body									x	x	x	x
Be conscious of the body parts and recognize them									x	x	x	x
Perform movements on imitation	x				x						x	x
Compared to his own body, recognize:												
Above - Below									x	x	x	x
Front - Behind									x	x	x	x
Top - Below									x	x	x	x
Left - Right					x	x					x	x
Near - Far									x	x	x	x
Being able to imitate gestures	x	x					x	x				
Being able to keep a rhythm clapping their hands	x	x					x	x				
Being able to keep a rhythm tapping your feet	x	x					x	x				
Being able to take a rhythm walking	x	x					x	x				
Being able to keep a rhythm running	x	x	x	x								
Being able to adjust the motion for change rhythm	x	x	x					x				
Reproduce simple rhythmic structures	x					x					x	x
Listen and clap your hands	x					x	x					x
Watch and beat					x					x	x	x
Listen and tapping their feet	x					x	x					x
Coordination of movement	x	x					x	x				
The speed of execution is suitable for the exercise	x	x	x					x				
In performing an exercise takes into account the					x					x	x	x
During the presentation the movement is relevant to the					x	x					x	x
Performs the operation without imitating his companions	x	x	x					x				
Remember the sequence of the exercises explained	x	x					x	x				
Performs fluidly the laps	x					x	x	x				

Discussion and Conclusion

Through this study it was demonstrated that the practice of sport for the disabled brings benefits and improves the quality of life itself. So that would be a great help if public authorities, associations, paediatricians and general practitioners would increase training sessions for parents in order to steer their children to live a better quality of life. With this preliminary study we wanted to reflect on the potential of dance as a sport for inclusion and we want also insist that the disabled sports finally find its place and have more and more importance.

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Inclusion of autistic subject through the swimming

M. Cerrotta, D. Tursi, S. Napolitano

Abstract

Autism, originally called Kaner Syndrome, is considered by the international scientific community as an ailment concerning cerebral function. A person affected by autism displays a significant decrease in social integration and communication.

Aquatic motor activities involve a natural element (water) in a structured environment (public pool), according to a theoretic reference model and an organized methodology through phases, and uses cognitive, behavioral, and relational techniques and motor senses (Caputo G., Ippolito G., Maietta P., 2008). Our research was carried out at the public pool of the commune of Santa Maria Capua Vetere where a group of ten subjects affected by autism from the ACFFADIR Association, have been practicing aquatic activities for two years, with biweekly meetings. During these activities, the pool is also attended by subjects who are not affected by any ailments and by athletes in training.

The analysis of the research carried out through the systematic observation by the operators, the surveys of the teachers in the educational field, and the findings of family and social environment and the results of the surveys show given improvements on the social affective and relational level, and improvements regarding personal autonomy and self esteem.

Such an activity can, therefore, be considered a valid tool to favor the insertion and the inclusion of subjects affected by autism into the social environment.

Keywords

Autism, aquatic activities, inclusion.

Introduction

Autism, originally called Kaner Syndrome, is considered an ailment affecting cerebral functions, appearing in infant years, which causes deficiencies in many areas regarding development, such as learning to speak and interact with people, social interaction, difficulties regarding verbal and non verbal communication, bizarre and repetitive speech, inappropriate facial expressions and gestures, comprehensive difficulties, repetitive and "stereotyped" behavior and limited interests.

Such symptoms, now mentioned in an international list of illnesses, DSM IV (American manual of mental deficiencies, translated into Italian by Masson editors) and ICD 10 (international classification of illnesses) by the World Health Organization, are seen even before the age of three and persist throughout the subject's life, together with the natural changes that occur with the coming of age.

At the root of the syndrome we find different organic deficiencies that modern biochemical research has progressively individualized, but many experts agree on the involvement of genetic and environmental factors.

The prevalence of the syndrome regards one case in 500 born (Filipek PA et AA. Neurology 22 August 2000, pp. 468-79).

Autism is presents with the same frequency in all races, ethnicities and social classes, though males develop the disorder with a higher frequency of about 3-4 time more frequent than in females One of the most recognized theories (Folstein S., Rutter M: Infantile autism: a genetic of 21 twin pairs. - Journal of Child Psychology and Psychiatry 18, 297-321, 1977), is that which states that many children are born with a genetic predisposition to the disorder that can later be stimulated by environmental factors. Research indicates that some genes, in particular hereditary and spontaneous mutant genes of DNA play an important role in the development of autism. But there isn't only one gene to accuse, as others also contribute and greater the risk.

Considering the variables regarding each individual case study, studies and research related to this field have characterized a common ailment represented by problematic knowledge, use and knowledge of the body. Based on this evidence we can already attribute an important role to the motary instruction in the process of an autistic child, especially in the first evolutionary phase regarding an instructional program aimed especially to the development on the levels of: autonomy, relationships and the ability to communicate.

Design

The aquatic environment is surely highly indicated in the carrying out of motary activities in various types of disabili-

ties, when the activities are done as generic support or maintenance of motary functions, like in the cases of recuperation and conditioning of the locomotive and cardiovascular functions, and when it is used as therapeutic.

In recent years, swimming has become very popular in children with autism. Water facilitates keeping their attention, divided and undivided, offering intense sensory stimulation, easing emotional aspects thanks to contained emotion, eases behavioral ailments (aggressiveness, stereotypes), greatens eye contact, favors social integration, stimulates desire and exploration, promotes the growth of self esteem when movement autonomy in the water is gained and stimulates coordination abilities.

Swimming techniques are used to reach therapeutic objectives and to successfully activate a fundamental process of socialization and integration with the group of peers.

If the autistic subject already has a good relationship with water, and good water abilities, follows instructions and is autonomous in his movements, he/she can be followed pool side: if the autistic subject is afraid of the water, the instructor will preside in the water and accompany him in his exploration of a small pool, so as to favor his abilities and create empathy and trust (Belloni L., Psicomitricità in acqua, Erickson, 2007).

Motary water activities use a natural element (water) inside a structured environment (public pool), according to a theoretic model of referral and organized methodology through phases which uses technical, behavioral, relational cognitive, and motary senses (Caputo G., Ippolito G., Maietta P., 2008).

Objectives

The main objective is that to bring the subject closer to and "meet" the water through recreational motary experiences and situations carried out at his own pace: we have worked on the familiarization with the environment and water abilities where the subject created a natural relationship with the water element, that allowed him to experiment new and different motary situations.

Another objective was that to favor the attendance in a social context, like that of a sports facility furnished as needed, and favoring social integration.

Methods

Our study was carried out at the public pool of Santa Maria Capua Vetere, with a group of 10 subjects, between 12 and 17, affected with autism belonging to "ACFFADIR" Association. They've been practicing for two years, with biweekly meetings during the months of September to July, with motary water activities carried out with an instructor 1:1 for 40 minutes each meeting. During such activities the swimming facility was also attended by normal subjects and athletes in training. The intervention is focused on the role of the instructor, a tutor enabling the necessary abilities, not only of motary ability, but also educational and relational, and the person who will accompany the subject at a steady pace in the project, individualized and in agreement with the families.

The activities were planned based on gradual progression, individualized towards the goal of the objectives mentions, and adaptable lesson by lesson according to the subject's needs, keeping in mind the occasional and monetary moments of discomfort.

At the beginning, an individualized relationship was created, in order to create an empathetic relationship sharing simple and clear rules. In this, the instructor was able to build a trusting relationship with the student, becoming a reference point, a teacher with whom his water training would be pleasant and stimulating. The best environmental aquatic settings were researched in order to stimulate motary expression through emotions, looking for limited manifestations of negative behavior associated with the disorder. The methodology saw the use of small floating boards, air mats and floating games, instruments which represent stimulating support for the autistic subject. The sessions were divided into two phases; the first relating to the discovery and introduction of the aquatic facility (pool, water depth, pool side, locker rooms), introduction to the water element and guided exploration, first approaches to floating and phase regarding respiration and apnea.

The second phase occurs when the subject has reached a good level of security in the water and autonomy, has been passed into the deep pool, guided by the instructor who taught him supine and prone slides, propulsive forms, the different ways to move in the water and the different style techniques.

The instructor has also been careful to create an environment rich with trust and ease through reassuring tones of voice, expressions and movements.

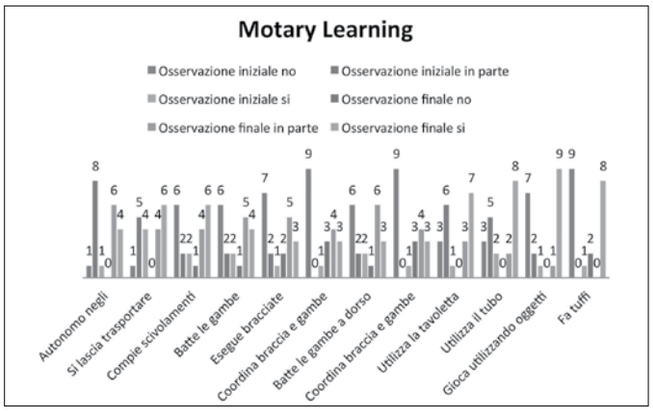
To verify and evaluate the course of each single subject questionnaires with predefined descriptors relative to the motary and social effectiveness were given: these questionnaires were filled out at the beginning and at the end of the course by each instructor and by three teachers from the school attended by the subjects.

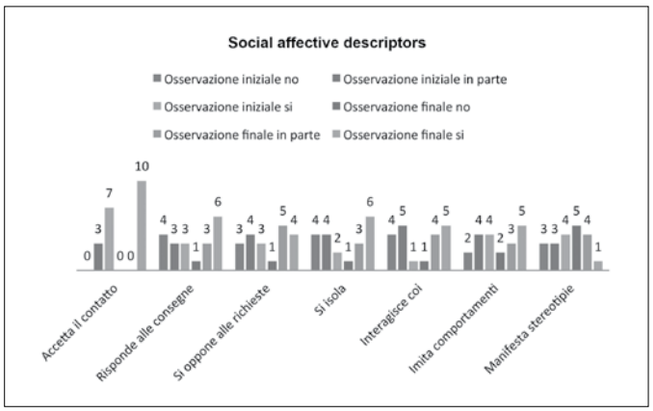
Each area is made up of an item to describe the different types of behavior and the eventual differences from the beginning to the end of the activity. Specifically, the instructors were faced with two tests for each subject regarding motary learning and social affective; the teachers (three from different learning areas for each subject) a questionnaire regarding the socialization and curricular learning; families were given a questionnaire regarding autonomy, emotions and family interaction.

Discussion

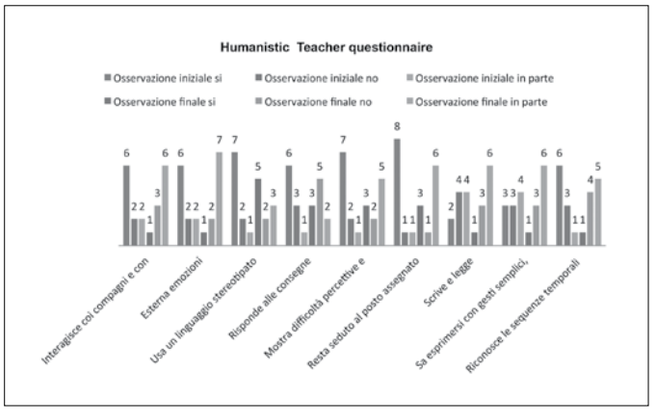
The data collected through the systematic observation and with the questionnaires give to the instructors, the teachers

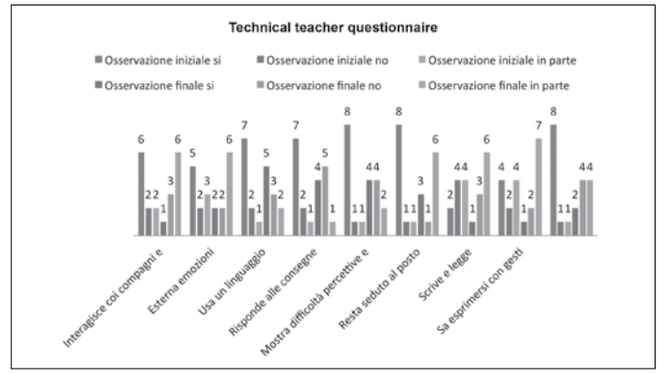
and the families, shows that subjects appear more independent, use the floating board more naturally, dive and have gained great interest for shiny floating objects; in the area regarding social effectiveness, the most relevant figure is that all have accepted physical contact, interacting with their peers.



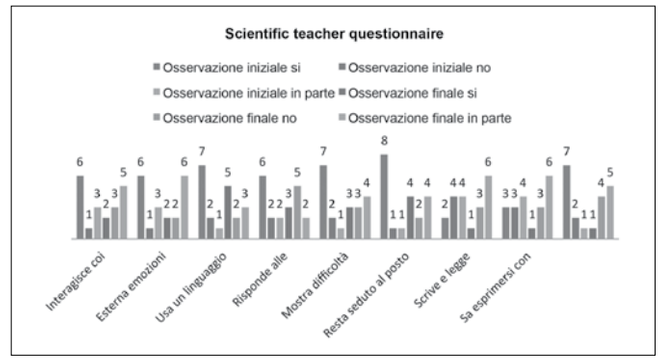


The same results emerge from the teachers' questionnaires, confirming those resulting from the others, stating that the subjects are more able to express their emotions and feelings; perceptive and cognitive difficulties have also diminished.





Regarding the family, the most evident data regards heightened independence, improved interaction with family members with which emotions are expresses.



Conclusions

Swimming activities, thus, consider an improvement in the subjects involved, especially from the social and emotional stand point, personal independence (domestic activities-social, free time), in the organization of time in everyday life, in the classroom and outside the classroom, more interaction in group classes, notable improvement in scholastic and communication ability, learning principle fundamentals (reading/writing/calculations) and learning scholastic subjects (highly functional subjects), can be considered a valid instrument to favor the insertion and the inclusion of subjects with autism in all social environments. Comparing the data collected, and considering the three different aspects of the subjects' lives, with adults and with peers (this appears with a final figure plainly higher than the initial figure) an independence: this confirms that interaction and the ability to live interacting with others in different environments represents a fundamental factor in learning.

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Physical fitness and problem solving skills in young females

C. D'Anna, F. Gomez Paloma

Abstract

Numerous researches about children show that physical and cognitive development are linked. During their growth many changes in the children's body and brain occur, changes that are very important for their psycho/social evolution. Some studies have been conducted about the role of different types of activities and motor skill training, showing that physical activities conducted as routine movements can be linked with better cognitive performance and academic achievement.

The aim of this study is to provide a descriptive analysis to investigate the possible relation between some dimensions of physical fitness and problem solving skills in children.

The study has considered 56 children aged between 6-11 years, divided into two samples: the first composed by some gymnasts; the second by pupils of the primary school, both randomly chosen.

To assess the physical fitness of young girls and the cognitive development has been selected many tools: motor tests to evaluate the conditional/coordinative capacities and articular mobility (Buonaccorsi, 2003), test of Gross Motor Development (Ulrich, 1985), Bioelectrical impedance analysis BIA and Test of Potential Intelligence to assess the problem solving skills TIP (R. A Fabio, 2007).

Our investigation obviously showed a significant difference between the two groups in physical tests and body composition but it is important highlight some correlations between the problem-solving test and the different motor abilities analyzed observing the whole sample.

All the correlations between potential intelligence and the others variables appear significant. The values more correlated with TIP are the variables of coordinative dimension.

The gross motor development quotient correlated with tip is r= 0. 74. This is a high value, but not enough to argue that there is a connection of cause and effect, because other variables could influence the results.

The motor activities, and especially the coordination skill training, could be one of the factors that help the cognitive development of children.

Keywords

Motor capacity, coordination skill, body composition, articular mobility, cognitive development, gymnastic, primary school.

Introduction

In the last twenty years there has been an increase of studies, especially in the neuro-scientific field, showing strong connections among brain, mental and motor activities, these are stronger as younger are the subjects. The development of representations and cognitive processes are closely related to the quality of motor activities of a child's first months of life. Motor and sport activities involve the body through guided flexible and creative experiences, promote a harmonious relation between consciousness and emotion; an exchange of dynamic interaction of natural mechanisms that regulate the relation between body and environment, in a continuous input and output. Therefore an active subject conscious of his way of being, with the combination of emotional and cognitive functions, is able to control his own voluntary actions. It is a dynamic process in which emotion is influenced by the cognition itself, giving us the ability to decide which action we should undertake in a complex mental mechanism that makes us go from reaction to action (LeDoux, 2003). The corporeality has a constructive role in the relation "myself-world", which develops around the key-idea of the "active body" that does not passively undergo reality, but pursues it, catches it in its many aspects and then redefines it in a continuously renewed dialogue with environment, transforming, reshaping and recreating the reality. So, physical mobility does not represents only the starting point of any form of physical development but a real structure that gradually changes and that becomes mental-logic, verbal-organization and thinking (Gomez Paloma, 2004). Several neuro-scientific studies have shown that physical exercise increases neurogenesis in the hippocampus and that new neurons are added into hippocampal circuits; according to these research-

es, it is possible to understand that the motor activities can contribute to the improvement of cognitive abilities (D'Alessio, 2010). Regular and vigorous physical activities produce physiological adaptations that allow the neurons of the hippocampus to store, for a long time, the incoming information by special mechanisms that cause rapid plastic changes in nerve cells. Some researches by Kubesch have shown that physical activity is an experience that causes neurobiological adaptation changes. Therefore, the movement promotes the neo-formation of nerve cells, their growth, their conservation and their connections. All executive functions, such as the ability to focus on relevant aspects, or to inhibit the execution of activities in contrast to the pursued aim and the situation, which obviously influences also the social behavior, can be strongly influenced through physical exercise.

The general coordination skills, responsible for the mobility control and learning, adaptation and transformation of movements, are strictly related to the central nervous system functions. During the different cognitive processes, at the basis of many body movements, such as balance, sensory differentiation, rhythm, etc, the frontal lobes and the cerebellum play a key role.

The beneficial effects of physical activity on the cognitive functions have emerged from researches on acute and chronic exercises that respectively observe long-term effects of habitual practices of physical activity and short-term effects of individual training sessions. An interesting review by Sibley and Etnier in 2003 has underlined that both acute and chronic physical activities determine better cognitive performances and that such improvements are more evident in children than in adults. Moreover, it has been noticed that the different types of activities can have a favorable impact on several measures of cognitive performances, such as the Intellectual Quotient (IQ), educational achievements, as well as the mathematics or verbal tests. At the same time, Tomporowski has given us an overview of the effects of acute physical exercise on children's cognitive functions. According to some researches about adults, it has been proven that the level of brain activation and all those processes are responsible for the availability of mental resources, subjected to temporary changes after acute physical exercises. (Brisswalter et al., 2002).

Besides underlining that the single training session generates, in general, short-term positive effects on the cognition performance, the review by Tomporowski has also pointed out the fact that physical activities causes an increase of positive behaviors and a reduction of deviant behaviors in children and adolescents with clinical disorders.

Tomporowski, Davis, Miller and Naglieri's research on the physical exercise's effects on children's intelligence is particularly interesting. The school progresses have been reviewed in light of the recent researches that show the benefits acquired by physical exercises on the cognitive functions of children. It seems that physical exercises facilitates and then improves the children's executive functions.

A study in 2007 by Castelli, Hillman, Buck and Erwin (professors at the University of Illinois), has showed that there is a strong relation between fitness levels and school progresses. It has been found out that aerobic capacity is positively related to school progresses, and that at low BMI corresponds to a better cognitive performance in literature and mathematics while, on the contrary, strength and flexibility aren't related to the results.

The scientific framework, briefly presented, shows a strong interest in this research field, but it is obvious that there are a lot of co-variables and it is very complex to analyze and interpret all the results.

Many studies have exclusively focused on the physiological aspects in an experimental workshop context that strongly limits the ecological validity of the results, because the motor and cognitive performances of children must be detected in the real learning environment. For the evaluation of intelligence static methods have been used that reflect and represent a real product of a consolidated learning in an earlier period; for this reason, no sensitive tables of learning abilities have been produced. Starting from the idea that movement is closely related to an efficient brain activity, we can assert that sport activities, through motor and perceptive abilities, allow the development of higher intellectual skills. The increase of neurons stimulated by exercise corresponds to the growth of the ability to transmit information starting the curiosity to analyzing through a descriptive statistic the possible correlation between motor performances and cognitive functions. Sport, in facts, stimulates the perception and verifies the cognitive existence of oneself refines self-regulatory abilities and allows a greater decision-making autonomy. The consequent progressive independence acquisition has a deep influence on cognitive, exploratory and rapid dynamic growth, increasing the sense of self-efficacy.

Assuming that children who regularly play sports are, therefore, more stimulated to deal with problematic situations and more able to respond to the environmental stimuli in a brief period, the study has compared two groups of young girls aged from 6 to 11 years old. The first group was made up by gymnasts and in the second one there were pupils at primary school.

The aim of this research was not only to assess the status of psycho-physical wellbeing of each group, but especially to analyze which could be the possible relationship between problem solving skills and the different physical-motor components. For this purpose, the research has assessed through a large number of field tests, the level of coordinative, conditional motor capacities and coordinative skills, articular mobility and body composition together with the evaluation of problem solving skills.

Methods

Participants

The sample is composed by 56 random children, aged from 6 to 11 years old, all young females. The pupils attend the primary school of Benevento (Italy). The gymnasts are members of the Italian Gymnastic Federation and have been practicing artistic gymnastics for two years at least.

The pupils practice physical education in the curricular program at school (2 hours per week) with primary school teacher not specialized in motor science. The gymnasts, in addition to physical education at school, train with a federal gym trainer for 5 hours per week.

Methodological procedure

Parents have been informed about this initiative through a written communication and all participants and both technical and teaching staffs have been given notice of the disclosure calendar containing the guidelines to follow. Moreover, they have signed the consent form for the use of personal data in accordance with the privacy policy.

The tests have been carried out between April and May of 2013. In the pupils group, the motor tests have been carried out during the Physical Education morning lessons, the dynamic measure test of problem solving skills (TIP) has been carried out before the afternoon's school lessons and bioelectrical impedance analysis (BIA) was conducted by a doctor at 10:00 am in a fasting situation. In relation to the gymnast group, all the tests have been carried out in the gymnastic association using the same criteria and procedures.

The tools

At first the protocol to assess the physical fitness of young girls has been chosen.

The protocols have taken into consideration the following criteria:

- standardized international tests;
- test fitted for the school context;
- cheap tools;

The table n. 1 shows the different type of selected tests and their standardizations in a synthetic form. Following some information about the specific assessment of body composition and problem solving skills.

TEST	STANDARDIZATION
CONDITIONAL CAPACITY	
Run test (Mt. 20)	Electronic timer
Sargeant	Sargeant
Standing long jump	OCM CONI-CAS
Throw of the ball (150 gr.)	F.I.D.A.L.
Shuttle run test 5x5	O.C.M. CONI Livorno
COORDINATIVE CAPACITY AND GROSS MOTOR SKILLS	
Dexterity circuit	Research CONI-CAS
Grosso motor development TGMD	Ulrich Dale A.
ARTICULAR MOBILITY	
Back flexibility test	Research CONI-CAS
Shoulder mobility test	Research CONI-CAS
Hip mobility test	Research CONI-CAS
BODY COMPOSITION	
Bioelectrical BIA	Via Biomedical
Anthropometric sizes (weight and height)	Altimeter scale
PROBLEM SOLVING SKILLS	
Potential intelligence test (TIP)	Fabio R.A. Erickson

[Tab. 1] Changed table extracted by BUONACCORSI A. *Standardization manual of motor tests. National Observatory of motor capacities*, C.O.N.I. National Olympic Italian Committee, Rome, 2003.

The TIP (R. Fabio, 2007) is a test that measures the change of cognitive skills and the adaptability to new situations, in children aged from 3 to 19 years. This is a "dynamic" test because, besides measuring the results obtained in the various tests it also provides, within the tests administration, for a teaching procedure that gives the possibility to evaluate the level of potential development. With the dynamic indexes there is a higher interest on process than on product; the use of the dynamic test is due to the inadequacy of conventional tests to provide accurate information on the ability of individual learning, on the processes of change and on plasticity and variability of cognitive processes. The dynamic indexes of this test measure the suggestions that a person uses to find a solution to the problem-solving into two phases:

- In the learning phase, when the individual tries to solve a new problem;
- In the transfer phase, when the individual make a generalization of the rule learned to a new and more complex problem solving.

The test contains 14 items (7 of which are related to the learning phase and the other 7 to the transfer phase).

The BIA is a method of screening body fat in few seconds.

A person lies down and the electrodes are attached to the various parts of the body and a small electric signal is circulated to obtain an efficient analysis of body in terms of water absorbency and nutritional statement.

Data analysis

All the results of the assessment of physical fitness have been evaluated by ANOVA.

These are the specific analyzes:

- Descriptive analysis with summary table: average, standard deviation, standard errors, minimum and maximum value;
- Pearson's correlation coefficient between the different variables and problem solving skills

Results

The table n. 2 shows the descriptive analysis into two groups highlighting the average, standard deviation, standard mistake, lower limit, upper limit, the lowest and maximum value.

		N	Average	Standard deviation	standard mistake	Confi. Int. 95% Lower limit	Confi. Int. 95% Upper limit	Least	Maximum
Height	Gymnasts	28	136,30	8,946	1,691	132,83	139,77	119	154
	Pupils	28	133,63	8,938	1,689	130,16	137,09	119	155
	Tot.	56	134,96	8,962	1,198	132,56	137,36	119	155
Weight	Gymnasts	28	33,26	5,199	,982	31,24	35,27	25	46
	Pupils	28	37,26	8,933	1,688	33,79	40,72	30	73
	Tot.	56	35,26	7,517	1,005	33,24	37,27	25	73
FM	Gymnasts	28	19,971	6,3044	1,1914	17,527	22,416	10,6	34,4
	Pupils	28	29,339	3,9624	,7488	27,803	30,876	20,2	37,1
	Tot.	56	24,655	7,0297	,9407	22,770	26,541	10,6	37,1
FFM	Gymnasts	28	80,029	6,3044	1,1914	77,584	82,473	65,6	89,4
	Pupils	28	70,650	3,9514	,7467	69,118	72,182	62,9	79,8
	Tot.	56	75,339	7,0403	,9408	73,454	77,225	62,9	89,4
BMI	Gymnasts	28	17,39	1,397	,264	16,85	17,93	15	21
	Pupils	28	20,25	2,757	,521	19,18	21,32	16	30
	Tot.	56	18,82	2,601	,348	18,12	19,52	15	30
Shoulder mobility test	Gymnasts	28	44,61	9,893	1,870	40,77	48,44	20	63
	Pupils	28	60,88	19,320	3,651	53,38	68,37	16	102
	Tot.	56	52,74	17,281	2,309	48,11	57,37	16	102
Back flexibility test	Gymnasts	28	14,63	5,421	1,024	12,52	16,73	-1	25
	Pupils	28	,96	8,435	1,594	-2,31	4,23	-16	22
	Tot.	56	7,79	9,841	1,315	5,16	10,43	-16	25
Hip mobility test	Gymnasts	28	168,39	12,770	2,413	163,44	173,34	145	180
	Pupils	28	130,18	22,504	4,253	121,45	138,90	90	180
	Tot.	56	149,29	26,465	3,537	142,20	156,37	90	180
Locomotor skill Standard Score	Gymnasts	28	11,57	1,687	,319	10,92	12,23	9	15
	Pupils	28	6,39	3,563	,673	5,01	7,77	1	14
	Tot.	56	8,98	3,802	,508	7,96	10,00	1	15
Object controll Standard Score	Gymnasts	28	10,57	2,251	,425	9,70	11,44	5	15
	Pupils	28	5,79	2,713	,513	4,73	6,84	1	12
	Tot.	56	8,18	3,454	,462	7,25	9,10	1	15
Gross Motor Development Quotient	Gymnasts	28	106,43	9,582	1,811	102,71	110,14	82	127
	Pupils	28	76,54	15,276	2,887	70,61	82,46	49	118
	Tot.	56	91,48	19,675	2,629	86,21	96,75	49	127
Dexterity Circuit	Gymnasts	28	22,139	4,2527	,8037	20,490	23,788	16,8	31,7
	Pupils	28	36,459	8,7383	1,6514	33,071	39,848	23,9	62,0
	Tot.	56	29,299	9,9278	1,3267	26,641	31,958	16,8	62,0
Sargeant	Gymnasts	28	29,00	5,207	,984	26,98	31,02	19	38
	Pupils	28	21,25	3,941	,745	19,72	22,78	13	28
	Tot.	56	25,13	6,018	,804	23,51	26,74	13	38
Standing long Jump	Gymnasts	28	143,75	20,682	3,909	135,73	151,77	110	170
	Pupils	28	102,93	18,257	5,006	89,14	109,68	100	142
	Tot.	56	121,58	32,486	4,340	112,86	130,28	100	170
Throw the ball 150 gr.	Gymnasts	28	11,823	3,1619	,5975	10,597	13,048	7,3	18,5
	Pupils	28	7,683	2,4358	,4603	6,739	8,628	4,3	13,1
	Tot.	56	9,753	3,4905	,4664	8,818	10,688	4,3	18,5
Run test 20 Mt	Gymnasts	28	4,1236	,46102	,08713	3,9448	4,3023	3,28	5,22
	Pupils	28	5,0639	,76248	,14410	4,7683	5,3596	3,96	7,50
	Tot.	56	4,5938	,78411	,10478	4,3838	4,8037	3,28	7,50
Shuttle run test 5x5	Gymnasts	28	49,993	5,6313	1,0642	47,809	52,176	43,1	60,0
	Pupils	28	55,693	5,7519	1,0870	53,463	57,923	45,2	66,0
	Tot.	56	52,843	6,3306	,8460	51,147	54,538	43,1	66,0
TIP Quotient	Gymnasts	28	116,46	9,414	1,779	112,83	120,13	100	150
	Pupils	28	83,50	12,708	2,402	78,57	88,43	60	112
	Tot.	56	99,99	19,992	2,672	94,64	105,35	60	150

Table n. 2

Correlation were analyzed by Pearson's correlation coefficient (r) between the dimensions of physical fitness and problem solving skills, represented in the table n. 3.

Discussion and Conclusions

Table n. 2 shows significant differences in the motor test between the two analyzed groups that confirm the assumption. It's easy to understand that in all physical performances the values attributed to gymnasts are higher than those attributed to the pupils, since the fine motor skills are well trained and specifically pursued. Instead, less obvious seems to be the result of evaluation of the problem solving skill that has let us to know that the gymnasts have, in facts a higher TIP quotient than the pupils. It must be pointed out that the tested sample, as has previously described, belonging to a medium-high sociocultural level, has obtained a generically high TIP value, and this wants to represent a basically high average intelligence quotient.

It is important to underline that the standard deviation in all the tests administered for the different motor capacities shows a greater value in the sample of the pupils than gymnasts one. This is given by the fact that the sample of gymnasts, attending gymnastics lessons for two years shows homogeneous values of tested skills; however, the pupils have showed inhomogeneous characteristics represented by a high value of standard deviation.

The table n. 3 shows Pearson's correlation coefficient (r) between the variables analyzed and the TIP test. The last line of the table shows the values of correlation. These coefficients highlight that there are significant correlation between the physical dimension and cognitive dimension. The correlation coefficient between motor tests on the conditional capacity (run test 20 mt, standing long jump, sergeant test, throw the ball 150 gr., shuttle run 5x5) and the potential intelligence test (TIP) even if positive, these are the lowest values. More significant are the correlations between the body composition and TIP, (FM r=-0, 60; FFM r=0, 60; and BMI r=-0, 46) articular mobility and and TIP (Shoulder mobility test r=-0. 45); back flexibility test r=0. 56; hip mobility test r=0. 63.

Table n. 3

Variables	HEIGHT	WEIGHT	FM %	FFM %	BMI	S. MOB.	B.MOB.	H.MOB.	LOC. S.	O.C.S.	GMDQ	D. CIR.	SARG.	L.J.	T.B.	20MT	S.R. 5X5	TIP Q.
HEIGHT	1,00																	
WEIGHT	0,70	1,00																
FM %	-0,25	0,29	1,00															
FFM %	0,25	-0,29	-1,00	1,00														
BMI	0,10	0,76	0,67	-0,67	1,00													
SHOULDER MOBILITY	0,04	0,36	0,44	-0,44	0,49	1,00												
BACK FLEX.	0,20	-0,13	-0,58	0,59	-0,39	-0,73	1,00											
HIP MOBILITY	-0,04	-0,33	-0,58	0,58	-0,46	-0,71	0,79	1,00										
LOC. SKILLS	-0,02	-0,31	-0,54	0,54	-0,44	-0,57	0,66	0,69	1,00									
OBJECT CONT. SKILLS	0,10	-0,26	-0,50	0,50	-0,47	-0,30	0,48	0,49	0,63	1,00								
GROSS MOTOR D.Q.	0,04	-0,32	-0,57	0,57	-0,50	-0,49	0,63	0,66	0,91	0,89	1,00							
DEXTERITY CIRCUIT	-0,31	0,20	0,68	-0,68	0,60	0,60	-0,73	-0,64	-0,60	-0,56	-0,64	1,00						
SARGEANT	0,39	-0,04	-0,62	0,62	-0,46	-0,39	0,62	0,53	0,49	0,47	0,53	-0,69	1,00					
STANDING LONG JUMP	0,38	-0,02	-0,63	0,63	-0,42	-0,35	0,59	0,50	0,41	0,36	0,43	-0,60	0,66	1,00				
THROW BALL 150 gr.	0,60	0,26	-0,54	0,54	-0,21	-0,29	0,51	0,38	0,41	0,43	0,46	-0,64	0,62	0,59	1,00			
20 MT RUN TEST	-0,47	-0,04	0,60	-0,60	0,42	0,35	-0,59	-0,41	-0,52	-0,43	-0,53	0,67	-0,64	-0,62	-0,67	1,00		
SHUTTLE RUN 5X5	-0,51	-0,01	0,55	-0,55	0,47	0,45	-0,52	-0,44	-0,41	-0,32	-0,41	0,73	-0,62	-0,47	-0,56	0,69	1,00	
TIP QUOTIENT	0,11	-0,23	-0,60	0,60	-0,46	-0,45	0,56	0,63	0,67	0,67	0,74	-0,61	0,42	0,53	0,52	-0,51	-0,39	1,00

The values more correlated with TIP are the variables of coordinative dimension. The coefficient value of the subtest of gross motor development are both 0. 67, the gross motor development quotient correlated with tip is 0. 74 and the correlation with dexterity circuit is -0. 61 (its value is expressed in seconds and the lower value shows the best performance).

This trend confirms that exists a positive correlation between physical fitness and cognitive dimension, but particularly evident is the relationship between the coordinative dimensions with cognitive one.

The weakness of this study is that sample of gymnasts is characterized by closely similar observations and so it should be necessary to study this phenomenon on a wider and more heterogeneous sample.

This study, even if performed in a limited investigation sample, has a significant role in confirming what has reported in other studies: there is a correlation between physical fitness and cognitive skills. The next step may be to check the results on a wider sample, but also to identify the contribution to the improvement of cognitive skills made by different sporting disciplines (comparing, for example, performances of athletes practicing a sport mainly characterized by open skills to athletes practicing, instead, a closed skills sport). This is also based on some relevancies observed during the various tests about all the young girls and on elements that were not under investigation. There is a reference to the approach that the two different samples have showed while performing the potential intelligence test. In fact, it has been empirically observed how the girls belonging to the group of the gymnasts have faced the TIP test with much more confidence; it would start a healthy competition in finishing before the others or in requesting less suggestions but, above all, there was a clear great determination and self-confidence. On this basis, it is believed that these aspects can be enhanced in individuals constantly practicing open skills sports such as team sports, which are strongly influenced by game situations, and it is therefore interesting to evaluate whether such a correlation exists or not. If on the one hand the analysis that has been carried out shows several strengths, such as the use of consolidated scientific tests, the use of standard values, the study of quantifiable elements, homogeneity of the sample from the socio-cultural point of view, on the other hand it shows elements that can be interpreted as weakness. As already described several times, the analyzed sample appears homogeneous in the comparison between the two groups, since school and sports club draw on the medium-high sociocultural level. Therefore, if homogeneity is positive in the comparison, it is not representative of all the population because it does not represent the different social classes.

In conclusion, the studies have shown that there is a significant correlation between the physical fitness and the problem solving skills, so it is possible to confirm the central role of physical activity for an optimal physical and mental growth of our children.

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Sport as inclusive language

P. De Marco, C. D'Anna

Abstract

The aim of this work is to show how, and if, communicating with an autistic subject who does not express himself verbally is possible through motor activity and, in particular, through playful physical activity. Also, to prove how, through bodily interaction, is possible to intervene on their difficulties in self-control, communication and relationship, which are typical of autistic subjects. The activity that has been carried out is essentially of a playful kind, and it is based on the study of an eighteen-year-old autistic student who does not express himself verbally, but only by stuttering "yes" and giving "high five". The subject of the study attended a class composed by 20 students: 5 M class of the Liceo Scientifico Statale "E. Medi" of Battipaglia (Sa), academic year 2011/12. The exercises and games used were based on the fundamentals of basketball: passing, dribbling and shooting, along with some running exercises, in order to improve his general resistance and posture. The research was of a qualitative type, the method was based on direct observations, the study has been articulated in 9 months, with verifications every 3 months, the results were all collected in a database form, according to the preset objectives, such as improving general physical resistance, posture, social integration and communication. To evaluate abilities and difficulties of an autistic pupil presupposes an approach different from that used with neurotypical students or with students who suffer from other pathologies (for example, intellectual disability). The main goal of the study was to identify the strong and weak points of an autistic subject in order to implement, and systematically adapt, some personalized, and possibly integrated, intervention plans. At the end of the study, the preset objectives have been only partially reached, nevertheless, the student sometimes integrated himself, a channel of communication was opened, and general resistance and posture sensibly improved.

Keywords

Disability, integration, autism.

Introduction

Knowledge regarding autism disorder is an open field of search which benefits from incessant new contributions (International statistical classification of diseases and related health problems, 1992). The complexity of the autistic disorder and the presence of an articulated phenomenal framework make all modes of intervention very problematic. The fragmented nature of the studies on the efficacy of different modes of intervention also increases its complexity. Autism is a behavioral syndrome caused by a biologically determined developmental disorder, which manifests itself in the first three years of life. The predominantly interested areas are those related to social communication, to mutual social interactions and to the functional and symbolic game. Children with autism suffer from qualitative language impairments – and sometimes lack it completely, they show inability or serious difficulty developing emotional reciprocity, with both adults and their peers, and that is made evident by behaviors, attitudes and communication modalities, including non-verbal ones, which do not fit their age, the context, their mental development, they tend to have scarce interests, and stereotyped and repetitive behaviors. To these aspects, also a mental delay can adjoin, presenting itself in light, moderate or serious forms.

Autistic children systematically present a series of strange and problematic behaviors, such as stereotypes, mannerisms, screams or other displays of refusal, and also forms of aggressiveness towards the others as well as cases of self-harm. Thence, the educational insight and the contents to be privileged require a personalized approach (Linee Guida del Ministero della Salute, 2011).

School inclusion of autistic pupils is an objective which is essential and of great adaptive value, since interactions with neurotypical peers help them understanding the world and its rules, which sometimes may appear obscure and illogical to autistic subjects. Different studies have underlined that a therapy or a method for autism does not exist, also in consideration of the variability of the types of autism (Cottini, 2002).

Autistic children often lack motivation to interact with others, or when they do have such motivation, they lack the necessary instruments to interact adequately.

The heterogeneity and the variability in characteristics and in gravity are all typical of autism: therefore the difficulties in this area change sensibly between individual and individual. To say autism actually means nothing if what we are looking for is a guide to intervene on communication (Xaiz e Micheli, 2000).

In using basketball it is necessary to recognize the value of listening and waiting, of silence and real integration; to consider diversity not a limit but an enrichment as well as an occasion for inner growth; to know how to glimpse the potentialities that a magic tool like the ball possesses, to start dialogues, to interweave relationships and to look, finally, upward (Calamai, 2008).

Methods

In the academic year 2011/12, along with the 5 M class of the Liceo Scientifico E. Medi of Battipaglia (Sa), a research study was carried out on an eighteen-year-old student with autism. The methodology used has been divided in different phases, after a preliminary preparation of the class to cooperate for the integration of the companion with the purpose of improving non-verbal communication, then followed the phase of enhancing his general resistance and the posture, and lastly the realization of playful activities with the use of volleyball's ball and, subsequently, of basketball's. The student was constantly supervised by a tutor, all the structured games were realized always taking into account his ability, interest and attention capacities. He was never coerced when showing signs of impatience. The results obtained during the whole academic year were recorded every trimester through direct observation, thence reported to evaluation grids prepared on purpose for the case in question.

Results

The object of the study was recorded in a dedicated evaluation grid, which was updated every three months. Here we have the results obtained:

INDICATORS	3° MONTH	6° MONTH	9° MONTH
Run with tutor	P. A.	A.	A.
Autonomous run	N. A.	N. A.	P. A.
Enhancing Resistance	N. A.	P. A.	P. A.
Enhancing Posture	P. A.	P. A.	A.
Dribbling	N. A.	P. A.	P. A.
Passing	N. A.	P. A.	P. A.
Shooting	P. A.	P. A.	A.
Giving High five	P. A.	A.	A.
Raise his eyes	N. A.	N. A.	P. A.
Integration with companions	N. A.	N. A.	P. A.

[Tab. 1] Evaluation Grid.
Legend: N. A. = Not Achieved; P. A. = Partially Achieved; A. = Achieved.

The evaluation grid shows that few abilities were fully achieved. Considering however that the pupil, at the beginning of the year, and for the first three months, had achieved none of the abilities object of the study, thanks to the proposed path, at the end of the nine months, he has reached all the objectives even if most of them only in partial measure. Conscious of the difficulties typical of the disability, we can consider the results satisfactory, especially for those related to the integration and communication. As the Evaluation Grid demonstrates, most of the competences were only partially reached, therefore, the preset objectives have not been all fulfilled. As the grid shows, initially the pupil was a bit reluctant to running with the tutor, but subsequently, with different exercises, and from the fourth month on, it was himself who, once at the gym, looked for the tutor to run with him. Though, having gotten used to the presence of the tutor, he has not fully reached the ability to run autonomously. The first exercises with the ball included dribbling and passing; both abilities were not reached during the first three months, but only partially in the following months. Since the beginning, the pupil was attracted by the shot to the basket, even though because of his difficulties he only partially reached the objective in the first six months, subsequently he fully reached such ability. During the exercises the pupil felt part of a group and, therefore, while in the first months he only gave high five to his tutor and his teacher, subsequently he also looked for his other companions, though his integration only concerned giving high five, in effect at the end of the study he proved having integrated into the group only partially. Another objective of the present study was to improve the posture of the pupil, who initially showed kyphotic posture, but thanks to the help of the tutor and to the exercises, in the last three months he achieved a suitable posture, still, his resistance improved and also managed, even if partially and for a short time, to raise his eyes.

Conclusions and Considerations

The aim of this preliminary study was to verify whether there were the conditions to draw up an experimental protocol on the inclusion process through sports, and the results are encouraging. Furthermore, we wish to stimulate more and more searches in this field, in order to help that part of the population limited by a disability whose peculiarity is precisely the difficulty to integrate and communicate. Along these lines, we hope for reducing, at least in parts, the communicative barriers existing between neurotypical and autistic people, but an evolution of the studies regarding this disability, which is still rather unknown, is essential. In consideration also of the fact that having seen the joy and the smile on the face of the disabled student may work as a spur to devote greater attentions to the problems typical of the world of diversity which, even if they are faced with sensibility and commitment from the scientific and educational world, the road is still long and tortuous, nonetheless the emotion and satisfaction for these small results make the heart full of joy and give sense to the profession of the teacher.

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Disabled students
Their personal development and social inclusion

N. Di Rubbo, R. Scocca, C. D'Anna

Abstract

The aim of this project is to provide a teaching proposal aimed to the development of personal and social autonomy of people with disabilities. The project has been based and created for disabled students who attend High School of Food, Beverage and Hospitality in Castelvenere in the heart of Samnium Region.

The project intends to promote a new idea of learning and autonomy related to the daily life. Sometimes student's autonomy is considered nonsense and a predicted characteristic by adults, but it is different for people with disabilities, who at the end of the high school education feel confused in easy daily routines actions like: getting on a bus, going for shopping or paying at the supermarket…

The project will take one year, with two meetings a week, it will be articulated into three principle phases: welcoming, organization, sharing of the final products.

We hope to obtain good results in the learning process of disables and the development of their autonomy and gratification, improvement of different abilities and competencies.

The project experience has to be the first step for a real process of integration in society for the disabled people.

The achievement of autonomy by disabled people is a great challenge; the school system, families and local institutions has to work together to improve their quality of life.

Keywords

Autonomy, people with disabilities, school, society.

Introduction

The achievement of autonomy by disabled people is a great challenge. The school system shares a huge responsibility with the families and local institutions in the creation of a life plan in which independence and autonomy play a key role in the reaching of a better future for everyone this is considered the first methodological educational element.

After many years of legislative silence, Law 118/1971, dealing with the education system, the institution of rehabilitation, research and prevention centres, architectural barriers elimination, job market for disabled, pension or Disability Living Allowance, developed the social benefits system for the disabled, thus promoting their integration. After the Law 118, the first decrees regarding education were introduced and Law 517 on Right to Education and inclusion of disabled children in ordinary classes was issued. This Law promoted social and working integration of disabled people. Nowadays, the integration of students with disabilities is an evolving process, which has already brought significant innovations to Italian schools towards a more inclusive system; however, some critical issues still need to be addressed (Gomez Paloma, F. 2012). An illusory integration often takes place, which is based on a static culture of learning and is often inadequate for students' needs. Learning is strictly connected to how activities are organized, and how planned targets are achieved in the learning process. A better quality of life is a key element towards which teaching shall be oriented, with a specific focus on the acquisition of psychomotor skills aimed towards personal and social autonomy.

The Madrid Declaration of 2002, promulgated on the occasion of the International Year of Disability (2003), highlighting that educational system plays a key role in the creation of a future for everyone, as a place that guarantees personal development and social inclusion. "*…schools should take a leading role in spreading the message of understanding and acceptance of disabled people's rights, helping to dispel fears, myths and misconceptions and supporting the efforts of the whole community…*". Schools shall be the central place where personal development and social inclusion have to be granted through specific and programmed educational actions.

These teaching pathways are going to allow each student to be independent as much as possible and to provide all students, with or without disabilities, with the opportunity to develop their sensitivity and greater respect towards those who are less lucky.

Design

On the basis of the analysis of some issues in everyday school life about the integration of disabled students in relation to EU regulations, this research group tried to highlight, through the cooperative-learning method, the value of promoting autonomy at work and in the society. Therefore, some key methodological elements have been identified, which shall be taken into account during the planning of educational interventions.

Objectives

The project 'Disabled Students their personal development and social inclusion' has the aim:

To create new learning spaces, closer to the disables needs, encourage the effective integration of them starting from the students' potentiality themselves;

to promote the acquisition of basic autonomy and improve their manuals abilities and develop their operational skills in a particular sector linked to their studies to aid the positive integration into society and the workplace.

Through the cooperative learning method they will have the possibility:

- to develop communication and interpersonal skills;
- to encourage creativity and the process of self-esteem supporting a functional approach and the daily speech in their mother tongue but also in other languages.

To learn how to ask for something, ordering or take an order by a customer, how to behave at the restaurant, at the reception, during a banquet etc. and what kind of language use in each situation.

The creation of a learning location that helps to dramatize a specific situation and the use of symbolizing money to learn how to manage them and all the other resources related to the different activities could be positive elements to develop their abilities and stimulate them to collaboration.

Take awareness of their capabilities; make them conscious that they are "*learning doing*".

Methods

In the light of the above considerations, the project will be implemented with teaching strategies that took into account the complex teaching and learning scenarios in order to provide points of references to implement appropriate and suitable measures. as for the assessment and obsevation of the work, some quantitative and qualitative tools have been selected: a questionaire filled by parents or by support teacher, autonomy check list (written into three differt phases of the project), scrapbook of the lessons and initial and final report of the support teacher.

The project will take one year, with two meetings a week, it will be articulated into three phases:

Welcoming and preparation of laboratories: analysis of the starting point and distribution of research tools to examine a variety of aspects (psychological, social, motricity…), filling of the 1st observation form related to the independence capability of the student (by the teacher) and data collection (initial report by the teacher).

Organization and implementation of laboratory activities. – distribution of research tools and collection data in a scrapbook, one for each lesson (written by each teacher), filling of the 2nd observation form related to the independence capability of the student (by the teacher).

Sharing, distribution and illustration of the final products – test again the tools of the research distributed at the beginning of the project, final report of the teacher, filling of the 3rd observation formrelated to the independence capability of the student (by the teacher).

During the work will be produced posters with words and senteces used during a conversation at the phone, taking a order, at the post office while you send a letter or a package. In order to involve more and more all the students will be organized drama and music workshops, front post office position and a reception hotel area. Social activities and going shopping at the supermarket, giving information about directions. All the activities will be reported in a scrapbook, with time emploied and tearcher involvement.

Results

The results will be monitored through the use of the tools mentioned above respecting the terms of distribution of the tests and the timing of all the phases of the project.

After a work of a year we aspect the following results:

- Successful training of the disabled.
- Better learning.
- Development of an individual and group experience.
- Development of skills and competences.

All the results will be studied and analysed on the basis of the presence of each student, of their effective involvement to the lessons and evetual dropouts.

Discussion

We firmly believe in the importance of the initiative from the point of integration and improvement of interpersonal skills and autonomy.

The MIUR Guidelines (2009) invite teachers to plan specific interventions, together with all the players involved, taking into account the different cognitive styles and attitudes on the basis of a customized teaching approach based on the student's real needs. This teaching approach shall be focused on learning through socialization, interpersonal relations and communication.

This hypothesis leads us to think about the second metho-

dological element in the educational planning: the creation of a favorable environment.

The third element to be taken into account in the educational planning for an inclusive school is the implementation of strategies and methods that encourage cooperative learning, team and pair work, tutoring, discovery learning and role-play.

Educational planning shall be based on the students' personal interests and on their real needs. Activities shall be organized on the basis of their motivation, willingness, preferences and attitudes. Also, it is required to start from real life problems that should be solved. Knowledge, skills and autonomy shall not be simply transmitted in a passive way, but rather developed on the basis of students' active participation. Action and communication taking place within real experiences may act as a significant stimulus to learning; these are the general, basic principles on which the current teaching proposals are based.

Several educational areas of interventions may be identified. In the current study, which is mainly related to the educational-motor framework, the areas of road behavior and space orientation are particularly suitable but, of course, there are other areas of intervention on which further proposals might be developed.

Conclusion

The achievement of autonomy by disabled people is a great challenge. The school system shares a huge responsibility with the families and local institutions to develop a life plan in which independence and autonomy play a key role in the creation of a better future for everyone (Ianes, 2005).

The teaching guidelines and the methodological principles used in this study may help teachers to figure out new pathways or new projects which might adapt to specific needs, taking into account the different problems and the different social and cultural contexts.

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Disability between sport and education

A. Gallo, S. Liguori

Abstract

Sport is an important moment for the inclusion of a person with disabilities, not only because it enhances physical abilities, but also because it encourages self-esteem. Through a better self-awareness, capabilities and limitations, physical activity has to reach students with disabilities the full self-respect and dignity, raising the possibility of being able to enter in the school, in the social and at work, breaking down the cultural barriers that often hinder the integration process. The sport, moment of aggregation and socialization, provides physical, psychological and relational benefits. The desire to participate and compete rekindles the desire to live and hope. Furthermore, sport is a tool for the construction of universal values, a school of life that brings socialization and respect among friends and opponent. Therefore, in this scientific framework, in the educational process of a person with disabilities, physical activity is very important because it represents the main way to express themselves, communicate and live.

Introduction

The movement is the main way to express themselves, communicate and understand, and this in the awereness that the man does not show his being only through the forms of thought, but always and at the same time, through the modes of moving, seeing, perceiving, doing. (A. Canevaro 2007).

Teaching laboratory arises as an opportunity to teach in a setting of the experimental learning in science, in which the disabled person has the main role. This methodology is aimed at the recovery and upgrading of residual motor skills. Whatever the type of disability, the teacher must be understand that the preliminary analysis is mainly aimed to understand what are the intellectual forms and the skills to which the student is in trouble. The psychomotor activities can help the person with a disability to know his limitations and, from these, learning how to use his body. The possibility of cooperating, stimulates the subject with a disability to enhance his skills. In the educational form, its main aim is also social collaboration, through which the subjects act not only in a cooperative way, but they relate to each other through a shared and consolidated process." (F. Gomez Paloma, R. Sgambelluri, 2012). The body through movement, which is his main form of expression, provides a bridge between us and others and marks the primary relationship that evolves and accompanies man at different stages of growth." (M. Sibilio, 2003). Subjects with disabilities, probably even more than the able-bodied, need physical activity as a driving force in their lives; the motor activity is health for all those who, having limits of different types and nature, require a range of care that allows them to improve their physical, mental and social state.

Objective

The objective of this study is to provide some important methods, techniques and tools that can be used to support the inclusion of the person with disabilities in the school context.

Method

There are several techniques of communication: circle time, cooperative learning, role playing.

The circle time is a mode of comparison through which all subjects have the opportunity to express themselves freely on topics chosen by the class. The cooperative learning, however, is the ability to work in groups to achieve specific learning. Finally, Role playing is the technique used to test to a person the role of another person in such a way that the subject, putting himself in the role of the other, can approach to the emotional states of mind of the person with whom it interacts.

In education has great value even technological developments and, especially in the sporting arena, linked to people with disabilities, it is important the motion analysis.

Motion analysis is conducted through several technological tools that allow highly accurate measurements. These instruments measure three major aspects of the movement: kinematics, external and internal forces.

Among the most popular technologies are:

– The motion capture systems, it can provide precise me-

asurements of the kinematics of the body segments;
- The force platforms, capable of measuring the external forces through the reactions of the soil;
- The EMG, which measures changes in the electrical activity of the muscles;
- Gloves with sensors for detecting pressure, useful for measuring the pressure expressed by the hands during the plugs.

Results/Discussion

In educational field technological tools allow to obtain accurate data and to follow the evolution of a path-motor training throughout its process. Furthermore, the use of these tools allows to assess the locomotor profile and the capabilities of the subject with disability, making effective the motor-educational programs. In teaching, they allow to follow more accurately the development of motor skills of students and to take action through the design of customized motors programs.

Then, the modes of action and the communication techniques are important in a context specifically designed for people with disabilities. These modes are realized through an involvement, comparison, criticism, discussion, making each subject, including the student with disabilities, the protagonist and the center of attraction for the whole group.

Conclusion

Physical activity is the first step towards social inclusion. It helps the subjects with disabilities to take contact with the world around him, encouraging the inclusion in the family, at school, at work. In this way he comes out of their isolation and finds himself with others, acquiring the sense of social participation and accustomed to assume its responsibilities.

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Wheelchair dance sport

M. Laezza, L. Rio

Abstract

The aim of the Wheelchair Dance Sport is to promote and develop wheelchair dancing as a sport and leisure activity across the country, but also international significance at all levels. The Wheelchair Dance Sport is accessible to anyone, with no boundaries in terms of age or skill level. The Wheelchair Dance Sport is assumed that all bodies are able to express themselves, even those who are in a state of motor disability: the important thing is to find a way to "liberate" this expression. It involves athletes with a physical disability in the lower part of the body. The aim of this study was to demonstrate how a subject, albeit in a wheelchair, with the aid of specific programs tailored for him, can afford to be able to dance and have fun with moves and steps chosen freely. The study, which took place in a dance school for a year and ended with a performance, he sought to show that the subject, through active participation, has managed to make a choreography both individual and couple having as a partner ablebodied dancers eligible to compete in real races. It ' important to note that this type of dance creates a sort of "community" in which the acceptance of one's body is the foundation.

Keywords

Wheelchair dance, disability, inclusion.

Introduction

The Disability Dance Sport has been defined as an activity that " involves athletes with a physical disability which affects the lower limbs. " However, this definition has since been expanded to incorporate upper limb disabilities, dual disability and multiple disabilities. In 1998, the weelchair Dance Sport became an International Paralympic Committee (IPC) and the international body of reference is the Sports & League International Dance Sport Federation (IDSF) has entered into formal cooperation agreements with the ' IPC changing the rules. Wheelchair Dance Sport is a growing sport over the years with its roots going back to the late 60's. Although initially a rehabilitation and recreational activity, it quickly developing into a competitive sport and today the Wheelchair Dance Sport has over 22 countries actively competing. The weelchair Dance Sport embraces a wide range of disabilities including paraplegics, spina bifida, amputations, brittle bones, deaf, blind, cerebral palsy and multiple sclerosis, to name a few of the diseases that people can be affected. (Cerruto, 2008). Wheelchair dancing started according to the IPC when it was practiced for recreational and rehabilitation purposes, Wheelchair Dancing originated in Sweden in 1968. Els-Britt Larsson, a wheelchair user herself who worked for the Swedish Handicap-Federation, was one of the pioneers of this fascinating sport. Very soon news of dancing in a wheelchair was spread and it became a very popular activity, especially in Sweden. In 1975, the very first competition was organized in Västeras, Sweden, with a total of 30 couples taking part. Spectators were fascinated and inspired by the sport and very soon competitions started to be organized all over the world. In 1977, the first international competition in Wheelchair Dance Sport took place in Sweden. After several regional and international competitions, the first World Championships were organized in Japan in 1998. The same year, Wheelchair Dance Sport became a Sport under the Governance and Management Authority of the International Paralympic Committee (IPC), but is not part of the Paralympic Program today. The first World Championships was held in Japan in 1998. In Monaco of Bavaria, in 1984, organized the first Rock'n Roll European Championship for dancers in wheelchairs. In 1985, the first official European Championships in Latin and standard dances were held in the Netherlands. The format of wheelchair dance sport competitions is very similar to those for non-wheelchair dancers, with Beginners competitions, Intermediate and Championship level and the same five dances for Ballroom and Latin contested. There are two categories for disabilities: Class 1 for severe disabilities and Class 2 for the not so severe. There are also two types of competitions: Duo-dance where the two dancers are both in wheelchairs and Combi-dance where one is in a wheelchair and one is a non-disabled partner, which currently seems to be more popular. Age categories are not currently well established, but some Junior and Senior events are developing as popularity of the sport

has grown. The IDSF rules for wheelchair dance sport are as much the same as those for non-wheelchair dance sport. The roots of wheelchair dancing in the UK can be traced back to the late 60s when a rehabilitation centre in Scotland was teaching people how to manoeuvre their wheelchairs and realised this could be done to music. (Filoramo, 2007). In 2006 Sue Cummings and Ruth Boyne established the Wheelchair Dance Sport Association (UK), the WDSA (UK). It evolved when a group of wheelchair wanted to compete in a race and Sue felt the international style was very different and went along to an Instructor's course in Malta in 2004 to learn more about it. On her return to the UK they started trying this new style of wheelchair dance sport and began advertising it, with the aim of showing that everyone can dance regardless of their disability. Sue and Ruth travel around the country giving workshops and demonstrations; they host instructors courses and are organising the first ever UK and Ireland Wheelchair Dance Sport Championship. Sue and Ruth are National Coaches, Classifiers and Instructor of Wheelchair Dance Sport. They are Paralympic representatives for Great Britain in wheelchair dance sport and the Wheelchair Dance Sport. The aims of this study is to be able to say that a person in a wheelchair can use sport and dance in this case, adapting it where necessary. The dance has its usefulness to achieve therapeutic results. The subject enhances the social aspect of interpersonal relationships not only through competition, but thanks to the possibility of being part of a group and feel accepted by this group. With the help of instructors we focused on the development of dancers and competitors, creating their technical skills physical, mental, personal and tailored to their needs, and trying to reach the well-being of that person. This approach helps form the foundation for lifelong participation in welchair Dance Sport, and is accomplished through fun activities, unique and enjoyable.

Method

The study was carried out in an ASD Naty per la Danza, located in Battipaglia. We have chosen this combination since it was part of a 13 year old girl with a disability of the lower limbs and then forced to live on a wheelchair. The study took place after one academic year of direct observation and participatory with the girl, from September to May, which ended with a performance aimed at checking the data of the study, where all were able to appreciate his skills as a dancer. The sessions have followed with a frequency of 3 days a week and the duration of each match was 2 hours each. The sessions have been created according to specific stages.

– In the first sessions (1- 4 weeks) has tried to engage the girl in touch with herself and with your partner.
– In subsequent sessions (5-16 weeks) were taught the girl the first steps and the first dance movements.
– Finally, in the remaining weeks (17-36 weeks), we focused on creating an end-of- year exhibition.

The girl usually has participated in lessons where he was part of a heterogeneous group in that there was the presence of both able-bodied persons with disabilities. The room used is large, bright, warm enough with the presence of several floors to facilitate the movement of the wheelchair. The materials used were: a simple stereo and observation grids to monitor its work, carried out with a periodically for about 4 weeks. In this study were used as proposals for activities 2 types of dance that usually the dancers in wheelchairs face:

– standard dances;
– latin American dances.

The Standard dances include the waltz, Viennese waltz, tango, tap dance. The Latin American dances include the samba, cha-cha-cha, rumba and jive. There are also dance groups, with 4-6-8 pairs of dancers who perform together.

It has been given the opportunity to be able to use your electric wheelchair in order to avoid that the girl was engaged in manual movement of the wheelchair. During the performance was evaluated:

– The cooperativity between the two components of the pair
– The expression of body language, movement of the arms, head,
– The sense of rhythm through movement acceleration and braking of the wheels, turns and tilts the wheelchair.

Results

Thanks to the study, she examined has radically changed his way of being and living, succeeding in fact the internal conflicts in order to break down the emotional, affective and relational. Through this method was able to activate the body language and express themselves even with a simple hand movement. During the entire year of observation the girl showed a distinct change adaptation and participation in fact during the various hours a week she first appeared isolated, unwilling participation and socialization. In the course of several weeks, thanks to the use of music, the dance exercises and associations of spontaneous movement, the girl has stimulated the reactivation of primary phenomena in such a way that certain feelings could be tried.

Indicators	4°week	16° week	36° week
Sense of musical rhythm	N. R	P. R	R
Fluidity of movement	N. R	P. R	R
Cooperation with partner	N. R	P. R	R
Cooperation with the group	N. R	N. R	P. R
Movements with upper limb	N. R	P. R	P. R
Changes in: acceleration	N. R	P. R	P. R
Braking	N. R	P. R	P. R
Virata	N. R	P. R	P. R
Request for electric wheelchair	No	No	No

[Tab. 1] Grid observation
Legend: NR = not reached, PR = Partially Achieved, Achieved = R.

Discussion

From the analysis made, as can be seen in the table, it appears that the girl for the first 4 weeks did not meet any of the indicators proposed as shyness and desire to isolate itself was greater than the desire to learn. It was difficult for her to make movements with his arms or just with the boss. Although he had a mastery already present with the wheelchair, in the dance such mastery is not immediately apparent, in fact, at the beginning movements of acceleration, braking and steering appeared to be complicated because the subject could not fit these movements with those of the body. From the 5th to the 16th week will begin to see the changes, in fact, is the sense of rhythm, the fluidity, the cooperation with the partner and for movements in the chair, the objective was partially achieved. The dancer slowly began to rediscover herself, she began to listen to her body and what she sent. He began to look in the mirror and not hate each other and, most importantly, has begun to establish a relationship with a partner beginning to trust someone and so begin to understand when making the movements of acceleration or braking or turning. The only goal that the girl has not yet reached until the 16th week was the cooperation with the group since the girl were difficult dance moves cooperative, because he was afraid that they might commit a mistake, or you may fall. Was still difficult for her to be part of a group in which there were also non-disabled children. From the 17th to the 36th week, the progress has been very positive and the proposed objectives have all been achieved or partially achieved. These achievements were clear and evident during the final exhibition. The girl in the show, in fact, is adept at showing off a couple dance mastery and confidence in the movements of the arms, but also in the movements of the head with the chair. It ' was very smooth and delicate in seeking contacts with the partner and be guided by him. It is then also ventured in a dance group, especially by free improvisation in dance moves without dwelling on the difference in ability of the body and mind. For the last indicator that the application of the electric chair, she immediately refused his presence.

Conclusion

The weelchair dance is a sport that has no limits and improves the level of skill. It ' a sport that frees the mind from the classical parameters of dance. Athletes with disabilities who practice dancing in a wheelchair, have shown great enthusiasm and participation. This preliminary study has shown that it is possible and desirable to define protocols for experimental research on a larger sample. The study also was conducted with the aim of bringing out the reality of sports activities for people with disabilities, activities that are practiced by a growing number of athletes. This study therefore confirms that model of this proposal can be successful to facilitate a strong sensitivity and the formation of a consciousness open to diversity. The opportunity to grow together disabled and able-bodied can be a careful way to promote the harmonious growth of different subjects together to create such innovative activities.

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Posture for unables

S. Liguori, F. Gomez Paloma

Abstract

Disabled people have difficulty from the point of view functional and postural view. There aren't papers about posture for unables. The provincial consult of Milan made of member of CONI wants Spreading this field to show the benefits of the sports for unables according to the concept of ICF.

The purpose of this work is to analyze the benefits of sport within the postural and functional for people with disabilities, offering a to 7 guys unables a training protocol in gym for a period of six months, to increasing flex of the back side position.

There is a ratio data and the data are been analyzed with posture protocol (Kendall, 2005) and with specific software of movement analysis. The following study was made possible through the study of the spinal column due to the knowledge gained from the research of the highest exponent of the spine Alf Nachemenson that highlights how the impact loads on the spine and the answers that you have it.

To understand the dynamics of the intervertebral joint is necessary to refer to the model described by Panjabi. According to this author, the function and stability of the joint between two vertebrae can be configured as a system consisting of three subsystems: the neuromotor control, the muscles, the active subsystem, and ligaments, passive subsystem.

Keywords

Disabled, postural, gym, analysis, benefits.

Introduction

People with disabilities have difficulties from the point view of postural mainly due to a sedentary lifestyle and lack of exercise. The studies by Alf Nachemenson (the maximum exponent of the studies on the spine) show that poor postures cause malfunction of the spine

The importance of physical activity and sport that have a fundamental role in the physical and mental well-being are an important means of social integration are often neglected.

According to the ' World Health Organization, health is not the absence of disease, but a welfare bio-psycho-social: this is strongly linked to the social, cultural, economic, racial, religious dimension, which are not biostructurates.

The spread strong and convincing that the model (ICF International Classification of Functioning, Disability and Health), the World Health Organization has had and still has in Italy, unlike other European countries, allows the development of this concept.

The purpose of this work is to analyze the benefits of sport within the postural persons with disabilities who have paramorphisms, proposing to a group of people with disabilities a corrective protocol; targeted to tone and stretch the muscles of the posterior chain. There is no research that has as its objective the improvement of the posture of people with disabilities in orthostatic position then the following search refers to protocols for able-bodied and setting them to specific cases. The work is focused in particular on the external rotators of the humerus such as: infraspinatus, the teres minor, the posterior deltoid and trapezius muscles to stretch and which have a hypertonic (the intrarotators) such as: LatissimusDorsi, Pectoralis, Deltoid Anterior big Round and Subscapularis. Imbalances due to paramorphisms cause with the passage time to muscle inefficiency and poor functionality, all of which can be perpetuated in injury. Stimulating the muscles of the spine: intertransverse and Interspinous the first layer play a role especially proprioceptive, multi-segmental muscles, the true stabilizers, are the lumbar multifidus, the long spine, the lumbar region, the ileolombare, quadratuslumborum, part medial.

The following protocol was performed in the gym for the duration of six months, with the help of isokinetic machines or performing bodyweight exercises. Were monitored and analyzed the various photographic frames acquired before the start of the training protocol. At the end of six months the implementation of the protocol were compared the physiological curves.

Methods

Seven (number 7) unabled people no athletes aged by 26 to 50 all of them with mental retardation and with postural

problems (paramorphism, dismorphism) volunteered to participate in the present study according to the association who represent them.

Exercising individuals participated in supervised exercise training program about 60 minute session 2 times in a week for period of 6 months. These sessions consisted of three parts. First in a warm-up, free running in 10 minutes.

The second part is a supervised work with the tools' gym to increase the external rotation of humerus:infraspinatus, the teres minor, the posterior deltoid and trapezius muscles. The last part consisted of 5 minutes cool-down and stretching exercises to stretch the intrarotators: Latissimus Dorsi, Pectoralis, Deltoid Anterior big Round and Subscapularis. The training intensity was increased gradually. The subjects were instructed to change their lifestyle during the exercise intervention.

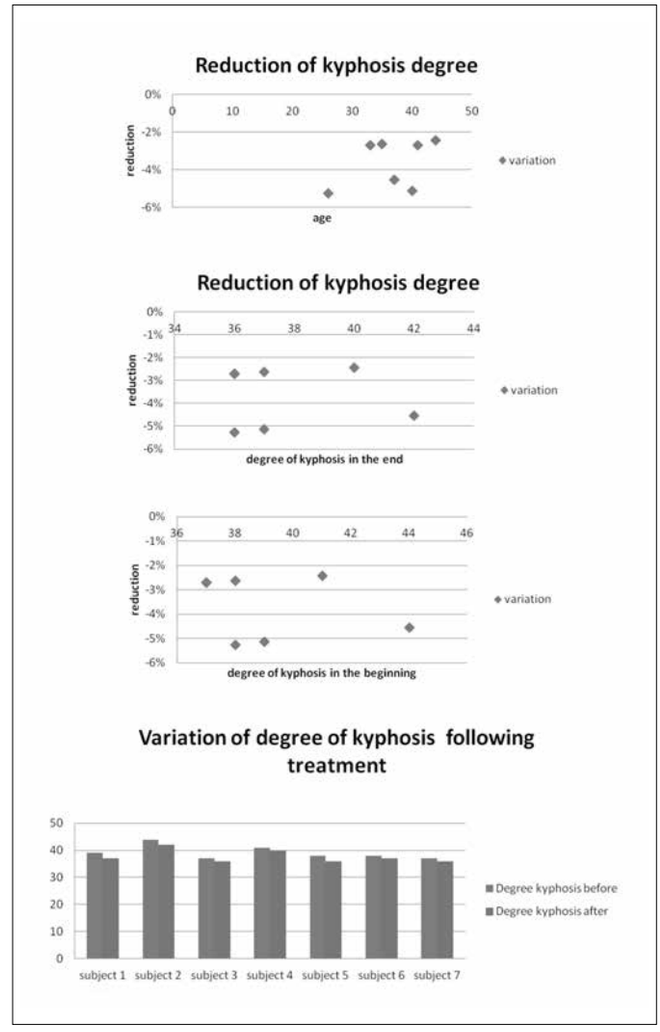
The study provides two phases of ratio data with a camera lumix 12x, before the start of the protocol and after in the end of the protocol of six months. The following frame are analized with kinovea a specific software of analysis.

The postural Analysis is realized thank to the Kendall procedure; a postural procedure which identified postural problems (valueting the processes of: shoulder, chest, S.I.A.S., knees and malleolus).

Head is directly above shoulders

- ear, shoulder, and hip are straight line from a side view
- upper back is straight, not slouched
- shoulder relaxed and straight are flat against your back
- pelvis is neutral position
- knees are unlocked.

Results



Name	Age	Kyphosis degree before	Kyphosis degree after	Variation
Antonio (subject 1)	40	39	37	-5%
Andrea (subject 2)	37	44	42	-5%
Domenico (subject 3)	33	37	36	-3%
Lucia (subject 4)	44	41	40	-2%
Gianluca (subject 5)	26	38	36	-5%
Gianpiero (subject 6)	35	38	37	-3%
Daniela (subject 7)	41	37	36	-3%

Subject	Age	variation
subject 1	40	-5%
subject 2	37	-5%
subject 3	33	-3%
subject 4	44	-2%
subject 5	26	-5%
subject 6	35	-3%
subject 7	41	-3%

	Degreekyphosis		variation	
Subject	Before	After	Absolure	Percentage
1	39	37	-2	-5,1%
2	44	42	-2	-4,5%
3	37	36	-1	-2,7%
4	41	40	-1	-2,4%
5	38	36	-2	-5,3%
6	38	37	-1	-2,6%
7	37	36	-1	-2,7%

Absolute reduction in average	-1,43
Averagepercentualreduction	3,6%

Discussion and Conclusion

The results show that there are improvements that do not depend on age or initial degree of kyphosis

Through this study (which lasted six months starting from March 2013) Estado confirmed the initial hypothesis. All participants had improvements in posture, on average 1. 43 degrees with a percentage of 3. 6 %, in fact, working on the external rotators of the humerus were obtained improvements

in the ‘ alignment of the head with the shoulders. And ‘ then demonstrated that a specific protocol benefits from training in the gym. Whereas the postural problems are due to incorrect positions are also frequent and sedentary to athletes of various disciplines, in fact disabled and able-bodied. This research can then be expanded to target different people and different age groups with a greater participation, and also performed with monitoring of longer duration to further improve this problem and increase the literature in this specific field of interest.

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Physical education for social inclusion of the motor disabled

L. Mazzeo, C. D'Anna

Abstract

The motor and sport activity concurs to the wellness of the disabled person, in order to promote social integration and the achievement of the personal autonomy, as well as gratification and improvement of self-esteem. For this reason the role of school in this process is essential, in fact at school the disabled can be driven to the sport activity and, above all, to the knowledge of all offered activities. School and sport cooperate to encourage the educational process in and out of school, exalting the pleasure of movement and wellness. The educational activity is particularly addressed to the disabled student, and the planned interventions aren't only limited to the cognitive sphere, but also to the emotional, social, relational and motor ones, that all together interact, inevitably and reciprocally, with the intellectual function. In 2009 we chose a class of a technical school in Sant'Arcangelo (Potenza) composed of 20 students: among them there was a disabled student affected by Duchenne muscular dystrophy (Bergamini 2000). The purpose was to realize a true social inclusion of the disabled student through the achievement of a certain degree of personal autonomy thanks to physical exercises and adapted games. The research follows the qualitative model and the method used is that of the directed observation; the achieved targets are reported on a grid specially prepared for this case. In this study the involvement of normally intelligent students has been very important. To share the same targets has been an occasion for them to better their personalities and overcome prejudices. Through the practice they have been able to understand the daily and true difficulties of the disabled people and break down their "mental architectural barriers" with reference to the handicap. At the end of the study after six months, the disabled student has been partly able to achieve the goals.

Keywords

Disability, socialization, physical exercises.

Introduction

Duchenne progressive muscular dystrophy (DMD) is a pathology included into the group of the neuromuscular diseases that are represented by pathologies with different etiology, but that all have in common the involvement of the motor unit. With the term motor unit we refer to a set of various anatomical structures deputy to implement the motor command. In this definition are included: the first and second motoneurons, the conduction pathway (the peripheral nerve), the neuromuscular junction and the peripheral muscular effector. When the functional motor unit is affected, it doesn't matter the level, there is a problem with the muscular contraction (see Bergamini, 2000). Edward Meryon described it for the first time in 1851 at the Royal Medical and Chirurgical Society (Meryon, 1851). The DMD is a recessive degenerative disease linked to X chromosome, invariably lethal, characterized by a progressive loss of strength during childhood. The pathology mainly affects male subjects (1/3500 born alive), while female subjects can be healthy carriers without clinical manifestations, except rare cases in which the phenotype can be slight or extremely serious. According to recent valuations, in Italy there are 5000 affected by DMD. The first indications appear at the age of three with difficulties in walking, running, climbing stairs, getting up from the ground, because of the primary implication of glutei, quadriceps and iliopsoas. The muscles of the girdle shoulder and the distal ones of the lower limbs are affected subsequently. The average life of Duchenne patients has significantly lengthened thanks to scientific progress and a better understanding of the disease. Moreover, the research has put in evidence that, in general, these boys have a healthy attitude towards life and sometimes they don't show depressive experiences because of their condition. Each person affected by muscular dystrophy aspires and desires a quality of life better than that proposed by the people who care for them, and this applies both to children and younger boys. The judgment, the opinion, on the quality of life is essentially subjective and based on the level of personal satisfaction. In Italy, during the last thirty years, we have made small progress towards integration, with excellent results in the field of social insertion, but very poor in that of inclusion. Integration is the

goal of each person that lives in contact with the others, sharing values and meaning of life. Integration is a difficult process, slow and complex, that needs much more inclusion than insertion; it is a process that requires listening, identification, acceptance, care, but above all participation, sharing, reciprocity. The Individualized Education Plan (IEP) is addressed to the disabled student to promote his learning and probably in it the student completely included, but we ask: how much of the people that live with him is included in the plan? The relations with his friends and school friends? The educational interaction that allows him to feel a complete identification with the others? How much of his life out of school is included? School means, inter alia, existence, and existence must become, as a consequence, learning everywhere, continuous training and learning, a school of everybody and each one, in agreement with the International Classification of Functioning (ICF) that considers the global wellness of the individuals as the result of a positive interaction among bio-psycho-social factors and the real environmental and personal contexts of life. The ICF model represents an innovative approach to the theme of school inclusion, especially for the great attention to the socio-cultural background of the disabled. With reference to school, the attention is addressed to the analysis of the factors that characterize its context, with particular regard to the "facilitators" and "barriers" that determine the performances of the disabled students during the process integration inside the school. The element that typifies the ICF model id its continuous reference to the reality in which the disabled lives, a reality that is interpreted as social activity and participation. In this classification biomedical and pathological factors are considered together with social interaction. In this way the approach is multi-perspective: biological, personal, social. Thanks to its features, the ICF model is, therefore, a model able to give precise and coherent answers to the needs of the people, expressing a new way to conceive the human being in trouble. The disability is a condition determined by multiple factors that involve non only the disabled but also the social context in which he lives.

Method

The method used in this study is based on the direct observation, qualitative observation; the checks are reported on evaluation cards: here the target is specifically referred to the case. The study has had a six months duration, from October to April, for 48 hours in total: 24 h have been dedicated to the physical exercises and the adapted games, 24 h to motor and sport activities. Considering that these activities are an important moment of socialization, no one, in any way, can be excluded. During these sessions the disabled student has enjoyed himself acting as a coach or a referee. The activities have taken place inside the gymnasium, spacious and well equipped. The 20 students involved were aged between 14 and 16, and divided into 11 males and 9 females. The instruments used: small tools, conventional and not (sticks, cones, hoops, foulards and balls), big tools (carpets and obstacles) and, for the education to the rhythm, the tambourine.

The targets:

– Improvement of the attention
– Education to the rhythm
– Improvement of the laterality
– Development of the spirit of cooperation

In choosing exercises and games we have considered the student's impossibility to move the body except for his hands that drove the electric wheelchair, and his fear in performing new activities and experiences. As a consequence at the beginning his cooperation was very poor. The duration of each activity has been 40/45 minutes, considering the physical condition of the student: exercises and games have contemplated the alternation of the subjects and the tutor. The check were every two months. In the grid we can note that, at the end, not all the goals have been achieved. During the first two months the competences, cooperation, interest in new experiences and externalization of happiness are totally absent. These competence are partially achieved in the third month and totally in the end. The interaction with his school friend has been partial at the beginning and complete at the end of the project. Since the beginning the disabled student has accepted the tutor, one of his friends with whom he had a previous friendship. The education to the rhythm and the ability to drive the friends thanks to his vocal commands have been partially achieved, while the speed of execution in the proposed activities has never been achieved.

Results

The two-monthly checks put in evidence that not all the targets have been achieved.

Below the grid used to assess the student's evaluation:

Indicator	II month	IV month	VI month
Agree to participate	NA	PA	A
Accept friends' cooperation	PA	A	A
Accept cooperation of a selected partner	A	A	A
Aumenta la velocità di esecuzione	NA	NA	NA
Education to the rhythm	NA	PA	PA
Able to drive friends tank to vocal commands	NA	PA	PA
Interest in new experiences	NA	PA	A
Externalization of happines during activities	NA	PA	A

Legenda: NA = not achieved; PA = partially achieved; A = achieved

Discussion and Conclusion

In the grid we can note that, at the end, not all the goals have been achieved. During the first two months competences such as cooperation, interest in new experiences and externalization of happiness are totally absent. These competence are partially achieved in the third month and totally in the end. The interaction with his school friend has been par-

tial at the beginning and complete at the end of the project. Since the beginning the disabled student has accepted the tutor, one of his friends with whom he had a previous friendship. The education to the rhythm and the ability to drive the friends thanks to his vocal commands not achieved during the first two months, have been partially achieved after six months, while the speed of execution in the proposed activities has never been achieved. A colleague in the same school has showed interest in this experimental study and has decided to use the same method with another student affected by a similar pathology. Even the results in this case have been very interesting, stimulating the desire to promote new activities and experiences. In some case the two students have performed together the same activities, and the results have been really very positive. In the end we can say that the final results are satisfactory, but our way is long and challenging. We hope we will be able to awaken people sensibility thanks to the proposed activities, to increase the studies and the research, using tools and instruments useful to better and gratify the life quality of the disabled people and facilitate their inclusion.

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Activity sports as a tool for cooperation for diversity

S. Napolitano

Abstract

Text Our society is presented with propaganda of aesthetic standards nearing perfection, exalting models of efficiency based on the excellence of the results of their competitive capacity, on the maniacal and narcissistic exhibition of winning models, especially in the world of sports where clearly the disabled are excluded.

From this collective knowledge comes the idea to create activities within the school system that foresee the reality of disabilities.

The experiment was carried out in an institute in Naples and involved two fourth grade classes, twenty students per class. Controlled recreational activities were introduced, where body movement and motor skills were limited.

The goal of the project was to create a spontaneous relationship between children with normal abilities and those with handicaps.

Adequate athletic activities were carried out, under form of recreation, guided by a teacher, necessary to carry out the tasks: children without disabilities were put in a position where they were able to live the disability of another child.

The results of the data collected through the systematic observation and that of a survey show the predisposition of the child without physical impairments with regards to the disability, eliminating through a natural process the concepts of "acceptance" and "tolerance" and the internal existence of two worlds.

This experience can surely be a starting point to create and elaborate the culture of diversity already at a young age.

Keywords

Collaboration, primary school, motor limited activities.

Introduction

Our society is presented with propaganda of aesthetic standards nearing perfection, exalting models of efficiency based on the excellence of the results of their competitive capacity, on the maniacal and narcissistic exhibition of winning models, especially in the world of sports where clearly the disabled are excluded. (Smith B. J., Tang K. C., Nutbeam D., 2006)

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The role of the mediator of the group is fundamental for the equilibrium of the sense of competition that might occur.

"Instructive mediation becomes active instructive thought among peers when generated from the need to produce new knowledge even in children with minor physical and cognitive resources." (Vigotskij 1999)

When it is necessary to create a collaboration among peers adding the difficulty of including a disabled subject, the instructor's ability to create alternate recreational situations is fundamental. These allow the normal subject to develop and offer the best results capable.

Design

Taking this into consideration, it was decided to suggest our work be carried out in a elementary/middle school in Naples,

attended by students coming from the same social economic and cultural environment, and having as participants two fourth grade classes (8-9 years), twenty students in each class.

This school holds standard, full hour classes, forty hours per week, that children attend from 8:45-16:15, Saturdays excluded.

Following the systematic observation, the team of teachers had seen and inadequate atmosphere among students and those with deficiencies.

Students with deficiencies present in the two sections are effected by motary deficiencies, one with Perthes disease, restricted to the use of a tutor for his legs, and the other is hemiplegic.

In both sections this program began as motary instruction from October to May during the two hours of physical activity as in the instructional ministry plan.

The program was proposed in different ways in the two sections. In fact, one saw adapted sports activities as its protagonists, while the other implemented the physical education program proposed by the ministry for primary schools.

Methods

Section A saw traditional programs involving individual and group sports and games was.

Section B saw recreational activities conditioned throughout weekly programs that involved activities carried out in a slow manner, where movements were closely monitored through systematic observation.

This allowed the students to inhibit the full expression of movement, having them become the actors of motary study, working towards the creation of new knowledge and the couple's and group's abilities limiting the use of one or more limbs, and moving solely and exclusively by crawling on the floor.

Exercises suggested were:

-Orienteering: create a course that will be realized with the use of gym equipment.

Such a course could be carried out in couples, but one of the subjects in the couple must be blindfolded. The time it takes to carry out the activity is not important, but its completion.

- Throwing the ball in couples and catching with one hand.
- Throwing the ball and catching w it with the help of an upside down cone.
- Throwing the ball in couples, limiting children's movements to a circle.
- Throwing the ball in a group of 5-6 remaining seated inside a circle.
- Circuit training: a circuit composed of 4 work positions in which the students will rotate and perform the activities. Subjects must crawl from position to position.

The rules of the game indicate the correct execution of the exercises in the different positions, penalty points for errors, and the subject with the least errors is the winner.

There was no need to have the child with the disability rotate because all the students were forced to move with limited movements.

The purpose was to create problems and disabilities where there were none, limiting students' movements, aiming towards a better collaboration with disabled students and new initiatives regarding physical and sports activities. The possibility to impose limitations in each phase of the game in section B allowed the participants to respond at their best, and meeting all requests.

The motivation towards the study in finding new motary answers has given these students the possibility to create new motary stimulus, even in their disabled team mate, allowing him to participate not only in the idealization of the game, but also in its execution.

Contrarily, in section A, the disabled student did not find vast creative space due to classmates who were not trained in adapted sports activities and thus showing closure towards the disabled student, and preferring an individual game.

Discussion

During the implementation of the two work programs systematic observation was carried out, as well as circle-time and guided discussions that offered new ideas for teachers. Descriptors with evaluation tables were handed out upon entry and upon conclusion of the trial to compare the work in both classes.

Conclusions

A clearly positive result has emerged from the data collected.

We can see from the descriptors seen above how section B saw an increase in final positive results regarding all questions, almost twice the initial levels.

In section A it is clear that the level of negativity exists at the beginning of the study and persists until the end. In section A there were no changes in composure and attitude towards disabled students, who in some cases was also excluded from games for his inabilities.

Section B saw greater openness and acceptance of the students towards the disabled, creating a new kind of empathetic communication that enriched the class into one single group, without exclusions.

The concepts of "acceptance" and "tolerance" were abolished in a natural way, being open to different worlds.

Such an experience can surely be a starting point for the birth and growth of culture in diversity at a young age.

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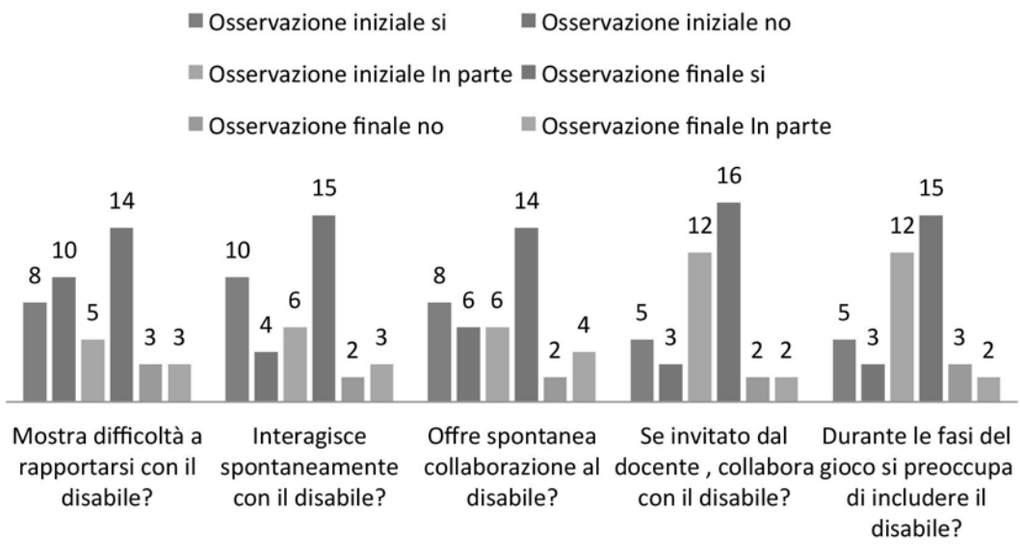
CLASSE IV SEZ. A



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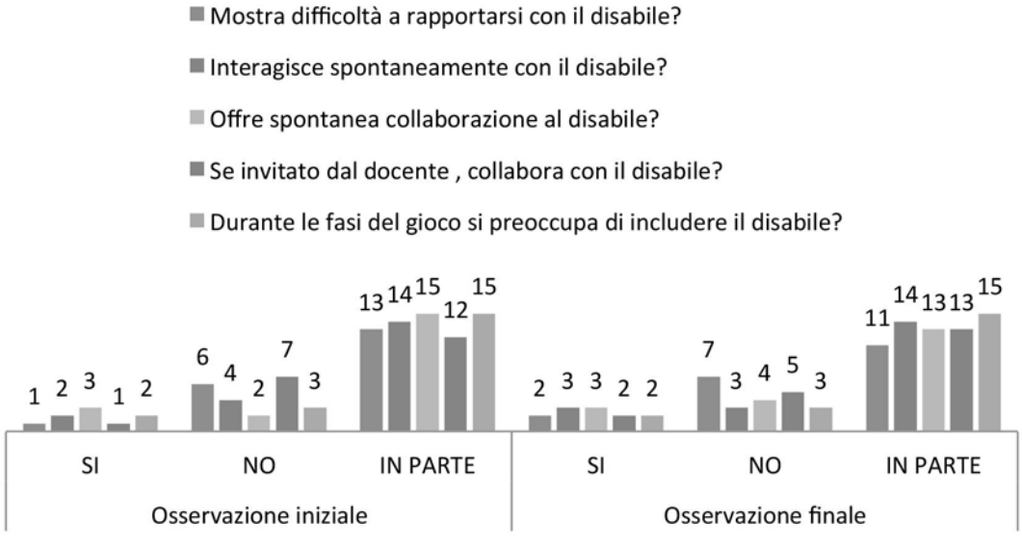


The development of sport for the disabled through the organization of an event

S. Napolitano, D. Tursi

Abstract

The difficulties involving the insertion of the disabled in sports and activities keeps growing. Disabilities, minor and major, concern one in six people in the European Union (EU); that is, about 80 million people are not able to fully participate in everyday social and economic life. (Communication from the European Commission-European Disability Strategy 2010-2020: A renewed commitment to a barrier-Brussels 2010).

The organization of events therefore becomes a movement of significant importance to which innovation and new identity is necessary.

Our research was based on the validity and the return of a sports event called "Una giornata abilmente… diversa" ("An ably diverse day"), dedicated to the disabled.

Three associations for the disabled participated in the event, as well as secondary schools of the commune Santa Maria Capua Vetere.

The event took place at the public pool of Santa Maria Capua Vetere on May 15, 2012 and saw:

- Recreational activities
- Activities linked to water autonomy
- Activities regarding lifesaving

Subjects without disabilities also took part in the events.

The analysis and the elaboration of the data, as well as a survey given to the disabled subjects, the operators, family members and managers of the associations involved in the event, found that such an initiative results in moments of true inclusion, and the possibility to take advantage of certain structures and therefore carry out physical activities.

The organization of the event demonstrated that the synergy between the players, the local organizations, the universities and schools, sports associations and social associations, can bring about moments of confrontation and development to allow the realization of a consolidated program for the physical activities for the disabled.

Keywords

Event, synergy, disabled, motor activities

Introduction

In the last thirty years, those who have found themselves or are part of the world of the disabled has taken part in a change in vocabulary. Each of these has symbolized the way in which the person was defined (handicapped, disabled, person with a disability) or the theoretic and operative thought that moved politics and the actions in favor of these people. So, in the 70's, the word was inclusion, in the 80's it became integration. In the last few years, thanks to the UN convention on the rights of the disabled of 2007, we have witnessed a new change: the new word is inclusion.

Sports is the gym of life, fundamental element in social and relational instruction, a time to meet and confront different realities. Sports bring together and aids the comprehension, characterizing the values of reciprocal respect and loyalty.

Sports become an instrument of insertion for the disabled, for those young people who, although having different capabilities compared to their peers, practice sports, and through this overcome the limits that destiny has given them.

The difficulties regarding insertion of the disabled in sports activities and environments is increasing.

The project "Una giornata…abilmente diversa" takes into consideration the needs of young people and of those if deficient conditions who are in an even greater need of participation, integration and socialization through recreational activities-sports that respond to their needs. Furthermore it aims to offer innovative instruments for both the cognitive learning and to strengthen the met cognitive sphere, as well as the recovering from the vast area of the handicap and unease.

One problem that affects society is without a doubt is that of protecting the disabled population. Intense sport, as a moment of pure fun, pleasure, or simply the will to play, represents a gratifying activity that transmits a feeling of wellness to the disabled and helps them in the acceptance and understanding of their limits, sometimes able to be overcome. Sports can contribute to developing social integration offering relationships with friends, adults, sports instructors, disabled and not, and constitutes an further evolving dimension in which the subject can experiment.

The dimension of Free Time represents an indicator of qua-

lity and today the quality of life is at the core of social health politics and, in the declaration of Madrid (2003), the European Union affirmed that "sports and free time are equal to school and work."

It is on this principle that sports activities should be thought of as a true from of integration; integration that has already been seen in other fields.

Disabilities, minor to major, affect one in six people of the European Union (EU), that is about 80 million people that often don't have the possibility to fully participate in social and economic life (Communication of the European Commission-European Strategy for the disabled 2010-2020: a renewed task for a Europe without barriers-Brussels 2010).

Design

The organization of events becomes a moment of significant importance.It is necessary to recognize new characteristics and a new identity.

In 2004, ISTAT conducted a study on people with disabilities that live in families to gather, on one hand, the social integration of the disable din their social context (relationships, school, work, free time, etc.), on the other hand, the factors that create barriers for these integrations (Mobility limitations, lack of necessary support, etc.)

The world of the disabled, has experienced many transformations in the last 30 years, beginning in the 70's with a call for the renovation of the services and the interventions, and coincides with the first phase of devolution of the competence of the state to the region.

Objective

To make the community aware of the problems regarding the world of the disabled and the help that sports could give them, because sports is the only reality that does not create distinctions among its participants.

Understanding the psycho-physical and social disadvantage deriving from the condition occurring with "being handicapped" and that this situation can be overcome through the acquisition of a "different" culture.

We can highlight specific and instructional objectives

-Instructional objectives are those to educate through aquatic activities; contribute to a balanced development of the personality (cognitive, emotional and relational areas)

-Specific objectives are those to educate to the water, through the acquisition of abilities in the following specific areas:

- Autonomy in the water
- Learning swimming techniques
- Elements of water polo and synchronized swimming
- Fundamentals of life saving and under water swimming through understanding the aquatic environment
- Fundamental elements of assistance and first aid

Method

Twenty associations for the disabled and some secondary schools from the commune of Santa Maria Capua Vetere participated in the event.

The event was held at the public pool of Santa Maria Capua Vetere on 15 May 2012 and saw:

- Recreational activities
- Activities linked to aquatic autonomy
- Life saving activities

Subjects without disabilities also participated in the events.

The participants were gathered and divided into equal groups, considering age and disability.

Each group was guided by 5 operators and the activity coordinator.

All groups carried out the following activities:

- Swim competitions (long pool)
- Aquatic games (12 x 8 mt pool)
- Games aimed in the acquisition of motary patterns (10 x 6 mt pool)

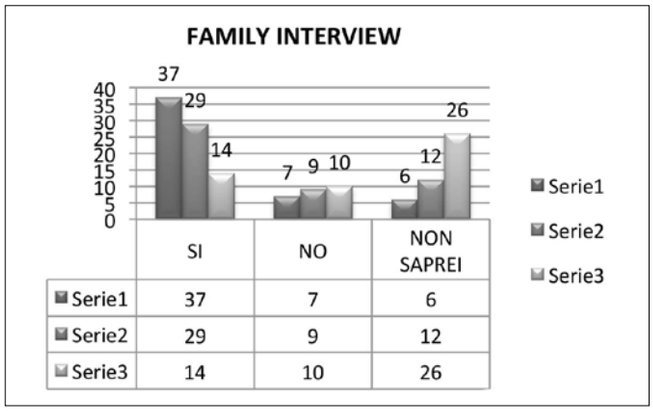
Therapeutic treatments (pool for motary rehabilitation)

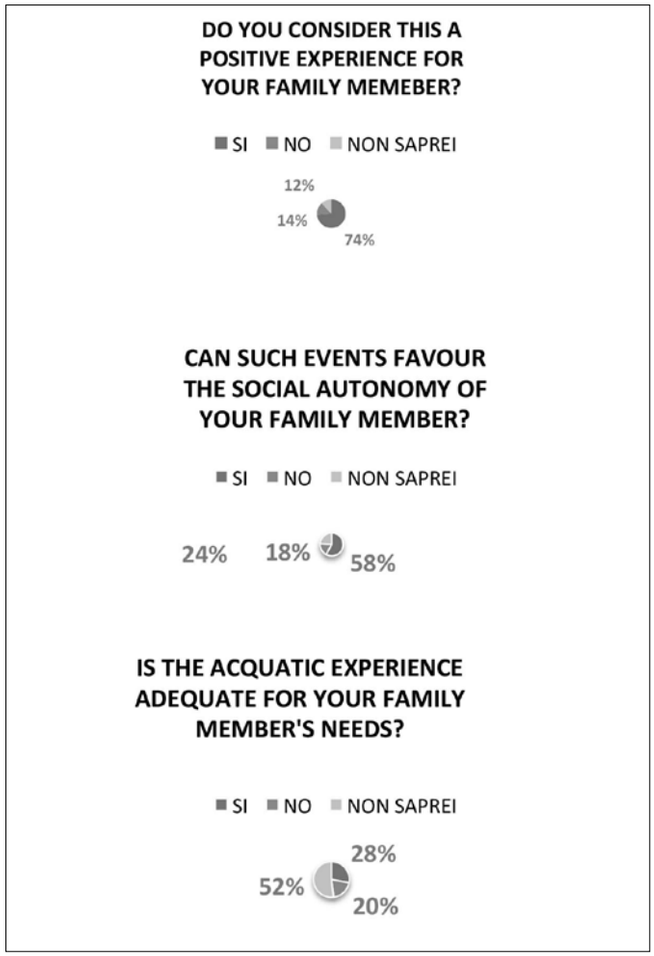
Activities aimed in the autonomy in deep water and understanding of the principle motions for assistance and life saving techniques.

Discussion

Two interviews were handed out, one for the families and one for the disabled subjects, structured on three questions

FAMILY INTERVIEW			
QUESTION	YES	NO	DOESN'T KNOW
Do you think this was a positive experience for your family member?	37	7	6
Can such events favor the social autonomy of the disabled?	29	9	12
Do you consider the aquatic experience adequate for your family member's needs?	14	10	26





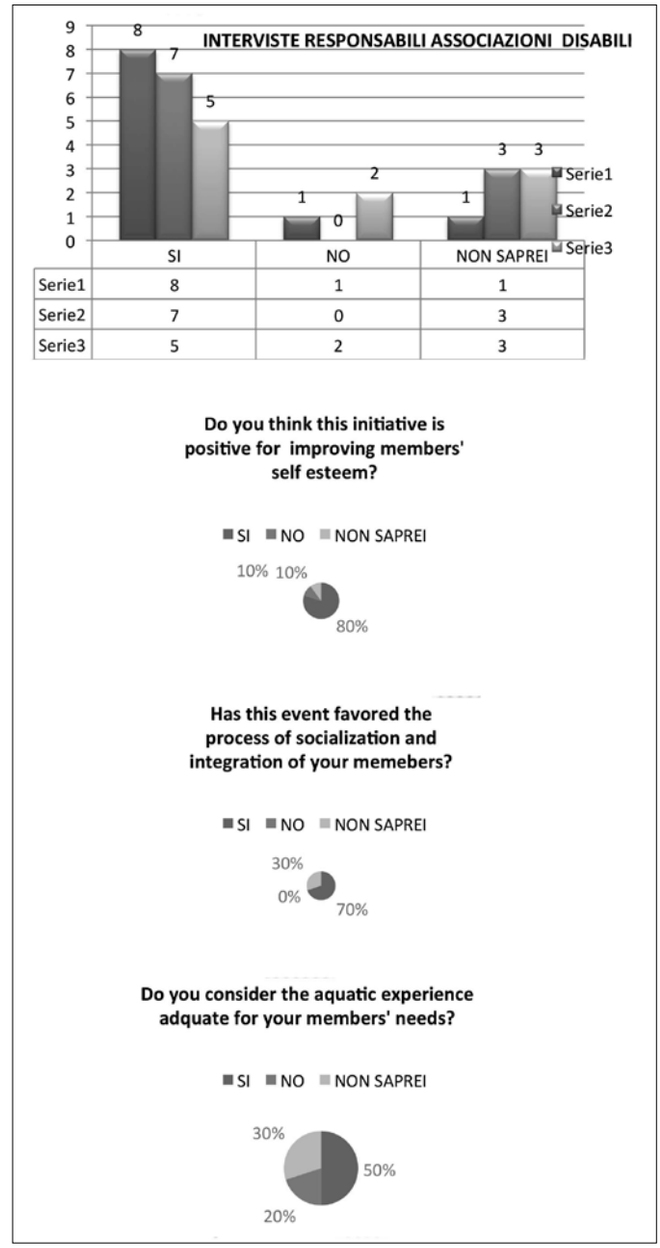
And one interview was handed out to the directors of the associations of the disabled participants, always based on three questions.

INTERVIEW DIRECTORS DISABLED ASSOCIATIONS			
QUESTION	YES	NO	DOESN'T KNOW
Do you consider this initiative positive towards the improvement of your members' self esteem?	8	1	1
Has this event favored the process of socialization and integration of your members?	7	0	3
Do you consider the aquatic experience adequate for your members' needs?	5	2	3

The data collected shows a great interest and high percentages in activities of this kind, by both the families and the representatives of the associations of the disabled involved.

Conclusions

The data collected allows us to affirm that our hypothesis has been verified. In fact, the numerous participants, disabled



and non, were active and positive. Both the family members and the representatives of the Associations were pleased with the event, but above all they saw a new way of easing integration and inclusion.

It appears to be evident that the regular reoccurrence of these events are the weak link of out project, but at least we were able to prove the validity of such an event.

We can highlight as a strong point:

The Association ACFFADIR (association for parents of the autistic), which, following this event, asked for biweekly meetings for their members to carry out and practice aquatic activities. It has almost been one year that 11 autistic subjects routinely attend the swimming facility of Santa Maria Capua Vetere.

New rules of game in the Italian Youth Volleyball U12&U13

F. Parisi, G. Raiola

Abstract

In recent years, the FIPAV (Italian Volleyball Federation) has imposed new rules for the U12 and U13 Championships promotional, in order to make the level similar and to allow all teams to participate. Two important rules: the obligation to provide (the serve from below) and the impossibility of deploying a "libero" in the field. The study has a double aim: first of all, to investigate such rules, the reasons why they were included in the youth volleyball circuit, and then to analyze the rules of "volleyball unified" sponsored by "Special Olympics Italy", oriented to the inclusion of people with disabilities in the sports' world. With these last analysis, it will try to create the new rules to propose to non-disabled young agonists; Finally, the second aim, is to propose a pilot study oriented to a practical application of the new rules studied and, therefore, to propose a possible inclusion of people with disabilities inside the circuit Fipav, for a real inclusion of disabled people in the sports' world.

Keywords

Special Olympics, disabilities, inclusio.

Introduction

Usually, young people don't get close to volleyball as children, but just during secondary school (11 year-old). This means that every technical gesture learnt at that age is still "rough", that is not perfectly controlled by the athlete. For this reason, Fipav (Italian Volleyball Federation) has inserted precise rules in male and female U12 and U13 promotional Championships, in order to allow all societies and all athletes to take part in these championships in spite of a limited technical preparation. Two rules distinguish these championships from the other higher categories, that is: the obligation to serve from below, in other words, swinging the arm along the sagittal plane hitting the ball below the shoulder height, and the impossibility to line up a "libero", that is a player specialized in the defense role, who can replace every defensive player. In the same way, the international society of sports "Special Olympics", with the aim of allowing and integrating all people with or without disabilities to participate to these activities, has drafted an its own regulation concerning volleyball, which supports the original one (Special Olympics Italia, "unified and experimental volleyball regulation", updated in September 2011).

The aim of this study is to analyze the regulation of "unified volleyball" and to search for rules which are suitable even for people without disabilities, within the U12 and U13 promotional volleyball circuit. The study starts from the hypothesis that the attempt of Fipav to give the opportunity to every athlete to take part in the promotional championships, and the attempt of Special Olympics to create news rules which are suitable for people with disabilities, follow the same purpose. Furthermore, these two "special" regulations addressed to the young athletes could flow into a unique sport, which allows the simultaneous participation of people with or without disabilities in an indistinct sports context.

Methods

At first we analyzed the instructions of the FIPAV Naples Committee for the U12/13 promotional championships. Compared to the FIVB official regulation, four rules change at all:

- net height: 2,15 m
- It is forbidden to line up a "libero"
- It's obligatory to (serve from below)
- Three sets for each match (one point for each set)

Further, we analyzed the rules concerning the "unified volleyball" played in the Special Olympics' circuit. The official Special Olympics' regulation is applied in every Special Olympics' championship. As international sports program, Special Olympics has drafted this regulation basing on the FIVB's one. The FIVB regulations, or the ones of each national federation, are applied when they don't conflict with the Special Olympics' official volleyball regulation. In this case, 3 rules still matter:

- When a team scores three points one after the other, it must rotate, continuing to serve.

– The filed may be reduced to 7.62 m width, and 15.24m length.
– It's possible to line up a "libero"

Results & Discussion

Analyzing the rules of both originations, we can notice how these two regulations follow the same purpose: to give to everyone the opportunity to play, trying to eliminate the differences. It's very important to send this message in Federal field, as well as in the diversity one. According to our analysis, the two regulations can be put in practice, thus a kind of rulebook can be proposed:

– net height: 2,15 m
– It's possible to line up only one libero
– Free serve

When a team scores three points one after the other, it must rotate, continuing to serve; all the players are involved in the match through the change-system in every serve rotation.

The filed may be reduced to 7.62 m width, and 15.24m length.

Conclusions

With the new rules proposed for the young sector, we try to give the opportunity to every athlete to take part in the official championships. This means that even in Federal field, people with disabilities have the opportunity to the part in the FIPAV championships, in this way they have another opportunity to practice sport, in addition to the "unified volleyball" proposed by special Olympics. Obviously we should test these rules in order to verify the real effectiveness and usefulness. Therefore, with this study, we mean to do the groundwork for a future pilot project. The idea is to promote a U12 competition based on these rules and to analyze the run of the matches through video-analysis, in order to verify the innovations. If the video-analysis and the match-analysis pointed out improvements in the matches and in the athletes' performance, the project could be modified, extended, and later proposed to FIPAV and to its experts, on the chance that it could be spread across regions and Nation.

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Transitive praxis in the early stage of acquisition

L. Rio, F. Gomez Paloma

Abstract

This study was born from the need to assess the praxic skills relating to the use of the object in the early stages of acquisition. At school, in a comprehensive assessment protocol, to assess the ability to use objects of daily use at an early age is particularly important for early identification of praxic difficulties. The study involved the participation of forty-two children from two schools including eighteen males and twenty-four females from four to six years.

To detect the level of the development of praxic skills, it is used the T-GAP (Analysis Grid of Transitive praxis by Rampoldi & Ferretti, 2011) in two stages: at the beginning and at the end of a motor activity program. The results showed a clear improvement of the transitive praxis of children: from a percentile of 5°, 10° and 25°, it has gone to 50° and 75°.

In conclusion it is important to act in the early stage of acquisition with a focused motor activity program in order to provide the basis for future coordination skills of children.

Keywords

Transitive praxis, T-GAP, school, motor activity.

Introduction

The different aspects of motor-manual praxis organization are seen in the ability to perform transitive gestures (ie, referring to an object).

Piaget (1960) defined transitive praxies as systems of movements, coordinated in function of a result or an intention. They are skills described as voluntary functions of the upper limbs that may require, or less, the use of objects and sequential organization of movements that compose them (Zoia, 2004). They are complex motor functions, because is related not only to motor function, but also cognitive function, visual function and integration among them; they involve different skills, such as imitative ability, coordination, mental representation of the actions, the ability to think and perform sequences more or less articulated. In addition, they are complex motor functions, because they imply the presence of learned and innate abilities by experimenting and development.

In the school context it is necessary to draw targeted motors itineraries, monitoring and quantifying the changes following the didactic action.

The theory of sensitive phases (Martin, 1982) suggests the periods indicated to stimulate the different motor skills. In particular, the period between four and nine years is the most favourable to act on sensory-perceptual structures, still under development, in order to provide the basis for future coordination skills. Starting from a small motor repertoire and having available few automated skills, the child learns to build ever wider motors projects, using and combining the acquired basic motor patterns on the basis of information coming from the outside, until to operate simultaneously on two levels: representative and executive (Levi and Parisi, 1995). For this reason it is important to act on this period with a focused motor activity program, because reaching the ability to reproduce and create combinations of different schemes, the child can begin to use the action as a matrix of thought.

Objective

Objective of this study was to assess the praxic skills relating to the use of the object, in the early stages of acquisition. At school, in a comprehensive assessment protocol, to assess the ability to use objects of daily use at an early age is particularly important for early identification of praxic difficulties.

Method

The study involved the participation of forty-two children from two schools including eighteen males and twenty-four females from four to six years.

To detect the level of the development of praxic skills, it is used the T-GAP (Analysis Grid of Transitive praxis by Rampoldi & Ferretti, 2011). The instrument is composed of forty-five items, ranked according to a criterion of increasing

difficulty and divided into nine age ranges corresponding to an interval of six months. For this reason, the ages of the children were divided into three groups: 4.1/4.6 (eighteen children), 4.7/5 (thirteen children) and 5.1/5.6 (eleven children).

The motor activity program is divided into sixteen meetings (twice a week); each meeting consists of 4 phases:

- Circle Time: this is a moment of relationship and introduction of activities.
- Exploration: this moment is dedicated to the discovery of the surrounding space and its objects, carefully set up for the next step;
- Execution: this moment is dedicated to the execution of activities designed to urge the transitive praxic members;
- Circle Time: this is a moment of verbalization and discussion.

At the beginning and at the end of the program, it was compiled the registration grid.

Results

	PERCENTILE					
AGE RANGE	**75°**	**50°**	**25°**	**10°**	**5°**	**F**
4.1/4.6	0	2	9	3	4	8
4.7/5	1	3	6	2	1	5
5.1/5.6	0	2	7	2	0	5
4.1/5.6	1	7	22	7	5	18

[Tab. 1] Total score ex ante

	PERCENTILE					
AGE RANGE	**75°**	**50°**	**25°**	**10°**	**5°**	**F**
4.1/4.6	3	9	4	1	1	3
4.7/5	4	2	5	0	0	3
5.1/5.6	2	5	4	0	0	2
4.1/5.6	9	16	13	1	1	8

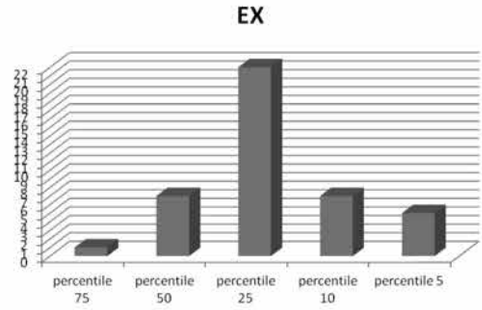
[Tab. 2] Total score post ante

Discussion

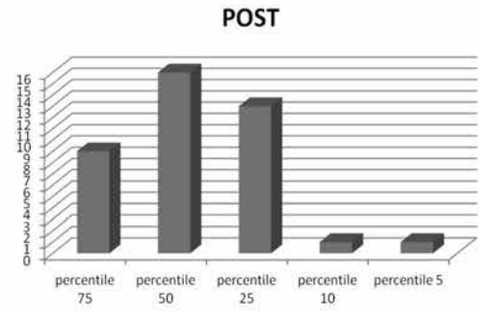
The Figure 1 showed how the values are concentrated in the values 25°, 10° and 5°: these intervals suggested the presence of a moderate immaturity in the praxic organization of children.

In the last recording (Fig.2) it has noticed an improvement after the motor activity program: while in the first record the values were all geared towards indicators 5°, 10° and 25°, in the second there was a modest trend towards indicators 50° and 75°, outlining a discreet praxic maturity in the development of children.

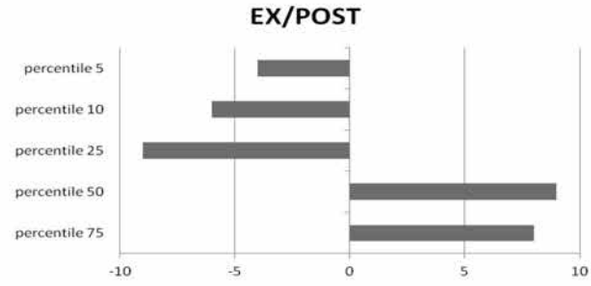
Another aspect to note was the option of facilitation (F in Tab.1/2): if the subject was not able to perform them independently, the grid provided the possibility to perform the tests following the demonstration of the operator. In the first



[Fig. 1] Total score Ex Ante



[Fig. 2] Total score Post Ante



[Fig. 3] Range Ex-Post Ante

recording (Tab.1), 18 of 42 children requested the option of facilitation, while in the last recording (Tab.2), the children decreased to 8 demonstrating, in this way, the effectiveness of the motor activity program.

Conclusion

In conclusion it is important to act in the early stage of acquisition with a focused motor activity program in order to provide the basis for future coordination skills of children.

The program included only two meetings of physical activity in a week, providing satisfactory results; if the meetings increased, the results would be even better.

During the early stages of development, motivational brings the child to make his first experiences with objects; initially, exploration activities, which is expressed in basic forms, become progressively focused and coded. And it is just at this stage that the child needs to be guided and supported in its discovery with appropriate stimuli.

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The swimming activities as a means of integration in the school system

D. Tursi, S. Napolitano

Abstract

Educational activities that satisfy the needs of particular subjects, i.e, the disabled and reentry dropouts, play a significant role in the field of initiatives regarding the prevention and the recuperation of scholastic dispersion (G. Duclos-D. Laporte-J. Ross, 2006). Our research regarded eighteen students and was carried out in a secondary school in Naples, situated in a peripheral part of the city where only private sports facilities are available.

The difficulty in finding easily accessible sports facilities increases the need among the disabled to practice sports activities.

The students carried out two hours of physical water activities from January to May in the public pool of Monterusciello (NA), They were followed by a special needs teacher, expert in the sport of swimming, and by the qualified personnel granted us by the facility, The activities were primarily recreational, During the activities the pool was attended by other subjects who did not have any disabilities and by athletes in training.

The analysis of the data collected, and the surveys given to the students, teachers, and family members, showed that the activities had a positive influence on the personal autonomy of the subjects, on a social level and showed improvements in scholastics as well, Furthermore, an increase in attendance was seen, from an average of 63% for the months of September-December, to about 85% in the months of January-May.

Such an activity can therefore be considered a valid educative tool, on hand for teachers of schools found in areas of social decay, favoring the inclusion of disabled and/ or destitute subjects.

Keywords

Aquatic motor activities, disabled in the school, inclusion

Introduction

Interventions for the prevention and recovery of scholastic dispersion and for the re entry of drop outs, for the development and integration of young people can be found in the field of instructional activities that fulfill their needs.

In fact the instructional project of a school must take into consideration the needs of the young and those students in disadvantaged situations that have an even greater need of participation, integration and socialization through recreational and sports activities that meet their expectations.

The social economic environment and the cultures which affect an instructional institution is varied and diverse: side by side students who are motivated towards studying and supported by their families throughout their instructional process, there are students belonging to economically and culturally deprived families coming from poor neighborhoods, The neighborhood seems to be an ever more agglomerate of non European citizens from a number of countries, above all from Africa; taken advantage of by their foremen to carry out agricultural work in nearby fields, A number of them are illegal immigrants, so they have never gone through a natural process of integration with the local people and therefore a proper education for minors.

The major issues are faced by students dealing with social relational challenges, a refusal and rebellion towards the instructional institution, and scarce attendance, a considerable issue, According to data collected from Istat, the scholastic dispersion in the neighborhoods is a complex phenomenon given by various factors linked to the cultural, social and economic status of each single adolescent, The latest Eurispes dated 2001 denounces an increase in scholastic dispersion, especially in high schools, while fortunately the phenomenon is less present in middle schools, One cause of this problem is the negative influence of family culture regarding the minor's choices: in the lower classes of a metropolitan city education is not fundamental for the growth of the adolescent and for a future in the work world.

Until the 80's, Pianura had been occupied by a small community of farmers that developed its economy around working the land: following the earthquake that hit the region of Campania in 1989, the population grew rapidly with a subsequent building development with no general local strategic plan: this is how the phenomenon of illegal building came about; a phenomenon that made Pianura the Italian quarter with the most irregular buildings and constructions, From that moment the social conditions of the city changed, characterized by families coming from other cities with unemployment problems, and thus causing a progressive degradation of the city in which a

class of young people with no particular work interest and linked to the culture of temporary or illegal work, fertile ground for organized crime that began to influence the lives of the people of Pianura, The total lack of sports facilities does not allow the young people of the neighborhood, and especially the disabled, to participate in regular activities, increasing the need for integration and inclusion of such subjects.

Design

The idea to carry out swimming activities for some disabled subjects in a Neapolitan school comes from the fact that we want to offer the opportunity, in a neighborhood like Pianura (Naples periphery), lacking public sports facilities, to be able to practice sports to those who normally wouldn't be able to for social, economic and cultural reasons.

My interest takes life from the factor that besides being a teacher in a secondary school of the neighborhood in question, I have also found a bond with my work group who all shared the same progress in the discipline, From here comes the participation and interest of all those involved.

Such and activity, besides offering the possibility to control the damage caused by social disadvantages and the economic and family situations, it give the opportunity, through sports, to benefit from the psychological and physical advantages otherwise impossible to them.

Swimming, as seen, aims toward the objective of inclusion for the disabled and defines crucial points for individual growth, through the peculiarities of the "old" but "different" element of water and new physical learning techniques.

Aquatic physical activity offered to disabled and disadvantaged students of a secondary school is significant as long as it offers innovative instruments for both cognitive learning and recovery in the vast areas of disability and disadvantage.

Objectives

We can individualize general training objectives and specific training objects:

The general objectives are those to educate through water; contribute to the balanced development of the personality with aquatic activity (cognitive, affective and relational areas).

The specific objectives are those to educate through water, and through the learning of abilities on the following areas:

a) autonomy in water
b) learning swimming techniques
c) elements of water polo and synchronized swimming
d) fundamental of life saving and under water swimming

and through related knowledge of the aquatic environment:

a) fundamental elements of assistance and first aid
b) educate the practice of swimming in different environments (pool, sea, rivers, lakes)

Methods

The approach was that of research action.

The activities were held once a week for two hours, from January- May with 18 students, at the public pool of Monterusciello (Naples).

The students were guided by a special needs teacher (expert in swimming) and by the qualified personnel of the facility.

The activities were primarily recreational.

During the activities the pool was attended by others, without disabilities and by athletes in training, A normal and welcoming environment was thus created where the students would be able to relate and create relationship with others.

Discussion

Pinaura is a neighborhood in the periphery of western Naples, south of the hills of Camaldoli, and extending towards the "Montagna Spaccata." It borders with the neighborhoods of Soccavo, Chiaiano, Agnano and Fuorigrotta and with the communes of Quarto and Marano di Napoli, Its name derives from its plains and fields surrounded by high ground, In 1926, it becomes part of a recovery plan, put into action during the fascist period, and becoming a district of the District of Naples, After having been IV Section, in 2005, together with Soccavo, it became part of the IX Municipality of the district of Naples.

Pianura lies on a surface of 11.45 km 2 (the largest neighborhood of Naples), and holds about 58, 362 inhabitants (the second, after Fuorigrotta, for the number of inhabitants), of which 29, 030 male and 29, 332 female, with a density of 5097.12 inhabitants per km 2.

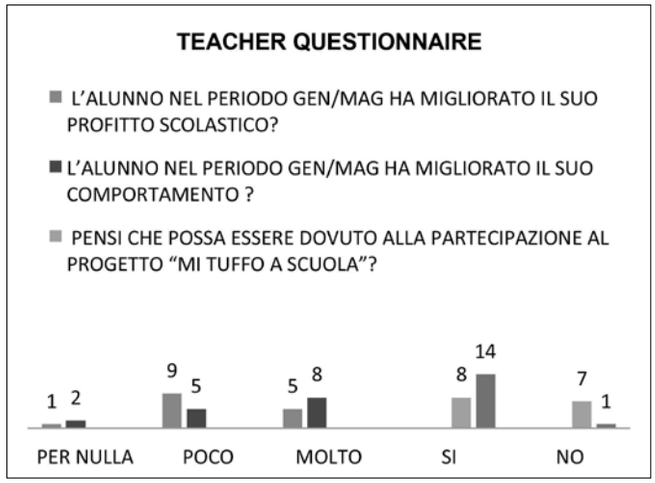
The school in question, the Istituto comprensivo Giovanni Falcone holds two structures, both in the neighborhood of Pianura: the main structure is at 100 Via Pallucci, its branch at 52 Via Torricelli.

In the main structure 30 classes are present, totaling 731 students, of which 35 disabled and 6 immigrant.

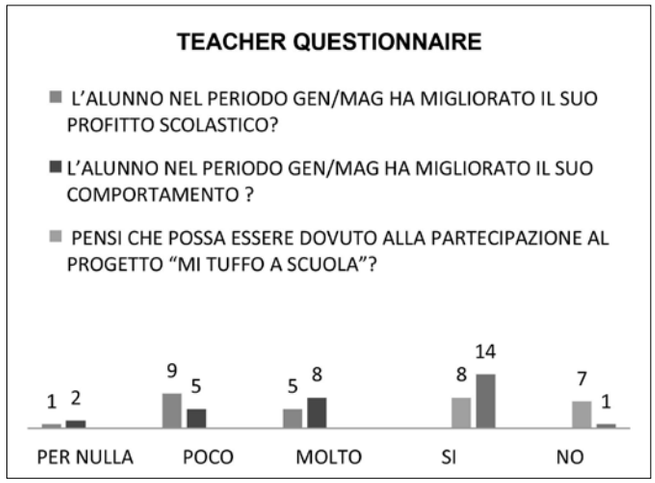
In the branch structure there are 7 classes, totaling 148 students of which 8 disabled and 3 immigrant.

Three questionnaires were given, one for the teachers of the classes involved,

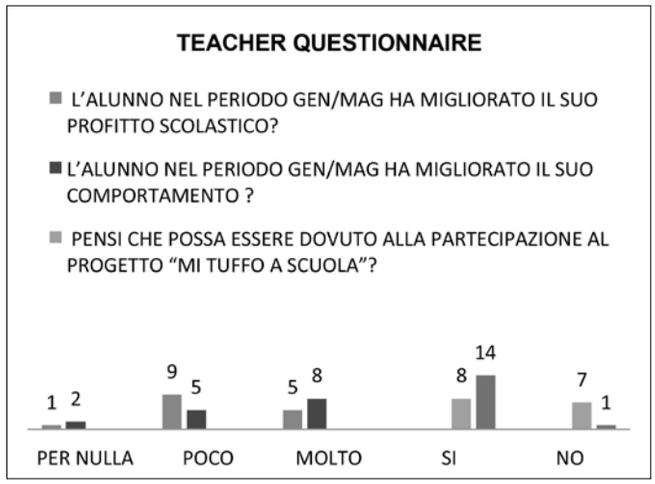
One for the students



And a third for the families.

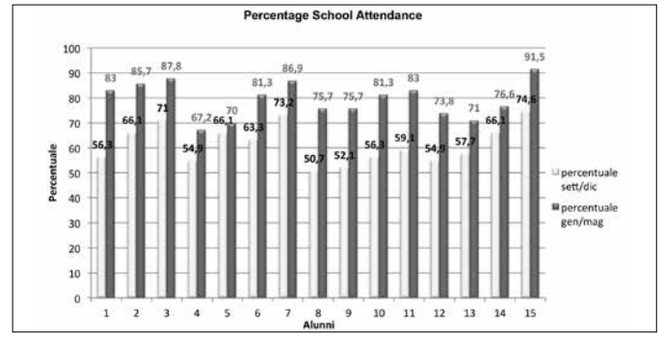


Finally, data was collected regarding attendance of the subjects involved:



September-December				January-May		
student	Total days	present	percentage	Total days	present	percentage
1	71	40	56.3%	107	89	83%
2	71	47	66.1%	107	92	85.9%
3	71	51	71%	107	94	87.8%
4	71	39	54.9%	107	72	67.2%
5	71	45	66.1%	107	75	70%
6	71	45	63.3%	107	87	81.3%
7	71	52	73.2%	107	93	86.9%
8	71	36	50.7%	107	81	75.7%
9	71	37	52.1%	107	81	75.7%
10	71	40	56.3%	107	87	81.3%
11	71	42	59.1%	107	89	83%
12	71	39	54.9%	107	79	73.8%
13	71	41	57.7%	107	76	71%
14	71	47	66.1%	107	82	76.6%
15	71	53	74.6%	107	98	91.5%

Total Average 61.5% Total average 84.9%



Conclusions

Following the analysis of the results, the data which prevails is that of an increase in school attendance during the months the study was carried out; an increase in school attendance from 61, 5% to 84, 9%.

More positive results are seen with regards to cognitive learning, and also in levels of autonomy and self esteem, These results are confirmed by the class representatives and the families as gathered in the questionnaires given at the end of the study.

In conclusion we can affirm that our hypothesis was verified, We can therefore be satisfied and consider such a project, even with minor necessary adjustments, a starting point for future initiatives related to these issues

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INTERNATIONAL CONFERENCE ON SPORT SCIENCE AND DISABILITY

Febraury 15, 2014 | University of Neaples "Parthenope" | Italy

SESSION II

Chair: Prof. Gaetano Raiola

Physical activity and inclusion

Primary School Document: Aim of Coordination motor schemes combined among them

G. Abbamonte, F. Raiola

Abstract

It deals with an interdisciplinary planning, finalized to Know Only, in operation holistic by ologramatical theory (Morin 2008).

Insofar, the objectives (knowledge and ability), they will be connected to those of all the other disciplines, so that to converge toward the didactics for competences.

It is in force, therefore, the principle of the interdisciplinary of the knowledge, not more for the identification of the horizontal objectives, for every single discipline, but in direction of the finishing lines in vertical.

Regarding the Formative Routines, you diversify her proposals of job, for unity of learning, they will concern and they will articulate on the center of the Setting, with the in conformity with methodological plant to the necessities and the needs of the Primary School or the Ecological approach-Dynamic, so that to favor in the pupils heuristic learning, through individual and personal dynamics of discovery.

Interdisciplinary activity, in virtue of which "the pupil acquires awareness of itself through the perception of his/her own body and the mastery of the motor and postural schemes in the continuous adaptation to the spatial variables and contingent storms." (MIUR 2012)

Spaces and times articulate in the careful and minute construction from the teacher of the physical place of the learning; to the open one, in the classroom or in gym, through the movement and the game, done of Cooperative Learning, Brain Storming, Role Playing, Tutor Ship, e, the body expertise the to know in its oneness.

"The practiced motor activity in natural environment represents a conclusive element for an integrated educational action, for the formation of city future of the world, respectful of the human, civil and environmental values." (MIUR 2012)

The predisposition of the environments of learning, him interface with the tall formative value of the practical psychomotor.

Keywords

Body, Corporeity, Physical

Introduction

Regarding the objectives of learning at the end of the fifth class of the primary school, "to Coordinate and to use different motor schemes initially combined among them in following form and then in simultaneous form (ran/jump, grip/trough)" (MIUR 2012) and through a series of interdisciplinary unity of learning, that foresees more therefore the insertion disciplines with multiple faces with the physical education, movement and game, world of the sounds, body and movement they are combined sense-perceptive, the stage space in gym and others.

To know only in diversified spaces, through heuristic dynamics psychomotor, centers on the setting, to the purpose to acquire awareness of the itself, within parameters space-storms. Interdisciplinary activity, in virtue of which "the pupil acquires awareness of itself through the perception of his/her own body and the mastery of the motor and postural schemes in the continuous adaptation to the spatial variables and contingent storms." (MIUR 2012)

With multiple references to the varied disciplines foreseen by the National Indications for the Curriculum 2012 and you combine with the motor activities, the project foresees contained disciplinary what motor schemes of movement and variation of the same (following and alternate), movements in different directions, checking the laterality, sporting behavior aware of the respect of the rules, collaboration inside the group, bodily scheme to time of music, exploitation of the expressive language through the different faces of the communication and managerial autonomy of the itself and with the peers.

Physical education

Among the objectives he will aim to know how to coordinate and to use motor schemes combined among them, to participate with promptness and inventiveness in the game of team, to gather the difference between movement and stillness, to perceive the corporeality, to develop and to consolidate the motor control within static and dynamic parameters, to mature rhythmic sense and motor coordination, to favor

expressiveness linguistic bodily, to promote the sense of the communication and to consolidate positive social behaviors, to know how to manage his/her own person in the group heuristically planning common experiences.

Activity of team e/o free game you/they can be proposed, with the use of the ball, of the basket, of the you look for, in virtue of which for instance the group class using motor schemes combined among theirs which the to race, the to grab and the to launch, can explore the different fields of the to know answering to time to questions combined interdisciplinary.

Finishing lines in vertical simulating the motions of rotation-revolution earthlings turning around the ball (geography), to express through the sporting object contained e/o interdisciplinary knowledge, suggested by the color (art and image), from the form (geometry) and from the material (technology), favoring so and to the meantime the expressive use of the area - linguistics with the aid of metaphors and similes (Italian).

To play with sounds and rhythms (music), to dance for feeling himself/herself/themselves integral and active part of the group, to experiment the contrast sound-silence, using motor schemes of base combined among them as to race, to roll, to jump (Raiola G, 2012a).

"The practiced motor activity in natural environment represents a conclusive element for an integrated educational action, for the formation of city future of the world, respectful of the human, civil and environmental values." (MIUR 2012)

It is well note to everything today the exceptional validity and practicability of an interdisciplinary project that you use and you valorize on more fronts the music therapy, as technique of bodily relaxation, over the simple physical and as it practices psychomotor, in operation some harmony lies-body, some full awareness of what happens in itself and everything around itself (Raiola G, 2012b).

Conclusion

To conclude, playing of improvisation, through the ecological in operation free movement-dynamics, the listening and the mime of team could be stimulated, staging the animal kingdom (sciences); drawn aside himself/herself/themselves of histories in movement, with general motor activation to crawl, to roll, to walk, to race, involving so superior and inferior arts in the stage space in gym.

Essential it is, therefore, the oneness of the to know, overcoming therefore of big long the anchor ruling vision reductionism of the lesson of physical education.

It becomes almost then impossible to make only a lesson on the motor sciences.

For that that it concerns the formalities of evaluation, indicators and describers they will aim to consider the movement in his/her aesthetical aspects (quantitative) and ethical (qualitative).

The observations and the verifications will practically be realized through exercises e/o you play of group, of team individual e/o in diversified spaces, with particular attention to the self-evaluation.

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Sports physical activity in the process of evolution of disabled person

G. Altavilla

Abstract

Today disabled people lead a relatively independent life and require little assistance with the activities of daily living. There are, however, people with disabilities for which you require media of various kinds, from wheelchairs, guide dogs, to prosthetic devices. The progress made in the field of specialist equipment have made the disabled more independent, contributing also to break the prejudices and social barriers. These acquisitions have made possible the participation in physical activities and sports and leisure activities, thus assuming a basic importance is to follow a way of life for both active and maintain a state of optimal health. The sport shares with game characteristics important for individual development. In fact, both the individual experiences his own personality, he lives his own body in relationship with others and with the outside world; satisfies the need for socialization (through interaction), but also that of autonomy (through the free initiative and mastery of the activity); refines skills and competencies. All these dimensions are included then the development of a strong sense of self-efficacy and improvement of self-esteem. The motor action represents an event related to the context, based on the mutual relations between the individual, the environment and tasks. The environment sets limits that allow the individual to develop patterns of behavior that make it possible to perform the task. Nevertheless, the individual adapts to the environment, and modified each time that responds to it, also in the case of the mentally disabled.

Keywords

Special needs, assistive technology, mobility, inclusion, socialization, participation.

Introduction

Today disabled people lead a relatively independent life and require little assistance with the activities of daily living. There are, however, people with disabilities for which you require media of various kinds, from wheelchairs, guide dogs, to prosthetic devices. The progress made in the field of specialist equipment have made the disabled more independent, contributing also to break the prejudices and social barriers. These acquisitions have made possible the participation in physical activities and sports and leisure activities, thus assuming a basic importance is to follow a way of life for both active and maintain a state of optimal health. Unfortunately, there are still many disabled people who face difficulties in everyday life, such as the lack of adequate transportation, elevators, possibility of access to public places, etc.. Are therefore necessary adaptations and modifications, so as to ensure quality and accessible environments for the needs of these people. The adaptation should not only concern the infrastructure or means of transport, but it is necessary to put in place all those good inclusive practices, so that people with disabilities, who wish to establish with a active lifestyle, a state of physical well-being, as well as a chance to compete or interact on a social level, have access not only to infrastructure but also to the activity itself. These principles are involved both in the context that the subject, thus constituting an effective inclusive education system, having as its primary goal the removal of barriers to learning and participation (Booth and Ainscow, 2008).

Activities motor and evolution process

The motor activities are the foundation of all learning and guide personal development at every stage. The importance of education that has in itself this activity is evident, in fact, gives people with disabilities an opportunity essential to compensate for the lack in training and development problems due to certain disabilities. In addition, the physical and sporting activities can meet their needs in a productive way some man linked to the experience of play, movement, athleticism and group life, find a full integration in the sport.

The sport shares with game characteristics important for individual development. In fact, both the individual experiences his own personality, he lives his own body in relationship with others and with the outside world; satisfies the need for socialization (through interaction), but also that of autonomy

(through the free initiative and mastery of the activity); refines skills and competencies. All these dimensions are included then the development of a strong sense of self-efficacy and improvement of self-esteem.

The motor action represents an event related to the context, based on the mutual relations between the individual, the environment and tasks. The environment sets limits that allow the individual to develop patterns of behavior that make it possible to perform the task. Nevertheless, the individual adapts to the environment, and modified each time that responds to it, also in the case of the mentally disabled.

Physical and sporting activities adapted

The "differences" between the drive for "able-bodied" and one for people with disabilities is the principle of adaptability (Eid Bussetti L. and M., 2010).

Referring to the theory of adaptation, and that is the art and science of knowing how to control the variables, so as to get the desired results for which every physical and sporting activities can be modified or adapted, providing for changes to the following components:

- Equipment (use of balls of different sizes and weights)
- Environment (reduction of operating space)
- Task (play a few simple motor actions)
- Regulations (rules more flexible, for example, in volleyball: ability to hold the ball before throwing)
- Indications (provide instructions short and simple)

Basketball, for example, requires minor adaptations, such as to facilitate wheelchair players, the athlete, in fact, can push twice the wheels of the wheelchair before dribble, pass or shoot for a field goal. Precisely from these methodological considerations and organizational that the sport of wheelchair basketball can act to promote education, training and integration of each individual, as well as play a key role in improving the achievement of ' autonomy and personality development.

The wheelchair basketball at school

The aim is to promote inclusive motor activity between boys mentally disabled and able-bodied, allowing them to use wheelchair, playing 3 on 3 with the modyfing rules.

The ability to relate to the world around them, learning and emotions begin from bodily experience and the game becomes an indispensable tool. The sport, in this sense, allowing you to live fully their corporeality, to experiment, to play and have fun, making it a resource for the purposes that go beyond the purely sporting context.

In general, the above-mentioned sports offers the following educational and training purposes:

- To enable young people with mental disabilities to come into closer contact with their body
- To gain a better body coordination and a more effective movement skills in an environment adapted to all participants
- Promote the socialization and the report aims to build a cohesive group
- Involve all the kids by giving them equal contextual situations and motor, operating on both the environment and on the subject, thus creating an inclusive education system that has as its primary goal the removal of barriers to learning and participation.

Several studies and surveys carried out according to the functionalist paradigm deriving the approach, have shown that, especially in childhood, they might be more ready and early growth of some parameters in subjects practicing intellectual -motor play activities and / or sports (B.J. Cratty, 1985), showing that sport has a positive effect on attentional styles, perception and the processes of construction and information processing, which have a central role in the formation of personality.

Groups of researchers and clinicians have succeeded in many ways to meet the challenge of being able to change the life expectancy and quality of life of people with disabilities. Exceeding the limits of operation has been achieved not only through the systematic use of prosthetic devices or the early and ongoing rehabilitation activities, but also, through the personalization of psycho- educational programs more consistent and responsive to their special educational needs.

Recent research has demonstrated the benefits of sports, especially basketball, on cognitive function of athletes with disabilities, this study has established that the mind draws truly beneficial, not only psychological (Studio IRCCS, 2011).

Discussion

Sporting activity stimulates growth through the group, as well as the educational value and learning opportunities that occur within it. Belonging to a team, deal with others and share the emotion of the activity, are all essential experiences for personal growth in its relational dimension. Such a socializing function makes the practice even more important for the disabled: experience the life of the group is an important opportunity for development and, at the same time allows you to learn patterns of behavior appropriate to the social life.

Sport is not only an effective tool for psycho-physical growth of the individual, but also an important factor aggregation and formation, it is necessary that its practice is freed from the competitiveness exasperated, placed its focus on the needs of the protagonists. These needs differ not only in age but also in relation to the general condition of the person and to his expectations.

Only in a context that respects the capacity of each, the sport can be configured as a time for everyone to participate and growth of personality. This leads to two important implications: First, you need a thorough work of preparation and training of all those involved in sports (coaches, trainers, teammates, etc.)., So as to promote understanding the spe-

cific needs of the disabled. Secondly, it is essential to give life to those adaptations of sporting activities (in the rules, equipment, etc...), That allow the person with a disability to be a leader and not just a spectator sport popular among their peers. Only in this way will promote the inclusion of persons with disabilities, which will no longer be relegated to basic activities, which do not attract the same.

Careful consideration of the above factors makes it possible to make the sport instrument of inclusion. Is a right that everyone live a life as normal as possible, is a right that everyone can get a free new citizenship, active and participatory (Altavilla G., 2013) and to be placed in a position to experiment and live in a healthy and constructive comparison and competition with others.

Many are the authors who see the motor activity in the process of growth and development of the individual. Practicing a sport means to acquire motor skills, general and specific, expand and differentiate the development of their skills. We know that any simple movement is the result of a thought and a corresponding nerve activity.

The performance improves with the increase of the control of the moving body and requires skill on the ability to use it in relation to a purpose. You can define, from a psychological point of view, training sports a type of cognitive learning, an area associated with affective and social one.

For the person with a disability is also important to the creative dimension: the possibility of giving life, through drama activities, games and sports, a lifestyle, an original way of being and living body, thus avoiding exclusion. And ' demonstrated the direct link between exercise and mental ability: a physical activity practiced constantly seem to affect, in fact, on cognitive performance of people with mental retardation.

If you analyze motor learning can be seen as the relative size of the sphere are also included cognitive functions of language, memory, attention and intelligence; these areas are part of the act motors, just think that the motivation, attention and memory are the conditions of learning. And ' well known that all the cognitive mechanisms depend on the movement, in fact there is a correlation between the increase in motor activity and a marked increase in psychomotor development, with improvements in mathematics and in other intellectual functions in primary school.

All those who work in the field of practical physical - sport recognize the validity and the essential role assumed by the motor development that becomes a tool for the realization of cognitive and socio -affective. The same activity can encourage the person with a disability learning skills to improve the cognitive and social skills, recognizing the individual an active role, consistent with the level of development allowed by the disability. In fact, as any intentional activity, this is also integrated in the context of relationships that exists as an evolutionary social interaction.

Conclusions

The practice of sports for people with intellectual disabilities may constitute grounds for emancipation and growth, as the comparison with the others, testing or immediate perception of its efficiency, refinement of the self-regulatory capacity can structure an environment rich in possibilities and significant stimulation.

Doing sports activities the subject with intellectual disabilities can learn, to enter or to master multiple roles, to perform cognitive actions (deduction, insight, emulation, etc...) are essential for the achievement of a result. Each athlete creates a cognitive map, variable, its action and that of others, in some cases. This process of development of the cognitive map is not given by a factor purely repetitive, but rather a correlate, a trans-form the reality on the basis of objectives and goals that imply different strategies and different abilities (eg, a basketball player will have a peripheral vision of the game other than a spectator, even if both are watching the same game).

In the sport, the subject experiences its own identity over time, learn to control themselves and their energies productively (self-efficacy), develops a greater self-awareness and strengthens confidence in their own abilities (self-esteem), thus achieving higher levels of personal autonomy.

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Activities and sports in mental health, exploration of practice

A. Benevento, G. Raiola

Abstract

The use of physical activity and sports in mental health has a positive impact on fundamental aspects of quality of life and disease management of patients with mental health disorders. These activities concur in fact to prevention of risk factors associated with the metabolic syndrome and cardiovascular disorders that have a high incidence in those categories. They can also play a major role in re-socialization and self care. The practices used in the management of these activities are very diverse as there is no official guidance. Method is made by following steps. Analysis of the literature and the scientific production of reference Construction and administration of semi-structured questionnaires Graphical representation and discussion of the results of a sample of 25 structures that deal with mental health. Discussion is to analysis of the data shows that the approaches are too heterogeneous and often do not provide for the collection of objective data about the improvements of the various psychophysical aspects. In conclusion, it is appropriate to the study of a process for the effective implementation of these activities and connectable to an objective evaluation tool

Keyword

Re-abilitation, abilitation, education, re-education

Introduction

The ancient Latin phrase "mens sana in corpore sano" echoes in our minds, with its Cartesian dualism, to suggest the collective idea that the health of the mind is essential to the health of the body. The modern approach to overcoming the dualism of "mens et corpore" contemplate man as a whole. *Man interacts with the world through its physicality.* Physical activity and sport and become a natural tool needed to develop the balance of the relationship between the person and the world. *Human behavior is developed in relation with the world and mediated by the body through the experience.* Physical activity and sport in this light become the source of experience and experimentation of reality that improve the relationship between man and the world. The reading of scientific material published in the last decade shows that the practice of physical activity and sport has been taken from the world of mental health. In May 2010, the Italian Society of Psychiatric Epidemiology (SIEP) has addressed this issue in its twelfth scientific meeting. At that time, the further rehabilitative reality of the world of mental health met to discuss the type and effectiveness of the activities. Aim of his work starts from the analysis of the data collected in this appointment with integrated scientific data collected from community mental health centers of the North Salerno and Naples South to verify the presence and frequency of physical activity in mental health practice, exploring reality public and private.

Methods

We analyzed the scientific work of the twelfth scientific meeting of the SIEP, and the scientific literature regarding the testing of psychiatric evaluation. It has also been subjected to a 10-item questionnaire to operators of 25 organizations that deal with mental health within South Naples - Salerno. Were extrapolated data partially represented graphically below:

Discussion

The reading the questionnaire data shows that only 36% of surveyed facilities offers physical activity or sport in a structured way. The activity most often used is football, this data is dependent on the existence on the territory of the "Calcio Insieme" association which proposes a tournament reserved for teams of mental health patients. Other activities are fitness and soft gym. The evaluation of the clinical results are evaluated in 64% of the overall general medical record while in the remaining cases are used psychiatric rating scales (Vado-RBANS - Rating Scale). The data relating to the state of the shape of the patient are collected only in 36% of cases using the index bmi and impedenziometria. The activities are conducted in 77% of cases by health professionals and by 22.3% in the specialized figures.

All respondents who are concerned with the activities agreed in the opportunity to increase the formation to perform them better and that it is desirable to create a practice and a method of data collection. The twelfth meeting SIEP described the world of physical activity and sport as effective (but not efficient) and heterogeneous. Finding the critical point of the difficulty of the practice is not unified and the absence of a communication network that puts these realities.

Conclusion

This study agrees with Siep's conclusions. It is considered appropriate to study the development of a new practice that unites the valuation methods and practices of both worlds, the psychiatry and the physical activity, which may be an easily accessible and easy to read tool that can give results comparable to promote a network that is able to connect the various rehabilitative reality and bring them towards goals and objectives more concrete, confirming physical activity and sport as an indispensable part of rehabilitation in the world of psychiatry.

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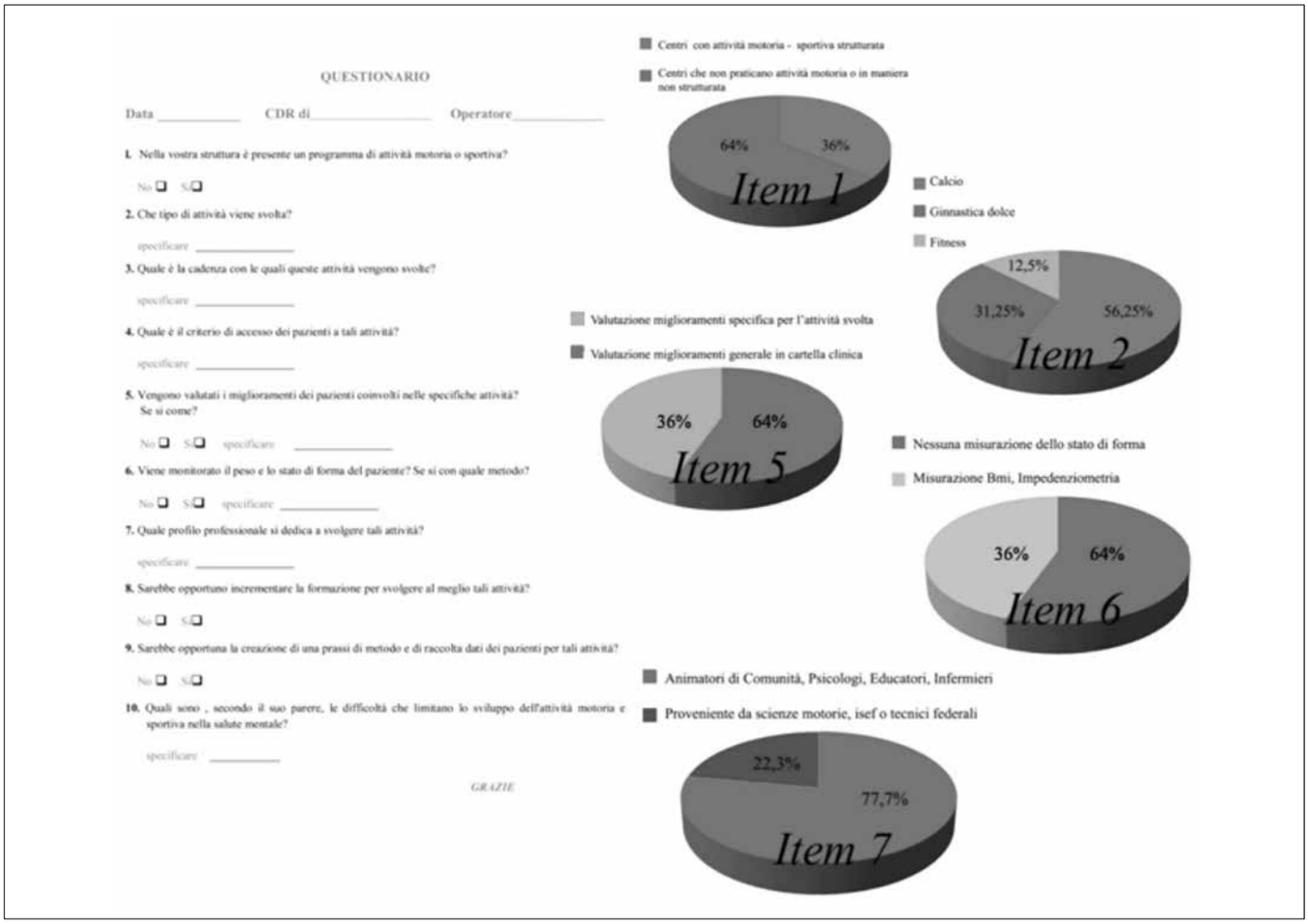

A proposal for inclusion in the team sport of sitting volleyball

F. Giardiello, G. Raiola

Abstract

The sitting volleyball was born as an integrated sports and activities such as team sports aimed at all people with limited physical mobility (for example amputees), spinal cord injury (as in the case of partial paraplegia and polio) brain lesions present at birth, disabling diseases belonging to the class of "Les Autre " (such as paresis, ankylosis) and also able-bodied subjects. The sharing of disabledes and people without disabilities facilitates the integration and inclusion of the first in youth contexts, suited to their personality. Such as volleyball, sitting volleyball is a sport played by two teams on a playing field bisected by a network. The objective is to throw the ball over the net so that it falls to the ground in the opposite camp and prevent this from happening in their own field. The ball is put in play with a service that is using the line: a player with a shot throws the ball over the net in the opponent's court. The action continues until the ball touches the ground game. The team winning a rally scores a point when the receiving team wins a share, is awarded a point, the right to a joke and the players rotate clockwise. Wins the race, the team that wins 3 set of 5. Aim of this preliminary study is to see if the sitting volleyball can be an integration's instrument but also for the inclusion of people with different disabilities (physical and intellectual) and able-bodied people. Method as a preliminary work, theoretical and argumentative to deep the issue. The study is conducted through an accurate research on the existence or not of sports that combine integration and disability, at the same time. From the research, however, is evidenced that there are no studies already initiated on the integration-inclusion of people with disabilities. In conclusion from the analysis of the results of this preliminary study, it is clear then the need to initiate a pilot study on the integration and inclusion of sports for people with disabilities and to use as instrument the sitting volleyball.

Keywords

Collaboration, growth, satisfaction, psychological and physical benefits

Introduction

The sitting volleyball was born in 1956 in Holland by the work of Tammo Van Der Scheer and Anton Albers, as offer of integrated sports as well as sports team aimed at all people with limited physical mobility (for example the amputees), spinal cord injury (as in the case of partial paraplegia and polio) brain lesions present at birth, disabling diseases belonging to the class of "Les Autre " (such as paresis, ankylosis) and also able-bodied subjects. The sharing of disabilities and people without disabilities facilitates the integration and inclusion of the first in youth contexts, suited to their personality. Just because it promotes the integration and inclusion of people with disabilities in contexts inhabited by a majority of able-bodied, this sport is called "open". The sitting volleyball is a good example of integration and offer opportunity to all those athletes prepared and motivated to get the most out of themselves but also good results if you are able to excel. The sitting volleyball in Italy began to spread not by much and most of all thanks to the sports associations are very sensitive to the problems of persons with disabilities. Great contribution has been given the high visibility offered to convey the races during the last Paralympics in London. This gave the decisive incentive so as in Italy proceed to focus on already widespread activity for several years throughout the rest of the world. It dates back to May 15, 2013 the close agreement between the International Volleyball Federation and the Italian Paralympic Committee with whom the sitting volleyball is joined, in Italy, the official Paralympic disciplines. The origins of sitting volleyball and in particular the inclusion of disabled people in sport goes back several years ago: in 1944 thanks to the neurosurgeon and director of the National Spinal Injuries Centre at Stoke Mandeville Hospital in Aykesbury (London), Ludwig Guttmann, a group of disabled young people belonging to the British armed forces was included in some disciplines adapted to their handicap. Guttmann has designed and developed training's programs for the group of invalids of the armed forces. As a result of these trainings the doctor noted that the subjects began to develop muscles of the arms and shoulders, reaching very quickly to better results than those obtained with physiotherapy (= one of the most popular and effective techniques implemented in the rehabilitation the-

rapies); in fact the same Guttmann then claimed: "thanks to the sport paraplegic patients, beginning to develop the muscles of the arms and shoulders, quickly reached superior results compared to the usual rehabilitation techniques..." (Gomez Paloma 2004). It took a few years for the sport to pass by rehabilitation therapy to be a recreational activity, which later became too competitive. In 1948 in London there were the first International Games who anticipated the Paralympics, whose first edition was held in Rome in 1960. The doctor Guttmann, through its training's programs had been trying to develop and recover an acceptable neurological status of traumatized through the residual capacity of the disabled and this was aimed at achieving the maximum possible autonomy and a decent quality of life. Building on the work begun by Guttmann, has made its way to a new rehabilitation model that combines the physical and psychological recovery and social integration. The Sitting volleyball was founded by invoking a little the characteristics of "sitzball" in association with those of traditional volleyball. Today, sitting volleyball is known all over the world, played in Europe, America, Africa, Asia and Oceania and coordinated in their respective continents from organizations that are responsible for all head to WOVD (World Organization Volleyball for Disabled) and ICP (International Paralympic Committee).

Such as volleyball, sitting volleyball is a sport played by two teams on a playing field divided into two parts by a net. The aim is to throw the ball over the beating so that it falls to the ground in the opposite camp and prevent this from happening in their own field. The ball is put in play with a service that is using the line: a player with a shot throws the ball over the net in the opponent's court. The action continues until the ball touches the ground game. The team winning a rally scores a point when the receiving team wins a share, is awarded a point, the right to a joke and the players rotate clockwise. Wins the race, the team that wins it before 3 set of 5. Like the sitting volleyball also sitting volleyball has rules relating to the macro areas: play area, network and poles, balls, team, responsible for the team, winning a point, win a set and a race; structure of the game; game situations, play the ball, player free; behavior of the participants, arbitrators and procedures.

The sitting volleyball was born as a sport for the integration of disables but the term "integration" is accounted as a synonymous of "right of disabled people to participate in a sport". But in the "integration" there are many inequalities: not all disabilities are covered in this sport, for example intellectual disability; it is clear then that it is aimed purely at single class of motor disabilities. Therefore we cannot speak of a real integration, let alone inclusion. To understand how you can do integration and inclusion for persons with disabilities, it is necessary to know what to suggest the two terms. If we use a normal dictionary, we see that this defines the integration and inclusion in this way: "the integration is completed by the addition of something that is missing, necessary or need to improve, it is the unification, the collaboration between different persons" whereas inclusion is the "inclusion of something or someone in a series, in a pre-existent combination". The term integration is quite modern because it is only the beginning of 900, all over the world, you start to feel the need to integrate people with disabilities, also to be consistent with the values, rights, and the people who fought and died for them to be recognized; it refers to the assimilationist paradigm that is based on the adjustment of the student with disabilities to an organization that is structured according to the normal people. Above all in the context of school integration becomes a process based especially on strategies that lead the disabled to be as similar as possible to others; while the inclusion emphasizes the full participation in school life and not all actors, whether they are disabled or not. (Ianes 2011) An example of integration that realizes, in one of his subspecies, also the inclusion is represented by the "Special Olympics " that offer the opportunity to live a beautiful life full of satisfaction for athletes. They use sport as a medium to full integration into society of people with intellectual disabilities through the organization of training, athletic competitions and sporting events (Ianes 2006). The sport is not the end, though, unfortunately, is often considered as such but it is the instrument, the means. While the aim is integration, on the other hand the aim-target is the cultural change that is not derived from the legislation or the promulgation of the laws; the culture is not the degree of education but how to approach the human being. The aim is then to see each other through different eyes. Special Olympics is an educational program that uses physical activities and sports to promote integration, the autonomy of the people and the cultural change. The philosophy that underlies it can be summarized in the following points:

- Put the athlete at the center: the athlete is the pivot around which revolves the Special Olympics program. The athlete is involved in the program that is set in its own function;
- Permit competitions between athletes of equal skill: Special Olympics welcomes all skill levels but the competitions are made to put together the same skill levels;
- Benefit from the positive effects on the physical, mental, social and spiritual sphere: it promotes Special Olympics because it has been shown that physical activity brings benefits not only to the organic structure but also to the mental and the social level (= meet other people) and the spiritual (= you work very hard on themselves);
- Promote respect and an easier acceptance in the community, but unfortunately in today's society only those who have money and powerful is accepted;
- Understand the importance of participation, effort and personal success: all the Special Olympics athletes are rewarded for participation, everyone gets a medal, is celebrated because it gives importance to PARTICIPATION. The effort ensures personal success; the competition is with themselves and not with others in fact is to be awarded its own success.

Special Olympics is a good example of integration, especially when it proposes UNIFIED SPORTS = unified sport in which you want to switch from integration to inclusion

through sport in the game and sport. The unified sport in the Special Olympics brings together athletes with and without intellectual disabilities to train and compete on the same team, both in individual sports and in those of the team. The aim of the unified sports is to know and to develop the qualities of each, so that everyone can avail great opportunities and psychophysical, emotional, relational, social advantages that physical activity, play and sport can offer. This allows to cultivate friendships, to grow together, to share successes and commitments. In order for the unified sports to be successful, you need the following aspects:

- Make a right choice of sport;
- Athletes should be guided by qualified and informed specialists;
- You must select the elements of the team on the basis of the analysis of personal skills;
- You have to do some quality training before the races;
- Athletes and partners without disabilities must be present in the same number in the teams;
- Teams must be made up of people with similar skill and age;
- The rounds should be divided by skill level.

Where to look for a partner? At school, in the family, among friends or voluntaries. The partners must:

- Being in the service of technical and personal growth of the athlete;
- Contribute to the better performance of the team without changing the technical level and avoiding forms of personal leadership;
- Exercising in a type of integrated gaming.

The discussion of Special Olympics and Unified Sports underlines that sports and sports performance should be regarded not as an end but a means to overcome the motor and psychological limitations as well as an instrument for social integration. This is possible to do it using as a key training, as way the competitions; as effects the skills, the confidence, the courage and the joy; as aim the best preparation for life and as a result the skills for life and the increased autonomy.

A very valuable instrument finalized the inclusion of people with disabilities in the school is represented by the "Special Education Needs": adopt this new lexicon of "Special Educational Needs" means to broaden the category to which it refers not only to people with disabilities but also to all those who, for various reasons, live in a situation of hardship and therefore are not classified according to clinical diagnosis. The aim of this preliminary study is to check whether the sitting volleyball, in particular, can be an instrument of integration and inclusion of people with different disabilities (physical and intellectual) and able-bodied people.

Methods

Since the work so far carried out is a preliminary study, the method used was theoretical-argumentative. It is therefore proceeded with extensive research literature on the subject, trying to understand if already in other cases, and with other studies we have tried to achieve this aim.

Expected results and their discussion

From the studies came out that there aren't studies already undertaken on the integration-inclusion of people with disabilities. But given even more striking is the fact that many sports such as sitting volleyball, are proposed as a sport of integration, however, omitting the appearance inclusive. While they try to break down the social barriers of disability and its "non-acceptance" but above all to remove the injury, and ensure the disabled the right to practice motor activity - unfortunately other sports themselves are discriminating factor because only certain categories of disabilities are taken into consideration and accepted in these sports.

Conclusion

The analysis of the results of this preliminary study underlines the need to initiate a pilot study on the integration and inclusion of sports activities for people with disabilities and how you intend to use the instrument sitting volleyball.

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“Look” upon included through the swimming

S. De Simone, F. Gomez Paloma

Abstract

The article presents a preliminary study to determine if cooperative learning in the school context and the inclusion in a sports group in the pool, could develop the ability of orientation and inclusion of a child with a visual impairment.

The study was conducted through moments of re-education and inclusive coordination between family, school, rehabilitation center and sports group.

The results showed that sport can have very interesting and significant implications. Naturally, this effect is limited to the case in question, but there are all the bases to start future experimental protocols with a larger sample.

Keywords

Inclusion, Cooperative Learning, Tutoring.

Introduction

The aim of this study was to verify how an inclusive approach can have a positive impact on the quality of life of a child with disabilities and whether exist the conditions to build, by virtue of the relevant literature, experimental protocols in the future. It was an educational-inclusive operation, which had a specific program of coordination between family, school, rehabilitation center and sports group.

The studies on cooperative learning and tutoring (D.W. Johnson, R.T. Johnson, E.J. Holubec, S. Kagan, C. Cornoldi) guided the work carried out in the school. For a project of inclusion in a sports group, reference was made to the publications of P. Wehman, A. Renzaglia, P. Bates, E. MC. Ginnis, A.P. Goldstein, R.P. Spafkin, N.J. Gershaw and Cavagnola. Finally, the educational process has referred to Nisi, P. Ceccarani and D. Ianes’ research.

The case concerned a child who is currently 10 years old affected by pigmentary retinopathy associated with mild intellectual deficit and clumsiness. The clinical investigations exclude the case of a syndrome. Retinitis is a genetic disease of the eye, it affects the retina’s photoreceptor cells (rods and cones) determining, as the main symptoms, a gradual reduction of vision at night and a narrowing of the peripheral visual field. The disease has a highly variable duration but it is always progressive and disabling.

F. attended the fifth primary school class. Since the beginning of the trail is considered risk that the pathology could evolve to the absolute blindness. So it has given much more importance to the acquisition of skills that can be supportive of F. in the case of more ominous evolution.

Method

From the first meeting, which took place in 2005, to date, visual condition has worsened, going from a residue of 3/10 in daylight at a current of 1/10, which still allowed a good autonomy in carrying out activities of daily living. The situation was more impaired at night and in conditions of artificial light, when the autonomy were no longer sufficient to allow him to move freely in space unknown. From the point of view of the movement, the physiotherapy program, which began from the first months, has made the child more secure, ensuring greater fluidity to his movements. Unfortunately, the pathology has proved challenging from an early age, so it started about two and a half years a program of educational support with the child and his family.

Since the child had a strong tactile defensiveness, it has been programmed a systematic desensitization that has made him much more available to contact.

It was suggested to the family to assist with physical therapy, a course of psychomotility. The therapist was immediately collaborative and worked on space management gradually broader, coordination exercises, to facilitate fluid movement patterns, and an approach to the safe movement. He focused on the paths for gross motor skills, favouring postural and balance changes; it was gradually brought the child to deal with situations that are less controllable.

For fine motor skills, functional movement patterns were chosen to facilitate the coordination and constitute a basis for personal autonomy, as well as prerequisites for writing in both black and in Braille.

In low-light conditions and in an unknown space, F. became paralyzed and, growing up, he had adopted avoidance behaviors, which led him to not want to go on a trip with classmates or parties in unknown spaces. The first step involved the teaching of orientation and mobility techniques that teach him to pay attention to all the information, including those that are not visual, required to orient, but the fear of F. persisted.

With the entrance to the primary school F. become weaker, in fact, the child began to have awareness of his difficulties, clashing with the first frustrations: educational and interpersonal. F. felt excluded, he was beginning to close and he often showed aggression towards classmates, he tried to impose its choices and, especially, he had no respect for the rules.

On the basis of D.W. Johnson, R.T. Johnson, and E.J. Holube studies about cooperative learning in the classroom, it has established a collaboration between the support and curricular teachers in the classroom to facilitate the creation a climate that did not include individualistic relational style, or competitive, favouring, instead, a cooperative approach. Achieving this climate, it meant promoting in the classroom a type of collaboration that is the result of the union of the contributions of the individual. So, it has exceed the prevailing logic of the competition, according to which the participants try to get a personal best result than his companions. The subjects involved in the project/cooperative process feel an active part of a group and they recognize how valuable resource that contributes significantly to the final result of all. Each member of the group known to have a defined and active role in achieving the goal.

To cope with the difficulties that may occur in a school when it is proposed an approach of this kind, it was made reference to Spencer Kagan's research, who has made an interesting assessment of the advantages and disadvantages of the "Cooperative learning", highlighting the difficulties that may be encountered, the benefits for the whole class group and the positive impact on the teaching team.

To encourage the inclusion not only in schools and increase the social skills of the child, it was suggested their parents a "sporting course." The child chose to go swimming, choice supported by parents since even the younger sister attended the same pool. The choice seemed a successful especially for the desired positive impact on the motor side. Even in this case it is made a collaboration with the instructor and it must be stated that F. has always had a very good contact with the water.

The guiding idea, in relation to Sharan, Y. and Sharan, S. research was to propose a Tutoring. The authors give practical suggestions, highlighting the possibility of learning for both members of the couple, as well as the need, always emphasized, that the roles of tutors and teacher are interchangeable.

The choice of tutoring was also supported by a study published in an insert of Corriere della Sera on the possibilities of a progressively more functional learning.

The insert stated that "we learn the...

10% of what we read
20% of what we hear
30% of what we see
50% of what you see and hear at the same time
70% of what we are discussing with others
80% of what we experience
95% of what we explain to others."

Results

F. is significantly improved in the orientation in space. When he was in a low light situation and in unknown environment, he was able to move more fluidly, retrieving the landmarks and he is directed in the right direction.

This assessment was guaranteed not only by the perception of those who are beside him, but also from a "controlled" observation. It has asked parents and teachers to fill out an observation form, indicating with a symbol (see legend) if the child was going in the right direction, it is paralyzed or ask for help. The observation grid, within three months, showed a marked improvement.

Date	Resta fermo	Chiede aiuto	Si orienta
1.9.13 - LN			x
1.9.13 - LA	x		
9.9.13 - LA	x		
30.9.13 - P	x		
7.10.13 - LN			x
12.10.13 - P		x	
21.10.13 - LA		x	
3.11.13 - P		x	
12.11.13 - LA			x
23.11.13 - LA		x	
2.12.13 - P		x	
7.12.13 - LN			x
9.12.13 - LA			x
20.12.13 - P			x
22.12.13 - LA		x	
30.12.13 - LA			x
31.12.13 - LA			x

Legend: Light Condition: LN = Natural Light, A = Artificial light, P = Shade

Discussion

Regardless of the data that emerged from the observation grid, it is considered necessary to explain in qualitatively way the strengths and weaknesses that F. met during the sporting experience, mainly according of any guidance and guidelines to considered for the preparation of future experimental protocols to be implemented with a larger sample.

F., after a few individual lessons with a swimming instructor, was included in a group of boys his own age. It has been suggested to the instructor to make always different pairs to verify the best togetherness.

Starting from the technical guidance of the instructor, objectives, information on F. and could also refer to thera-

pists, it has found ways of working in the tank that could be functional to educational goals.

The difficulty that presented itself was immediately about the flip for the return. With the somersault, F. lost orientation. At that point F. is closed in on itself and he asked to change sports. This choice could transform the disability of F. in handicap by showing that it could be a limit to his choice and then to his freedom. It was a challenging support course to find together the best solution for their.

In all of this, G., F.'s friend, was the real resource because, in the absence of F. and his ability, he could not perform normal activities. Be a reference for the mate has allowed the turning point! F. is back in the water!

Conclusion

A year later, in many circumstances, the child is oriented correctly, and when this does not happen he is not paralyzed, but asks for help with confidence even when it is not with their parents. The significant result is precisely that F. began to look at its difficulty not as something to be ashamed or to hide.

Today F. attends a group of Paralympic swimming and a competent support help him to overcome the technical difficulties. F. is a good swimmer and his medals are multiplying more and more!

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Dancing on two wheels

F. Finizio, A. Gallo, L. Rio

Abstract

The purpose of this work is to demonstrate the universality of dance as an expressive and creative art in which the body is the protagonist and the forgotten areas get back to light to look for a dialogue with the limit. The dance is not just exhibitionism and scenic representation to show the aesthetic perfection but it is mainly an inner manifestation of own being that helps to express own emotions. Dance can increase self-awareness and body awareness and it can stimulate the wish to promote the psycho-physical well-being of the person. The dance for people with disabilities may be an instrument for the inclusion and integration, but moreover it can be an instrument that, stimulating the hidden potential, may increase the sense of self-esteem and self-efficacy, which is often reduced in a situation of disability.

In the introduction we have tried to argue the scientific justification of the state of the literature about dance as inclusive activity; in this sense it has been deepened one of the most used methods to encourage, through the art of dance, the process of inclusion. This is the method developed by the Argentinean choreographer and educator Maria Fux.

To prove the hypothesis of this preliminary study and to understand if it is possible to start an experimental research in the future and build a possible working proposal, the method chosen was an unstructured interview of some individual cases of guys with and without disabilities, who attend a course of danceability that takes place for about three years at sports center at University of Salerno.

The results that have been achieved are very positive, because it has been caught a lot of enthusiasm both on the part of guys with disabilities who, thanks to the dance, manage to feel involved and to increase their self-esteem, and also on the part of able guys who, in a choreography with guys who twirl with a wheelchair, don't feel any diversity more.

Introduction

The last century has seen the crisis of classical ballet with costumes, tutus and shoes made of plaster and a new conception of the body and the movement: dance as a liberating art and expression of emotions and feelings. Since the 40s dance, thanks to the work of American dancer Marian Chace, becomes an instrument that can also pursue therapeutic purposes.

One of the best methods of dance therapy used today by psychologists, educators, doctors, where dance is a tool of integration as bridge to meet each other, it is definitely the one developed in the 60s by the Argentinian choreographer and educator Maria Fux.

Art and creativity are the basis of Fux method that generates significant changes in people through movement and dance intended as improvisation. The proposal is simple and consists in stimulating the hidden potentialities in the students without claiming to cure them but rather to show them the possibility of a personal and intuitive change which is combined with the gravity of the problem or of the pathology that they suffer. When art joins the movement, changes don't happen only in the physical sphere, in the muscles, but it is the whole "internal body" that wakes up from fears and frustations, whether they are produced by lack of psychological nature or real sensory and psychic deficits.

Among the many forms of dance therapy, the Fux method is notable for being highly artistic and for not being based on psychotherapeutic contents. During the meetings, music and movement are the protagonists, each have to respond with his own creativity and there is no right or wrong movement. This method has been tested with great success by working with all ages of life and issues of visual and auditory sensory disabilities as well as with physical and mental difficulties. The therapeutic potential of dance lies in exploring and recognizing the limit of own body and in a creative research for a feeling of confidence that comes just after accepting these limits. When we dance surrendering ourselves freely to the movement, "I can't" become "yes, I can".

At sports center of University of Salerno takes place a sporting course open to able-bodied people and a people with disabilities.

The goal of this course is double: on the one hand facilitate the process of inclusion and eliminate prejudices doing dance among with able-bodied people and people with disabilities, on the other hand use and develop the full potential of each surpassing themselves and their physical and mental limits.

Method

As already mentioned, among the various proposals of sports center of Salerno's University there is a course of danceability called "dance differently" which is inspired by the method of Maria Fux, where the core is the artistic expression. The course has a duration of about two hours and it starts with general activation on the floor, because the contact with the ground is crucial for the disabled people in order to begin to perceive their own body. When the general activation is finished, with the aim of raising the awareness of their body, participants are invited to improvise in about twenty minutes their creative dance. Improvisation is very important for the teacher who conducts the course because it allows him to understand the strengths of each one and which are the easiest movements for each one. The choreography that goes on the scene at the end of the course is not born from the imagination of the teacher but by the creativity of the participants that during the course have expressed all their emotions through the movement of the body and have learned to understand each of them.

The aim is to try and eliminate the mental block that an able-bodied person can have against a wheelchair which is nothing more than just a simple mean of locomotion.

It was decided to interview some of the participants of this course to understand potential benefits that it can bring and lay the foundations for a successive experimental study.

The following table report the questions asked and answers to them.

QUESTIONS	ANSWERS
What has changed inside you by attending this course?	Since when I start this course, about six months ago, it has changed my way of approaching people with disabilities. Before to begin this wonderful adventure I was full of prejudices, I considered people with disabilities different from me just because they moved with the wheelchair and instead I could walk without problems. Dance made me realize that I was wrong because there is no normality and diversity, but we are all different from each other, each with his own characteristics. And when the music starts to wrap the ballroom each one expresses himself and, thanks to the concord that is created in dancing all together, the best feeling is that I can't identify who is disabled no more. I would recommend everyone to try this experience because it makes you look life with different eyes. (Michela)
Why did you choose to join a course of danceability?	Unfortunately, 16 years ago after a car accident I ended up in a wheelchair and my life has drastically changed. The sport has helped me so much to overcome moments of difficulty, because before registering me in this course of danceability I also practiced basketball at a competitive level for many years. Then I decided to participate in this course and when I begin to twirl with my wheelchair, my mind cleared of all the problems, everything seems lighter and I have the proof that you can overcome all the limitations. The sensations that you have dancing on your body, even if you move only one arm, they are unique and it's for this that I believe that dance is a wonderful art that, especially in difficult conditions, can help a lot. (Luigi)
What made you want to take this course?	"I always dreamed since childhood of dancing on a stage. I wanted to be a dancer even though I was aware of being seated on a wheelchair, but nothing, not even my deficit was able to stop me. This course is giving me the scientific proof of what I've always believed: even I can dance and dance helps me to express all the emotions giving me the opportunity of giving and being myself". (Anita)
Which benefits you this course brought to you?	"Before I started this adventure I was very skeptical and unsure, I had thousand fears, the fear of being judged, of being less then whoever doesn't sit in a wheelchair, I was also very shy and I thought that I would never be able to participate in a dance performance. With this course, the dance, is giving me proof that all my fears were unfounded and I'm managing to get in the game as I have never done. I also attended the show at the end of the year facing my shyness. During the lessons when the teacher comes near me and shows me a dance step and, despite my wheelchair I can repeat it, I feel good and I feel alive, all my fears disappear and it is a feeling that is priceless". (Angela)

Results

The results that are deduced after analyzing the words of the interview to the participants of the course of danceability are : first of all the approach to the world of disability is changed by people without disabilities. When the notes of the music begin to fill the space around and they start to dance together, they completely forget that among them there are those who move with a wheelchair. What is dancing is a group of people, each one with his own magical diversity and everyone's mind is free from all prejudice.

The enthusiasm which is then caught by the words of people with disabilities has no borders, as claimed by the two girls, before attending this course were shrouded by fear of not being able to overcome their limitations and by fear of being judged. The dance has helped them getting involved and expressing all the feelings because the feeling you get when the body flits are indescribable; dance also gave them a tangible demonstration that all limits can be overcome.

Finally, when they spend those two hours to dance closed in the ballroom, they completely forget all the frustrations that, not only for their condition, but unfortunately also in life in general they tend to experience.

The results, therefore, that we have obtained from this interview are encouraging and have confirmed the initial goal of this study. And it is on this preliminary study that may be laying the foundation for a successive experimental research. Sport and dance can be an instrument for the integration of the disability; dance, in fact, is an art accessible to everyone because even just a hand gesture is an artistic expression of the world that lives inside of us, and no matter whether this action should be conducted with or without a wheelchair.

In conclusion, we report a famous quote of the woman who has dedicated her entire life to dance as a tool to help the disabled: "*I dance trying to understand these endless changes that occur in my body, renewing my subject.. I help to understand what happens to people.. the ultimate goal of dance therapy is to produce these changes, but from within. I recognize them in others, because I recognize them in me*".(Maria Fux, 2000)

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Cooperative learning, the motor and cognitive in educational contexts

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Abstract

This article wants to show how important the cooperation of the entire school community in order to promote the inclusion of students with disabilities. And 'through multidisciplinary activities, be they of theoretical and practical activities carried out in the laboratories of the school and in the gym, and it is in a particular manner through active participation that you will achieve adequate motor development and cognitive development.

Keywords

Disability, cognitive styles, learning styles, inclusion.

Introduction

The combination of learning - knowledge is presented as an inseparable process around which

- orbit several aspects: stimuli from real factors, various learning styles, experiences
- from multiple sources, experiences, individual and/or collective, personal strategies, media and
- educating communities (mean for educating community: teachers, curriculum and support, educators,
- assistants, communication assistants, companions and parents of all pupils).

Discussion

You are still unable to give answers to all the questions we ask about the behavior of children and learning systems, so the search is always on for all activities that encourage integration, socialization, and ultimately inclusion. Not all children follow the same learning style, find the style of those referential learning, those expressive style of learning and those who learn by imitation. The first mainly learn the names of objects while others have a field of expression broader expressing about: proper nouns, verbs, pronouns and learn through the last the demonstrative action. One cannot but agree with the many scholars who believe that not we find ourselves in the presence of a single model of learning, but by virtue of the various conditions dictated by some educational contexts, we can confirm that there are many forms that lead the individual to internalize knowledge through different channels, different learning styles and different intelligences. Gardner, by the way, provides a definition of intelligence "is the ability to solve problems, or to create products that are valued within one or more cultural settings "(Gardner, 1994). In teaching it is important to take into account the individual differences that underlie learning. To promote learning in the most effective way, the teacher should start from the knowledge and the exploration of their personal learning styles and modes of Learning to be aware of the preferences. These aspects affect teaching... (Poláček K., 2003). The teacher should then explore and let students explore the different cognitive styles and learning, allowing students to become aware of their own cognitive modalities and learning... in valuing these differences, they become strengths on which to act. This will offer students the opportunity to experience stimuli suitable for different styles. The same forms of learning to classify the content; cultural factors; situations; relational factors and activities.

For each form of learning we have a box that will provide later to give what you have stored through various forms.

Human resources and learning

In order to learn the kids can talk about educational contexts structured and what better environment of the school may be taken as an example? Cooperative learning is a mode that is based on the dynamics of a group cooperating and collaborative, which has the pursuit of a common goal, through the work of deepening that, excluding the traditional lecture, stands as alternatively, a new dimension in teaching methods by using the involvement of the group, which lead to the construction of new knowledge. An educational community to define valid must meet the condition of teaching / learning, therefore, we are in the presence of three educational contexts: family, school and work environment. The school accomplishes the difficult task of

giving an answer to the educational needs, often special, contributing to the formation of the student applying a pedagogical paradigm that has as the ultimate goal, the elimination of "barriers to learning and participation" (Booth and Ainscow, 2008). Here enters the scene the ability of the teacher to motivate and guide students operational action including pupils with disabilities.

Methods, tools and strategies

The school provides equal opportunities and there are many ways in which implements the inclusion of its students with disabilities. An important role is played by the teacher support and never forget, that the quality inclusion stems continues the activity of all teachers through teaching individualized and personalized. You can't reach the goal of integration - inclusion if you think you can use the institute to delegate only to the support teacher to achieve positive results, but only through the synergy of various members in the school and of the extra school. Consider the opportunity of a collaboration between the teacher of physical activities and the support teacher, implementing best practices through educational courses tailored, performing certain exercises will help the student to be able to enter into the dynamics of the group: know how to collaborate and be able to perform. The motor activities targeted at people with disabilities with their educational value favors human development through the dynamism of a multitude of changes that are inherent in main stages of life and predispose them to a greater growth in the cognitive-affective-relational. It is only through the use of tools, methods and cooperative learning that get a full integration / inclusion of people with disabilities, since this must be added the contribution effort by all those figures of the system in order to guide action towards education and training an educational project, operational and cooperative shared.

Conclusions

An education system cannot be content to be inclusive and should not deplete its action only in the implementation of a system for taking care of the welfare of the weaker type, as in the amendment and change of contexts and processes teaching/learning, in order to generate the same development opportunities for those who live particular situations of difficulties, which are conducted in a state of educational need special (Altavilla G., 2013).

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Horse sport: a new to feel included

A. Gargiulo, A. d'Aquino, L. Rio

Abstract

The realization of our work is based on the strong interest in discovering all the beneficial effects that horse sport can have on people with Special Educational needs, especially with regard to the acquisition of autonomy and the process of integration and inclusion in society. This theoretical and argumentative study was possible thanks to a scientific research on the importance of equestrian sports activities inclusive nature and all information obtained in the field, at the stables "Un cuore a cavallo",by Nicoletta Barrella. Therefore, the study started from the scientific literature on "treatment thanks to the animal", then understand the steps of development and approach of the disabled person to equestrian sports.

Introduction

The "therapy by means of the animal" is based on the relationship that is established, either individually or in groups, whit the animal used, enhancing the beneficial effects. In the realization of complex relationship between man and animal involved a group of specialists consisting of the rehabilitation therapist, animal and patient. The triad ensures the realization of a privileged link with the development of a great trust between all parties involved. Of all the animals that can be used in pet therapy best suited to work with disabled people is the horse because thanks to it the child can achieve a greater knowledge and awareness of your body and abilities that may develop slowly. Activities that the disabled person can practice with the horse are:

HIPPOTHERAPY: the horse is used as a mediator of a true rehabilitation therapy; an instrument with rhythm, swing and corporeality.

EQUESTRIAN REHABILITATION: using the equestrian art for patients already with a minimum of autonomy. His arrival point is the ability to lead the horse.

PRESPORT: activities in which the disabled are working in groups or individually with the aim of organizing space and time and to prepare for integration in society. They are then taught all gaits: walk, trot and canter.

SPORT: the disabled person is placed in effect in the practice of equestrian sport. Is realized then socialization and organization space - time more elaborate resulting in regulation of its aggressiveness and improved structuring of the personality (FISE).

The aim is to get results and progress that will lead the person to greater autonomy and awareness of their bodies and their corporeality. (Gomez Paloma, 2012), so you can move from one phase of hippo therapy to a re-education equestrian up to the achievement of the practice of sport, in such a way as to give the opportunity to people with Special Educational Needs to get personal victories (Ianes, 2013). There is a substantial difference between therapy and sports; therapy acts specifically on disability, sport has a beneficial effect on the person with a disability (as to any other person), as it allows the achievement of well-being bio - psycho – social (ICF, 2001) because it fosters the development in its entirety. The therapy can be initiated already by 18-24 months, while sports activities for people with disabilities shall not start before the age of 7; but not all people with disabilities have access to equestrian sports.

Method

The present study was conducted according to a methodology theoretical argument. in the first place, in fact, was made an analysis of the aspects that are common to the rehabilitation equestrian sport. He later reflected on the types of proposals, also inclusive in nature, in compliance with the current regulations issued by the CONI, citing examples of projects carried out in Italy, paying particular attention to the relationship between man and horse. Finally, we reflected on how much and how the role of the horse urges sense-perceptual mechanisms in the disabled person and, reflex, how these mechanisms allow the re-appropriation of the psychophysical identity of the subject. Last point, but not of less importance, was the analysis of inclusive social order of equestrian sports.

Results

The aspect that unites the equestrian rehabilitation at the equestrian sport for people with disabilities is the use of the horse which operates as a stimulus valid in a transversal way for each type of activity with the disabled. The word sport (from the old French word "deport", fun, entertainment) the set of activities performed in order to improve the physical and mental condition of the practitioner and entertain those who practice and who is the spectator. It can be practiced individually or in group, with or without competitive purposes. Equestrian sports that can be practiced even by people with disabilities are numerous. One of the activities that may be proposed is the vaulting (exercises gymnastics on horseback), that is to perform gymnastic-acrobatic exercises in the form of a horse in motion. It may be interesting driving horse carriages changed, so that the disabled can get on with the wheelchair; this activity is defined Attacks or Long Reins. A sport can be "non-agonistic" and yet "competitive". The difference lies in the type of formal classification assigned by CONI and the State. In the collective practice of a sport is synonymous with racing and includes participation in competitions in which the degree of disability can produce an unjust selection. Equestrian sport can be, however, an important growth opportunity for people with and without disabilities. For this reason, the project "Integration between disabled and able-bodied through the equestrian sport" was born in January 2005 in Niguarda. The project provides riding lessons addressed simultaneously to disabled and able-bodied, that, in small groups, learn the art equestrian. Practically, it is expected the teaching of the classical equestrian activities: dressage, vaulting, start to horse riding country, start equestrian tourism. Through the activity of dressage, the boys engaged in the execution of carousel horses. In the equestrian sport has particular importance to the fact that the activities are practiced in a place non-medical and also frequented by non-disabled children, with positive effects on aspects of disability and in view of integration in daily life. The environment in which these activities take place has an important role for the success of such assets. The site earmarked for these activities requires an enclosed space (indoor riding, toilets, stud farm, saddlery) and open spaces (fenced field and rod). The work outdoors provides special visual stimulation and spatial stimuli, with distinctive and evocative sounds and smells; however, for people with certain difficulties, enclosed spaces are more useful to create an intimate club with the horse. Sometimes, it is preferable to insert between the activities a theoretical part to a greater knowledge of themselves and the horse, in fact, before they can practice sports with it, there is a phase in which it is privileged the discovery of the animal and its movements, in order to establish a more intimate relationship and secure connection between the two. So, the ideal situation would be to have both structures, to benefit from the strengths of different solutions depending on the type of users to be treated.

In sports, the question arises: why the horse? The movements of the horse are synergistic with the movements of man; in fact, in their three-dimensional configuration, correspond closely to deambulatory human motion, in fact, they facilitate with their pace, moreover corresponding to that of the human heart, the symmetrical movements of the head, of the trunk and of the ends of knight; then, they normalize muscle tone and have an influence therapeutic on the development of dynamic postural control in sitting position, continuously modifying the balance of the subject in the rump and urging its righting reactions and equilibrium; finally, determine a constant stimulation of the vestibular systems (ie bodies that regulate the balance) and proprioceptive systems (ie the senses) of the knight, reinforcing the achievement and maintenance of correct posture; at the same time, sensory input due to the body heat of the animal, the pressure on the joints of the pelvis and spine and changes over time and space are the elements of a normal and intense stimulation sensory-motor. Sensory input transmitted from the horse stimulates in the disabled person more levels, that is the acquisition of body image and self-knowledge, the orientation of the space-time, lateralization and the possibility to continuously vary the references between self, the animal, the instructor and the surrounding environment, with all its implications objective and relational. The relationship between subject and horse, which always establishes, facilitates in subject the integration between movement and cognitive-affective development and stimulates intellectual faculties, such as attention, interest, concentration and memory. Moreover, the presence of the horse active, spontaneously and immediately, the channel emotional; the experiences that excite us the most are, also, those that remain most impressed. The horse is a valuable contributor, more or less aware of its role; transmits information on all sensory channels, has a majestic appearance, especially for a child; it is warm, soft, has a very specific smell. Horses have what is called "emotional intelligence". One of the purposes of equestrian sport is to bring all the skills that are acquired in the riding stable in everyday life. In the relationship, the user must be prepared to understand the behavior of the animal and communicate with him, because the animal never comes down to compromise. The nurturing of your horse is very important because, often, for the first time, the disabled person is able to be in the first person, really and fully, master of a situation of autonomy. It creates, therefore, the need to care for and not to be cared for, while you are taking a lead role in the ride horses. The goal of the person is, above all, have fun, The objective of the person is, above all, have fun, but this means that to the moments of intense joy and pleasure you can alternate anger and disappointment; it is essential that the situation is never boring and predictable, but that results in, anyway, intense emotions. Therefore, the operator has an important role, in fact, must take place, with full knowledge and professionalism in the role of mediator in the bond between animal and disabled person. Also assistants and volunteers, who help the operators in the field, are landmarks of the report; consequently, the working group is a security for the les-

sons, where most important role is played by the person with a disability: he's on horseback, leading the animal, is at the top; while the rest of the group is low, below him, a position that will increase her self-esteem.

Discussion

What we want to emphasize is the importance of these activities for the social inclusion of persons with disabilities, as are all activities that aim to strengthen the ability of the subject, so as to emphasize and enhance those that are their ability and not their limitations (Sibilio, 2003). In fact, for this purpose, it is useful that the lessons are mixed, so as to promote the integration of people with Special Educational Needs. Although the lesson seems to be the same and retains its protocol (starts the same way for everyone; in the fenced field, all the participants, each with their own horse, it gets in line and you're in step; not long after you start trot), in reality it is not always possible that there is a condition common to all. In particular, the trot requires great coordination and attention, and, above all, a great knowledge of your body. Following the results of the study conducted, it is clear that to promote equestrian sports activities must take account of the following elements.

1. For each participant to sporting activities was assigned a horse by the operator.
2. Often, the choice depends on the characteristics of the subject and the horse; for example, to a subject with a disorder of attention and hyperactivity (ADHD), will be assigned a horse more calm, in order to compensate for this disturbance.
3. So, the choice of the horse does not follow a protocol objective, as it depends on the type of difficulties and how this affects the person who manifests it.
4. It is necessary to intervene and change horses just is manifested, in a clear, a possible lack of "complicity" between subject and animal.

In conclusion, the aim of this study is to open up new scientific horizons on equestrian sports activities, starting from the scientific consideration that there isn't movement without emotion and there isn't emotion without movement.

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Aquatic therapy and athletic injury rehabilitation: benefits and recommendations for physical activity programs

F. Latino, U. Conte

Abstract

When an injury occurs, aquatic-based rehabilitation may expedite the recovery process, as effective cardiovascular and musculoskeletal training may be accomplished by aquatic exercise. The pool may be used both during rehabilitation and postrecovery as an adjunctive tool. The aquatic environment has broad rehabilitative potential, extending from the treatment of acute injuries through health maintenance in the face of chronic diseases, yet it remains an underused modality. Knowledge of the unique physical properties of water, as well as the physiological responses to immersion both at rest and during exercise, will aid the physical therapist when designing a rehabilitation or training program for the athlete. Understanding the principles of movement in water will provide a foundation for creative use of water's unique properties.

Because of its wide margin of therapeutic safety and clinical adaptability, aquatic therapy is a very useful tool in the rehabilitative toolbox. Through a better understanding of the applied physiology, the practitioner may structure appropriate therapeutic programs for a diverse patient population.

Keywords

Aquatic-based rehabilitation, athletes, injuries.

The physical properties of water provide a unique environment for exercising to improve strength, flexibility, and cardiovascular conditioning. Although swimming has often been used for these purposes in the past, there is now an increased focus on incorporating specific exercise protocols in the water for treating persons with acute or chronic clinical conditions, as well as assisting persons with permanent physical disabilities. The last few decades have also seen a dramatic increase in aquatic exercises to maintain overall fitness. Aquatic physical rehabilitation is now recognized and utilized as a 'procedure,' rather than a modality.

Water has been used for centuries as a medium for rehabilitation, relaxation, and training. Athletes use the pool to rehabilitate specific injuries, as a training medium during injury recovery, and as an alternative training site.

Exercises can be modified to be performed in pools of varying size and depth. Well-chosen equipment will enhance the rehabilitative opportunities for the clinician and patient. All aspects of the rehabilitation program, including passive stretching, resistive exercise, functional movement patterns, and cardiovascular training, can take place in the same location. The water's warmth and buoyancy enhance stretching, while the buoyancy allows initiation of resistive exercise at a low level. The water's viscosity provides resistance throughout a movement pattern in any plane.

Water offers a unique exercise medium in which reduced-gravity conditions decrease the impact forces on joints, while the water itself creates resistance to movement. Aquatics may be an alternative training mode to improve overall fitness especially in persons with low levels of physical fitness. It may also be used for the fit athletes as a part of the early rehabilitation process after injury and to facilitate recovery process of the neuromuscular system after training, leading back to full sport participation.

There is scientific evidence that shows that aquatic aerobic training such as water running can elicit improvements in fitness similar to that of land-based training.

The physical properties of water are the basis for its creative uses in rehabilitation. An understanding of these properties will provide the clinician with the theoretical basis for determining position in the water, direction of movement, and type of equipment used.

Buoyancy. Archimedes' principle of buoyancy states that a body partially or completely immersed in a fluid experiences an upward thrust equal to the weight of the fluid that was displaced. Buoyancy is defined as the upward thrust acting in the opposite direction of gravity and is related to the specific gravity of the immersed object.

Buoyancy can be used in rehabilitation as assistance, support, or resistance. Assisted exercise occurs when movements are in an upward direction, toward the surface of the water.

These exercises are commonly used to increase mobility.

Buoyancy-supported exercises are perpendicular to the upward thrust of buoyancy and parallel to the bottom of the pool.

Buoyancy-resisted exercises are performed toward the bottom of the pool, directly opposing the upward thrust of buoyancy.

Hydrostatic Pressure. Pascal's law states that at any given depth, the pressure from the liquid is exerted equally on all surfaces of the immersed object. As the density and depth of the liquid increase, so does the volume of liquid overhead and, therefore, the hydrostatic pressure. As such, hydrostatic pressure may be used in rehabilitation to reduce effusion or to allow the athlete to exercise an injured extremity without increasing the effusion. Hydrostatic pressure is also responsible for the cardiovascular changes seen with immersion and has a significant impact on exercise training parameters.

Viscosity. Viscosity is defined as the friction occurring between individual molecules in a liquid, which causes resistance to flow. Viscosity is only noticeable when there is motion through the liquid, and it acts as resistance to movement because the liquid molecules adhere to the surface of the body. Because water is more viscous than air, most movement in the water is resisted regardless of buoyancy. Viscosity provides the most common form of resistance training.

Fluid Dynamics. Two different types of water flow exist: laminar flow and turbulent flow. Laminar flow, defined as the smooth flow of water molecules, carries the least amount of resistance because the water molecules are all traveling the same direction and speed. Turbulent flow is interrupted flow, as when laminar flow encounters an object, causing water molecules to rebound in all directions. Turbulent flow produces the resistance used in rehabilitation.

The pool can be used to rehabilitate a number of impairments, as well as to restore functional movement patterns in a resistive medium and also like cardiovascular training.

Impaired Mobility. Mobility may be impaired after an injury or after surgery. This impaired mobility may present as altered biomechanics, and a goal of rehabilitation is to restore normal osteokinematics and joint arthrokinematics. The pool is an ideal place to improve mobility. As such, the athlete may discover that normal movement patterns occur earlier in the pool than in a gravity environment. This movement is similar to active-assisted range of motion on dry land, but the buoyancy of the water now supports the injured extremity, instead of having the limb supported by a pulley, wand, or clinician, as would be the case on land. The athlete is able to position himself or herself in a sport-specific position, thereby allowing familiar muscle length-tension relationships to occur throughout the upper extremity and trunk. Buoyant equipment may assist the movement initially and can be discontinued as active and resistive range-of-motion exercises are initiated.

Impaired Muscle Performance. Muscle performance may be impaired due to acute or chronic injuries, surgery, or pain for any reason. For those with an inability to elevate the limb against gravity, the upward assistance of buoyancy provides an opportunity for early intervention. Pool exercises can be progressed from assistive to resistive.

Traditional land-based, open-chain, cardinal-plane, shoulderstrengthening exercises such as flexion and abduction can be adapted to the pool. Also, combination patterns such as proprioceptive neuromuscular facilitation (PNF) diagonals can be used.

Impaired Proprioception. Most of the exercises can serve as proprioceptive exercises if the exercise technique is modified. Because the effects of gravity are minimized with immersion, the proprioceptive input from the force of gravity is negated. Thus, the pool is an ideal medium to retrain this sense. Active-repositioning exercises can be performed in a variety of positions. The athlete is asked to perform these exercises with the eyes closed and in a variety of postures and positions.

Cardiovascular Training. Using a pool for training, the athlete's goal of maintaining or improving cardiovascular function can be achieved while resting an injury. Because of the physiologic changes occurring with immersion, the athlete should train at a heart rate 17 to 20 beats per minute lower than on land. The rate of perceived exertion is often unreliable due to the effects of skill and comfort on perceived exertion.

As with any exercise session, an appropriate warm-up and cool down are essential. These should be performed in the pool and may consist of walking, bicycling, or performing calisthenics in the water, followed by stretching. A variety of cardiovascular exercises can be performed and may replicate a movement pattern used in the sport or challenge muscles specific to the sport. The fundamental guidelines for cardiovascular training should be at the core of program design. The minimum recommendation is 25 minutes, 5 times per week, while the elite athlete may need a longer training period, depending on the season and sport.

The program should be as sport specific as possible. Contraindications to cardiovascular training in the pool include all contraindications to similar training on land, as well as cardiac instability, fever, open wounds, and infectious diseases.

Core Body Strengthening. Core body strengthening is critical for every athlete. Core body strengthening is often overlooked, but it can easily be addressed in the pool.

Therefore, aquatic rehabilitative exercises provide an opportunity for the athlete to train in a gravity minimised environment while being immersed in a resistive medium. The unloading is critical as rehabilitation time can be minimised because safe and functional rehabilitation can be started immediately. This can minimise the injury and reduce recovery time. The aquatic-based programme offers an effective rehabilitation protocol for the athletes.

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Cardiac rehabilitation and exercise training in elderly

F. Latino, U. Conte

Abstract

The aim of this study was to determine the effects of cardiac rehabilitation and exercise training in the elderly with Cardiovascular Disease.

Cardiac Rehabilitation has evolved over the past decades from a simple monitoring for the safe return to physical activities to a multidisciplinary approach that focuses on patient education, individually tailored exercise training, modification of the risk factors and the overall well-being of the cardiac patients. It has been proven to be an effective tool for the care of the patients with heart disease. Recent research in cardiac rehabilitation has demonstrated that tremendous benefits can be derived from the optimal use of cardiac rehabilitation in patients with various cardiac pathologies including ischemic heart disease, heart failure and post heart surgery.

The benefits of cardiac rehabilitation include mortality reduction, symptom relief, reduction in smoking and improved exercise tolerance, risk factors modification and the overall psychosocial wellbeing. Despite its broadened applicability, cardiac rehabilitation remains severely underutilized, with only 10-20% of those eligible participating. Elderly, in fact, are frequently not referred to cardiac rehabilitation programs.

Keywords

Cardiovascular disease, cardiac rehabilitation, exercise training.

A recent scientific statement from the American Heart Association recognized the importance of physical activity in secondary prevention for patients with cardiovascular disease. This statement is based on the results of numerous clinical trials that have demonstrated that exercise training in individuals with cardiovascular disease has a positive impact on exercise tolerance, risk factor management, psychological well-being, and mortality risk.

The American Heart Association has established a sedentary lifestyle as a major modifiable risk factor for cardiovascular disease. Unfortunately, despite overwhelming evidence promoting an active lifestyle, approximately 70% of adults are sedentary or relatively inactive, and nearly half of young people are not regularly physically active.

Cardiovascular disease remains the leading cause of death in European, including those over the age of 65 years. An estimated 4,5 million European have one or more types of Cardiovascular Disease. These numbers support the ongoing need for chronic disease management in the elderly and the potential role cardiac rehabilitation may play.

The prescription of exercise for increasing physical activity and fitness for elderly patients with heart disease has been an essential component of secondary prevention for at least two decades. The basis for an exercise intervention in these patients includes improved functional capacity with reduced activity-related abnormal signs or symptoms. Increases of 10% to 60% in functional capacity and 10% to 25% reduction of myocardial work at standardized exercise workloads have been observed after 12 weeks of early exercise training after hospitalization. Extended periods of training have resulted in further gains, although modest, in these parameters.

Whether exercise training as a part of secondary prevention is associated with a reduction of events of morbidity or mortality. One study of older patients with heart disease and several others of older persons without known heart disease have suggested a positive impact of physical activity on mortality.

Exercise training and regular daily physical activities are essential for improving a cardiac patient's physical fitness. Improved fitness enhances a patient's quality of life and even can help older adults to live independently. Improved physical fitness also is associated with reductions in submaximal heart rate, systolic blood pressure, and rate-pressure product, thereby decreasing myocardial oxygen requirements during moderate-to-vigorous activities of daily living. Improved fitness allows patients with advanced coronary artery disease who ordinarily experience myocardial ischemia during physical exertion to perform such tasks at a higher intensity level before reaching their ischemic ECG or anginal threshold. Furthermore, improvement in muscular strength after resistance training also can decrease rate-pressure product (and associated myocardial demands) during daily activities, such as carrying groceries or lifting moderate to heavy objects.

The exercise program should promote all aspects of physical

conditioning, including aerobic capacity and muscular endurance, range of motion and flexibility, and muscular strength.

Modification of the components of the exercise prescription should be considered for elderly patients, particularly those ≥75 years of age and those with significant comorbilities that limit mobility (arthritis, pulmonary disease, and peripheral arterial disease). Increasing caloric expenditure and enhancement of functional mobility should be emphasized, as well as participation in activities that increase socialization with others. Prescription of aerobic exercise involves 4 factors: modes of activity, frequency, duration, and intensity (Tab. 1).

Contraindications to exercise training include unstable coronary or cerebral ischemia, decompensated heart failure, recent aortic dissection, uncontrolled and malignant hypertension, unstable medical conditions, and the inability to exercise due to musculoskeletal and neuromuscular disorders. The most common modes of aerobic exercise are walking, jogging, cycling, swimming, rowing, stair climbing, using elliptical trainers, and aerobic dancing.

EXERCISE PRESCRIPTION	
MODE	Aerobic exercise Walking, jogging, cycling, swimming, rowing, stair climbing, elliptical trainers, aerobic dancing
	Resistance training Hand weights, elastic bands, weight machines, calisthenics
FREQUENCY	Aerobic exercise Most days (at least 5 d/wk and preferably 6-7 d/wk
	Resistance training 2-3 sessions weekly (nonconsecutive days)
DURATION	Aerobic exercise At least 20-30 min (preferably 45-60 min)
	Resistance training 10-15 repetitions; 1-3 sets of 8-10 different exercises for both upper and lower body
INTENSITY	Aerobic exercise 50-75% of peak oxygen consumption or close to anaerobic threshold or 65-85% of maximal heart rate or 60-70% of heart rate reserve; 10-15 beats/min below the level of exercise-induced ischemia. The Borg Scale of Perceived Exertion can also be used.
	Resistance training Moderate intensity (should not be straining on last repetitions)

[Tab. 1] Exercise prescription in elderly with cardiovascular disease.

Recumbent cycles, treadmills, and recumbent combination arm/leg machines are commonly available in cardiac rehabilitation programs. Resistance (strength) training 2 to 3 times weekly on nonconsecutive days, consisting of 8 to 15 slow repetitions to moderate fatigue using 8 to 10 different exercises for both upper and lower body, has been shown to be safe and to improve strength and quality of life for our patients. Resistance training may also reduce fractures and falls in elderly patients and improve insulin sensitivity and glucose metabolism.

Patients should be advised to exercise for at least 30 minutes (preferably 45-60 minutes to provide more caloric burning) on most days (at least 5 and preferably 6 or 7 days per week). In cardiac rehabilitation programs, we usually provide intensity recommendations on the basis of cardiopulmonary stress test results, ie, the target heart rate is set close to the anaerobic or ventilatory threshold (60%-70% of peak oxygen consumption). In patients with an exercise stress test performed without gas exchange, the target heart rate is set at 65% to 85% of the maximal heart rate or 60% to 70% of the heart rate reserve and at least 10 beats/min below the level of any exercise-induced symptomatic or silent ischemia. In patients who are able to prove that their heart rate corresponds to a certain level of perceived exertion, the Borg Scale of Perceived Exertion can be used to more easily monitor exercise intensity.

Cardiac rehabilitation is undoubtedly an essential component of the contemporary treatment of patients with coronary disease and heart failure.

Therefore, exercise training has the potential to act as a catalyst for promoting other aspects of rehabilitation, including risk factor modification through therapeutic lifestyle changes and optimization of psychosocial support. Similarly, among patients who are elderly, such outcome measures may include the achievement of functional independence, the prevention of premature disability, and a reduction in the need for custodial care. Despite limited data, older patients have shown improvement in their exercise tolerance comparable to that of younger patients participating in equivalent exercise programs. In addition, the safety of exercise within cardiac rehabilitation programs is well accepted and established.

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Coronary flow and physical activity

F. Latino, U. Conte

Abstract

Inactivity is one of the major risk factors for heart disease. However, exercise helps improve heart health, and can even reverse some heart disease risk factors.

A sedentary lifestyle is one of the top risk factors for heart disease. Fortunately, it's a risk factor that you can do something about. Regular exercise, especially aerobic exercise, has many benefits.

Like all muscles, the heart becomes stronger as a result of exercise, so it can pump more blood through the body with every beat and continue working at maximum level, if needed, with less strain. The resting heart rate of those who exercise is also slower, because less effort is needed to pump blood. A person who exercises often and vigorously has the lowest risk for heart disease, but any amount of exercise is beneficial. Studies consistently find that light-to-moderate exercise is even beneficial in people with existing heart disease. Note, however, that anyone with heart disease or cardiac risk factors should seek medical advice before beginning a workout program. The known benefits of regular aerobic exercise and current recommendations for implementation of exercise programs are described in this revised report.

Keywords

Physical exercise, rehabilitation, cardiovascular disease, coronary flow

Morfo-functional fluctuations of coronary vessels and coronary illness constitute the principal causes of death and invalidity in industrialized Countries.

Full cardiac rehabilitation comprises training, counseling, appropriate medical and surgical treatment, suitable nutrition, abstention from smoking, maximum check of hematic lipids and blood pressure and a physical exercise program. These items all constitute a vital part of the therapy to be adopted in the case of patients who are post-infarct or have undergone a coronary by-pass. Over the past 30 years, physical training has become the most effective part of rehabilitation and it has been the target studied by researchers.

Taken strictly from a physical point of view, rehabilitation is initiated at the end of hospitalization and takes up physical activity from where it was left prior to cardiac disease or in cases where patients have led sedentary lifestyles. Such activity is slow and the intensity is established on the basis of stress tests to be effected within the first two months of the event. In order to guarantee safe and efficient rehabilitation, as well as to ensure compliance, it is necessary to know the patient's health risks. In practice by taking into consideration myocardial ischemia, the functioning of the left ventricle of heart, the clinical course of the illness during hospitalization and the result on stress tests, it becomes possible to categorize patients according to risk factors:

– Low-risk patients :
– Intermediate Risk Patients:
– High-Risk Patients:

On the basis of the patient's history, laboratory and instrumental tests, functional capacity, and also the patient's risk probabilities as well as the patient's personal expectations, it is possible to prescribe one of the following rehabilitation programs which also includes a physical exercise plan:

a) Hospitalization;
b) Out-patients;
c) A mixture of both: Hospitalization and Out-patients;
d) Personalized (varying according to degree of complication).

Cardiological Rehabilitation is divided on the basis of risk conditions of the patient and the degree of illness, the type and duration of treatment:

Intensive Rehabilitation (Tab. 1): Treatment applied to patients at intermediate-high risk levels in acute and post-acute phases of the illness and periodic reassessment on a long-term basis for patients at high risk. This type of rehabilitation is mainly carried out as hospital stay.

INTENSIVE REHABILITATION		
Days	Mobilization	Other activities
1st day	Supine to 30°-45°; Breathing Exercises; Passive exercises.	
2nd day	Free exercises	Washing yourself partially; Eating by yourself.
3rd day	Active exercises (5-10 reps twice daily); Chair 15'	Washing to the sink while seated
4th day	Active exercises; Chair 30'; Walking around bed	Washing to the sink
5th day	Active sitting exercises	Eating at the table
6th day	Active standing exercises; Walking in the room	Eating at the table
7th day	Active standing exercises ; Walking in the room + 6 steps	Going to the bathroom with supervision

[Tab. 1] Intensive rehabilitation.

Intermediate Rehabilitation (Tab. 2): Treatment applied to patients at intermediate-low risk levels in post-acute phase of the illness and periodic reassessment on a long-term basis for patients at intermediate and high risk. This type of rehabilitation is carried out either at home or in out-patients rehabilitation centres. To obtain maximum benefit from a training program patients must carry out exercises which involve the muscles of the entire body and are repeated on a regular basis: maximum attendance should be three times a week, alternate days, to allow full recovery. Physical training must be controlled via Telemetry.

Extensive Rehabilitation (Tab. 3): The main aim of this phase is to allow the patient to improve his physical condition. Patients enter this phase once their health is resumed from a medical point of view and the objectives of the therapy by means of physical exercise have been accomplished. After 2-6 weeks of convalescence at home, the patient can then begin the real phase which is maintaining the rehabilitation treatment. Besides the training program, patients should be advised about *stress* treatment, abstention from smoking, diet and weight loss. The duration of this phase is about 3-6 months.

INTERMEDIATE REHABILITATION		
1st Week	Warm-up	Breathing Exercises: 5 minutes
	Exercise	Free standing exercises, 1st level: 10 min Stretching Cyclette: 10 minutes
	Warming down	Cool-down: 5 minutes
2nd -3rd Weeks	Warm-up	Breathing Exercises: 5 minutes
	Conditioning	Free standing exercises, 1st level: 10 minutes Stretching Cyclette 25 watt: 20 minutes or treadmill 2.7 Km/h
	Cool-down	Cool-down: 5 minutes

[Tab. 2] Intermediate rehabilitation.

The program has to be adapted to the patient according to various elements which are, in order of importance, the patient's age, sex, associated pathologies, muscle-skeletal situation, motivation and acceptance of physical exercise, and last, but of not least importance, the results of the ergometric tests and categorization of final risk. Sessions are organized either on a daily basis or three times a week: daily sessions are necessary for elderly patients and for those who require a very gentle progression of the training regime. Exercises will include free standing exercises and bicycle sessions or treadmill. On the basis of level of tolerance of these exercises in the case of strain, a program can be designed. It is, nonetheless, counterproductive to make the patient work intensively against his will in as much as the patient's functional capacity will improve with both brief periods of intensive training and long periods of less intensive training. It is always worth remembering that the principle of training is reached when the exercise is brought almost to the limit of the anaerobic threshold – Low-Intensity Exercise= <40%VO_2 max – Moderate Intensity Exercise = <60% VO_2 max. As it is not possible to directly measure the $V0_2$ max value the maximum heart rate reached will be used with the ergometric test and two possible criteria will be considered: the percentage of the maximum heart rate and Karvonen formula. In the first case the cardiac frequency between 50% and 80% interval of max heart rate is to be maintained, while in the second case we will get the heart rate range, taking into account the basal heart rate.

The patient is actively involved in his rehabilitation recovery, either by teaching him to measure pulse and count his heart rate, or either by utilizing an *effort intensity scale* like the Borg Scale. The session begins with a warm-up phase, including gentle body exercises mainly muscular stretching exercises, after which endurance training or interval training is carried out. This last type of training is very useful to patients who suffer from: Angina pectoris, under-trained, Aged, patients with left ventricular contractile dysfunction. Continuous training guarantees maximum recovery of functional capacity and this is evident from testing at Ergometric Bicycle or at the treadmill. Endurance training is the form of exercise which allows the maximum increase of aerobic capacity.

EXTENSIVE REHABILITATION		
4th-12th Weeks	Warm-up	Breathing Exercises: 5 minutes Free standing exercises, 1st level: 5 minutes
	Conditioning	Free standing exercises, 1st and 2nd level Stretching Cyclette or treadmill: 20 minutes with incremental workload in order to maintain training heart rate measured during stress test Walking (300 m) + 2 stairs
	Cool-down	Breathing Exercises: 5 minutes Free standing exercises, 1st level: 5 minutes Stretching

[Tab. 3] Extensive rehabilitation.

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Pulmonary rehabilitation in patients with COPD

F. Latino, U. Conte

Abstract

Pulmonary rehabilitation is considered to be the "gold standard" of treatment for people with COPD. Pulmonary rehabilitation programs use multidisciplinary teams to optimize physical and social functioning of patients with chronic respiratory impairment. These programs provide rehabilitation in inpatient, outpatient, or home settings, using at least three sessions weekly (one may be unsupervised) for at least 6 wk. The programs usually consist of exercise training, education, and psychosocial/behavioral components. Upper extremity exercises and instruction on breathing technique are included in most rehabilitation programs and reduce dyspnea. Decreases in the sensation of dyspnea, increased functional exercise capacity, and enhanced quality of life of patients with chronic obstructive pulmonary disease (COPD) are established benefits of pulmonary rehabilitation. However, Pulmonary Rehabilitation is appropriate for any patient with a stable chronic pulmonary disease, whose respiratory symptoms give rise to a disability.

Keywords

Chronic obstructive pulmonary disease, Pulmonary Rehabilitation, Exercises.

Chronic obstructive pulmonary disease (COPD) is one of the leading causes of morbidity and mortality in Europe. It is a debilitating lung disease that affects 14 million persons, and it is the fourth leading cause of death. In addition to smoking cessation and medical treatment, the American Thoracic Society guidelines recommend rehabilitation for COPD patients with continued respiratory symptoms despite medical treatment and for patients with limited functional capacity.

Chronic obstructive pulmonary disease is characterised by poorly reversible airflow limitation and dyspnoea. As the disease progresses, some patients develop systemic manifestations, including exercise limitation, peripheral muscle dysfunction, pulmonary hypertension, malnutrition and recurrent exacerbations leading to hospitalisations. Due to the lack of effect of most therapies on the decline of lung function, COPD is perceived as being poorly responsive to treatment. However, several studies have identified in Pulmonary rehabilitation the way to improves quality of life and exercise capacity in clinically stable patients with COPD.

Pulmonary rehabilitation is defined by the American Thoracic Society and the European Respiratory Society as a comprehensive intervention based on a thorough patient assessment followed by patient tailored therapies that include, but are not limited to, exercise training, education, and behavior change, designed to improve the physical and psychological condition of people with chronic respiratory disease and to promote the long-term adherence to health-enhancing behaviors. Exercise reconditioning is the key to a successful rehabilitation Program. Patients with chronic obstructive pulmonary disease often decrease their physical activity because exercise can worsen dyspnea. The progressive deconditioning associated with inactivity initiates a vicious cycle, with dyspnea becoming problematic at ever lower physical demands. People with chronic lung disease can get stuck in a vicious cycle of inactivity (Fig. 1). In this context, pulmonary rehabilitation is therefore considered beneficial and effective for COPD patients, since it mitigates each of these conditions and can interrupt deterioration process. Initiation of exercise rehabilitation during or immediately after admission for acute on chronic respiratory failure reduces the extent of functional decline and hastens recovery.

The challenge is to design a training program that stimulates the cardiovascular system and the skeletal muscle so that physiological adaptations in the skeletal muscle are induced that reverse the deleterious impact of deconditioning and other systemic manifestations of COPD that impact skeletal muscle.

[Fig. 1] Vicious cycle of inactivity in patients with COPD.

Pulmonary rehabilitation programs may improve quality of

life by reducing shortness of breath, increasing exercise tolerance, promoting a sense of well-being, and, to a lesser extent, decreasing the number of hospitalizations. However, these programs do not significantly improve survival.

Pulmonary rehabilitation programs are usually conducted in an outpatient setting or in the person's home. Inpatient services often take place in special rehabilitation centers. Inpatient services are used mainly for people who are recovering from a hospitalization, often because of a severe lung problem. These people are often not stable enough to go home but no longer require care in an intensive care unit.

The most successful rehabilitation programs are those in which services are provided by a respiratory or physical therapist, a nurse, a doctor, a psychologist or social worker, and a dietitian working as the pulmonary rehabilitation team to coordinate complex medical services. Most people are enrolled in these programs for 8 to 12 weeks. However, the techniques learned during the program have to be continued at home after the rehabilitation program ends or the gains made will be lost. Supportive respiratory therapy, which includes oxygen therapy and chest physical therapy, can be used in conjunction with pulmonary rehabilitation. The frequency, intensity, and specificity of exercise sessions are considered the main determinants of the training effect.

Current recommendations for exercise training intensity for patients with COPD include exercising at a 'maximally tolerable level', at an intensity corresponding with 50% of peak oxygen consumption (VO^2 peak), or at 60–80% of peak power output obtained on a symptom-limited exercise tolerance test. In general, it appears that higher intensity training elicits greater physiological change than lower intensity training; however, there is no consensus as to the exercise training intensity that elicits the greatest physiological benefit while remaining tolerable to patients.

The 'optimal' intensity of training likely depends upon the individual goals of each patient. If the goal is to increase the ability to sustain tasks that are currently able to be performed, lower to moderate-intensity training is likely to be sufficient. If the goal of training, however, is to increase the ability to perform tasks that are above the current level of tolerance, higher intensity training is likely to elicit greater performance increases. In order to perform higher intensity exercise, an interval training model is likely required. High-intensity interval training involves significant anaerobic energy utilisation and, therefore, may better mimic the physiological requirements of activities of daily living. Also, high-intensity interval training is tolerable to patients and may, in fact, reduce the degree of dyspnoea and dynamic hyperinflation through a reduced ventilatory demand. Another factor that will determine the optimal intensity of training is the relative contribution of ventilatory limitation to exercise tolerance. If peak exercise tolerance is limited by a patient's ability to increase ventilation, it is possible that interval training at an intensity higher than peak will elicit greater muscular adaptation than an intensity at or below peak power on an incremental exercise test.

Exercise can be divided into three basic types:

Stretching: This is the slow lengthening of the muscles. Stretching the arms and legs before and after exercising helps prepare the muscles for activity and helps prevent injury and muscle strain. Regular stretching also increases your range of motion and flexibility.

Cardiovascular or aerobic: This involves a steady physical activity using large muscle groups. This type of exercise strengthens the heart and lungs, and improves the body›s ability to use oxygen. Over time, aerobic exercise can help decrease your heart rate and blood pressure, and improve your breathing. Aerobic exercises include walking, jogging, bicycling and low-impact aerobics or water aerobics.

Strengthening: This involves repeated muscle contractions (tightening) until the muscle becomes tired. Strengthening exercises for the upper body are especially helpful for people with COPD, as they help increase the strength of your respiratory muscles.

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Health benefits of physical activity and prevention in patients with obesity

F. Mazzeo, U. Conte

Abstract

Exercise reduces the risk of other chronic diseases. Correlational studies show that excessive body weight has been shown to predispose to various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, sleep apnea and osteoarthritis. Moreover, a large number of medical conditions have been associated with obesity and both metabolic. Especially obesity is epidemic and leads to substantial morbidity/mortality. Obesity is a condition in which the natural energy reserve, stored in the fatty tissue of humans and other mammals, exceeds healthy limits. Excess adiposity increases mortality. Between 1980 and 2000, national obesity rates for adults and children ages 60 to 11 doubled, rising from 15 to 30 percent for adults and from 7 to 15 percent for children. Among adolescents ages 12 to 19, the percentage of overweight nearly tripled, from 5 percent to 14 percent Just as striking, 61 percent of overweight 5-to-10-year-olds already have at least one risk factor for heart disease, and 26 percent have two or more risk factors. Researchers showed that diet and exercise are known to play a valuable role in the treatment and prevention of obesity and associated disorders.

The clinicians and physiatrist is the most well prepared of all the specialists to address the complex, multidimensional problems of obesity and inactivity.

Keywords

Physical activity; obesity; health.

Despite the information that the benefits of regular physical activity are widely known, the choice of a sedentary lifestyle is increasing in frequency.

Results of most studies showed that exercise has a small independent effect on body weight that is typically less that 3% of initial body weight but has a significant additive effect when combined with caloric restriction. Even small amounts of weight reduction have been associated with significant reductions in cardiometabolic risk factors.

The most recent study from the Centers for Disease Control and Prevention (CDC) estimates that 112,000 deaths are associated with obesity each year. Moreover, three-quarters of these deaths occur in people age 70 or younger. There is also evidence that exercise reduces the risk of other chronic diseases, including obesity, type 2 diabetes, osteoporosis, depression, and cancer of the breast and colon. Furthermore most adults do not realize the recommended levels of physical activity, including patients with obesity. Obesity has been thought to simply be related to an imbalance between energy intake and expenditure. Obesity is epidemic and leads to substantial morbidity/mortality. Excess adiposity increases mortality. Moreover, a large number of medical conditions have been associated with obesity and both metabolic and behavioural factors play a role in the development of obesity. Health consequences are categorized as being the result of either increased fat mass (osteoarthritis, obstructive sleep apnea, social stigma) or increased number of fat cells (diabetes, cancer, cardiovascular disease, non-alcoholic fatty liver disease). A basic population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his/her height (in metres). A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight. Mortality is increased in obesity, with a BMI of over 32 being associated with a doubled risk of death.

As showed some benefit can be obtained with a minimum of 30 minutes of moderate-intensity physical activity most days of the week. However, 30 minutes per day of regular activity is insufficient to maintain body weight in adults in the recommended body mass index range from 18.5 up to 25 kg/m 2 and achieve all the identified health benefits fully. Therefore to prevent weight gain as well as to accrue additional, weight-independent health benefits of physical activity, 60 minutes of daily moderate-intensity physical activity (eg, walldng/jogging at 4 to 5 mph) is recommended, in addition to the activities requisite by a sedentary lifestyle.

Childhood obesity is a significant health problem that has reached epidemic proportions around the world and is associated with several metabolic and cardiovascular complications. One principal predictor of adult obesity is childhood obesity. Insulin resistance is a common feature of childhood obesity and

is considered to be an important link between adiposity and the associated risk of type 2 diabetes and cardiovascular disease. Practically children, adolescents, but also adults, introducing a surplus of how many calories they actually need for their bodies. Furthermore a large number of medical conditions have been associated with obesity: hypertension, type2 diabetes, metabolic syndrome risk factor. Recently, observational epidemiologic studies suggest that daily setting time or low no exercise activity levels may have a significant relationship with risk factors. Diet and exercise are known to play a valuable role in the treatment and prevention of obesity and associated disorders.

To establish a fundamental link between exposure to a diet component and weight gain and obesity should be based on all available lines of evidence, i.e. feeding studies in experimental animals, observational and longitudinal human studies.

Obesity is frequently associated with low physical fitness as a result of inactivity, and increases in energy expenditure can create a negative energy balance that leads to a reduction in body fat. One important point is that the goal of exercise need not be cardiovascular fitness, an outcome that often requires a level of intensity that overweight or obese patients may not be able to achieve. Any exercise will increase energy expenditure and consequently create some negative balance. The combination of diet and physical activity results in a greater weight loss compared with diet or exercise alone. There also seems to be some evidence that although diet alone will achieve greater weight loss, that physical activity alone is associated with maintaining weight loss better than diet alone.

In an obesity treatment programmed physical activity sport, performed in a continuous and regular induce beneficial effects on weight control, regulation of energy, the respiratory and cardiovascular function. Exercise reduces the levels of insulin, improves lipidemia, reducing cholesterolemia, raises the HDL / LDL and reduces blood pressure. Physically active people have 33-50% lower risk of developing type 2 diabetes compared with in-active people.

Physical activity is defined as "bodily movement that is produced by the contraction of muscle and that substantially increases energy expenditure.

Physical activity:

- Is a key determinant of energy expenditure, and thus is fundamental to energy balance and weight control.
- Reduces the risk of coronary heart disease, Type II diabetes and stroke
- Reduces the risk for colon cancer and breast cancer among women

The many variables that are important to examine in any exercise and obesity study include the degree and type of caloric intake modification; the duration of study; adherence to a program; and the type, volume, and intensity of exercise.

Generally, the goal is caloric expenditure, which is best achieved in most people by exercise that is moderate in intensity and low impact, such as brisk walking or cycling, and used for a longer duration and frequency. Such exercise must involve a long-term commitment by the individual to achieve and maintain the weight loss. Body composition and fat distribution are linked to cardiovascular mortality and are improved by exercise. The management of obesity through exercise, nutrition, supplementation, and medical intervention are at the forefront of research.

Indeed, encourage dietetics professionals to be much more cognizant of the role physical activity plays in overall health. Clinicians should educate their patients on reasonable expectations of weight loss based on their physical activity program and emphasize that numerous health benefits occur from physical activity programs in the absence of weight loss.

Less Vigorous activity, more time	More Vigorous activity, less time
Washing and waxing a car for 45-60 min	Swimming laps for 20 min
Washing windows or floors for 45-60 min	Playing wheelchair basketball for 20 min
Playing volleyball for 45 min	Playing basketball for 15-20 min
Playing touch football for 30-45 min	Bicycling 4 miles (6.4 km) in 15 min
Gardening for 30-45 min	Jumping rope for 15 min
Wheeling self in wheelchair for 30-45 min	Running 1.5 miles (2.4 Km) in 15 min
Basketball for 35 min	Stair walking for 15 min
Dancing fast (social) for 30 min	
Water aerobic for 30 min	

[Table 1] Examples of moderate amount of physical activity.

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Coordinative and collaborative abilities for disabled athletes special olympics

P. Montesano, S. Bouchè

Abstract

The purpose of the research was to assess the ability of coordinative and collaborative Special Olympics for disabled athletes. The work has been developed by the Course of Sport and Disability, Department of Motor Science and Wellness, University of Naples Parthenope, as part of the second phase of the Project School Unici and Pari Special Olympics Italy. The study was developed as part of the game of football on a sample of 24 athletes (16-18 years), including 12 young people with intellectual disabilities supported by a group of able-bodied partners.

Method

The athletes, already participating in the first phase of the study of conditional capacity, they performed the following tests of coordination: the launch of the soccer ball in both hands (Throw), passing the ball with your dominant foot, shot on goal. The data collection was carried out over a period of five months with initial projections, intermediate and final into indoor football fields with a ball number 4. Athletes and partners were divided into group A and group B as for other tests for the assessment of motor skills.

The purpose of this study was to investigate the performance related to eye-hand motor coordination and eye-breech by detecting the percentage of the basic passing and shooting during the collection of field tests of an indoor stadium approved.

Result and Conclusion

The final data, recorded at the end of the second phase of the project, have shown positive results particularly for athletes of group B who participated in 10 meetings over the extra two hours of physical education during school hours. The intermediate survey of group B showed an increase in percentage quantifiable around about 4% while the end result showed an overall improvement rate of almost 6%.

Keywords

Disability, coordinative abilities, passes, shots, football.

Introduction

The Special Olympics, which belongs to the IPC section-International Paralympic Committee, offers millions of disabled youth and adults the possibility of doing some sports and avails itself of the contribution of family members who are directly involved and of those who, every year, help organize thousands of events all over the world. This international organization established aims, through sport, to facilitate the social integration of people with intellectual disabilities and mental (Pfanner, Marcheschi 2005).

The physical abilities of athletes-distinguished in coordination and conditioning abilities-are always evaluated according to their performance and their success both as individual and as a team (Magni, 2009; Weineck, 2001).

The purpose of this study was to investigate the performance related to eye-hand motor coordination (Barnes, Marsden 2002) and eye-breech by detecting the percentage of the basic passing and shooting during the collection of field tests of an indoor stadium approved.

Methods

The research objectives were to promote social inclusion through sport and the verification of the educational value of sport for the improvement of school performance.

The study, conducted with an observational method and manual detection with the administration of the test (Marella, Risaliti 2007), was carried out with a total sample of 24 subjects, 15 males and 9 females, including 12 disabled athletes, 9 males and 3 females, and 12 partners, 6 males and 6 females. Athletes and partners, between the ages of 16 and 18 years, have passed the examination of sports medicine for competitive sports.

The experiment was carried out over a period of five months by dividing the participants in the same groups A and B made

to ascertain the conditional capacities. The first period, lasting 15 days, was essential for the preparation to the tests coordinative. In the second, lasting about 100 days, group B has attended 10 sessions of exercise in addition to the additional 2 hours of Physical Education during school hours which would normally have been frequented by members of the group A of control. In the third period, lasting a month, final measurements were made.

Materials and Equipment

- Football field for (players) (28m x 15m)
- 8 football balls for 5 n. 4
- Cones
- Signal flags
- Football strips composed of T-shirt, shorts and knee high socks
- Chronometer
- Survey grid

Results

The project participants have claimed an initial screening and then were divided into two groups. Group A consists of athletes partner with the best performance while group B consists of subjects with lower parameters. The survey data intermediate to ascertain the coordination skills of group B, showed a percentage increase performance by about 4%.

The final results, obtained at the end of the activity, have denoted the percentage improvement of about 6% for group B, confirming the validity of the proposed additional training. Athletes and partners of group A as well as a percentage improvement in performance (Schalock, 1991), showed a greater motivation and concentration both in training and in daily school activities.

Conclusion

The participation of children in the second phase of the project Unici and Pari Special Olympics Italy showed a greater collaboration between partners and athletes, aged between 16 - 18 years, favored from the execution of collective exercises consist of mini soccer games to five. The division into two groups has stimulated the engagement and concentration of the B group that wanted to improve test results through the exercise of passing and shooting (Vatta, 2006), accepting with enthusiasm the 10 additional training sessions in addition to two hours of physical education during school hours. All participants has been issued by sports doctors, the medical certification of fitness-sports for sports competitions.

The objectives related to the increase in the percentage of passing and shooting through the improvement of conditional and coordinative abilities have been achieved. The chosen sport, soccer uniform (Hutzler, Barak, 2013), has been practiced on indoor courts. E 'was also found that the improvement of interpersonal relationships and collaboration within the team and this result is very important for the integration of disabled people. (Angermeyer, Kilian, 1997).

Discussion and perspective

The sport can be a beautiful and rewarding experience, it can promote the maturation and growth, can improve self-image and personal safety.

The sport for athletes with disabilities (Filoramo Bal, 2007) must be organized between individuals with the same degree of disability in order to not bring out significant differences between the participants, but encouraging growth and stimulating enthusiasm for the comparison and the development of collaborative skills and relationships

The model of teamwork Special Olympics can succeed in schools that facilitate awareness-raising and training for volunteer work for students without disabilities, the project partners, and for the entire school staff, giving an important social and educational value to the sport (D'Intino, Oronzo, Di Marco, 2005) in consideration that are more than four million athletes involved in Special Olympics activities in approximately 170 countries around the world.

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The european and italian regulation on food supplements

S. Santamaria, F. Mazzeo

Abstract

Food supplements are concentrated sources of nutrients or other substances with a nutritional or physiological effect which serve to supplement the normal diet. Dietary supplements are widely used at all levels of sport.They are marketed in the form of "doses" and can be used to correct nutritional deficiencies or maintain an adequate intake of certain nutrients even if the excessive intake of vitamins and minerals can be harmful or cause side effects. Faced with disparate regulations of its member countries, the European Commission has established harmonized standards to help ensure the safety and proper labeling of food supplements. EU food supplements are regulated by the legislation on foodstuffs and rules affecting mainly vitamins and minerals used as ingredients in dietary supplements. The main provisions of the EU about are contained in Directive 2002/46/EC on food supplements containing vitamins and minerals that has been implemented in Italy by Legislative Decree n. 169/2004.

Keywords

Food, dietary supplements, directive.

Nutrition has been perceived as an essential component of the physical performance since people began sports competition. The progress in the last few decades in the understanding of the human metabolism and of the physical exercise physiology made clear that a variation of the nutritional intake may increase positively sport performance. Athletes should carry out a cost-benefit analysis for any supplement they propose to use.

Moreover, the food supplements sector is regulated, at the European level, by the Directive 2002/46/EC, as amended, which was created with the aim of ensuring both a high level of protection of public health, and to allow the free circulation of these products, ensuring also, through adequate and appropriate labeling, better consumer protection. In the preamble to the Directive states that it is increasing the sale of foods containing concentrated sources of nutrients and presented as supplements of nutrients from the normal diet and that the countries of the European community adopt different regulations that may slow down the free circulation of the said products and adversely affect competition. This Directive arises, therefore, as the objective of approximating the laws of the Member States with respect to dietary supplements. The main principles from which to start are that an adequate and varied diet could provide all necessary nutrients for normal development and maintenance of the healthy life and in the presence of particular lifestyle or for other reasons, the consumer may choose to supplement their intake of some nutrients through food supplements but an excessive intake may result in adverse effects and therefore necessitate the setting of maximum safe levels for them in food supplement, as appropriate. The maximum amounts of vitamins and mineral in food supplements per daily portion of consumption as recommended by the manufacturer shall be set, taking the following into account: the upper safe level of vitamins and minerals established by scientific risk assessment based on generally accepted scientific data, taking into account, as appropriate, the varying degrees of sensitivity of different consumer groups and the intake of vitamins and minerals from other dietary sources. You must take into account also the reference values for vitamins and minerals for the population.

The definition provided by the Directive is as follows *"Food supplements" means foodstuffs the purpose of which is to supplement the normal diet and which are concentrated sources of nutrients or other substances with a nutritional or physiological effect, alone or in combination, marketed in dose form, namely form such as capsules, pastilles, tablets, pills and other similar forms, sachets of powder ampoules of liquids, drop dispensing bottles, and other similar forms of liquids and powders designed to be taken in measured small unit quantities.*

With regard to labeling, it expressly refers to Directive 2000/13/EC. Adds, nevertheless, that the labelling, the presentation and the advertising must not attribute to food supplements the property of preventing, treating or curing a human disease, or refer to such properties. Also, it is forbidden to say that a healthy and balanced diet is not able to make nutritive substances in sufficient quantities. The labeling, in fact, shall contains the name of the categories of nutrients or substances that characterize the product or an indication of the nature

of those nutrients or substances, the portion of the product recommend for daily consumption, a warning not exceed the stated recommended daily dose, a statement to the effect that food supplements should not be used as a substitute for a varied diet, a statement to the effect that the products should be stored out of the reach of young children. The Directive also provides that in order to protect the consumer, it is possible that Member States may require that the manufacturer or the person responsible for placing on the market in their territory shall inform the competent authority about such marketing, sending a sample of 'label of the product itself.

With regard to Italian legislation, the first act was the Legislative Decree No. 111 of 1992 implementing Directive 89/398/EEC laying down rules on of the only products intended for particular nutritional uses, such as foods for infants and products dietary and that also included dietary supplements and foods containing added vitamins and minerals. Later, in 2004 the Legislative Decree n. 169 has implemented Directive 2002/46/EC. Article 7 of the Decree provides that in case of supplements touted as adjuvant hypo caloric diets aimed at weight reduction, it is forbidden any reference to the timing and amount of weight loss resulting from the intake of the aforementioned supplements. Indeed, the advertisements must invoke the need to follow, in any case, an adequate hypo caloric diet and remove sedentary lifestyles. Moreover, in case of presence of other ingredients such as plants or other natural substances, the advertising must contain the warning that may be incurred in the unwanted side effects. For the purpose, also, of the first marketing of the supplements, the undertaking concerned shall inform the Ministry of Health by forwarding it a model of the label used for the product. For foreign products, the marketing is only allowed 90 days after the receipt of the label, without any observation of the Ministry. In the case in which the Ministry has doubts on the safety of the product, it may request additional documentation and may request that changes are made-labeling, as well as the inclusion of some warnings. The product has received marketing authorization will be entered in a special register that the Ministry of Public Health and constantly updated. If, however, the Ministry believes that the product is dangerous for your health, prohibits the marketing and immediately inform the European Commission. Finally, the Decree, Article 15 provides for a series of penalties for violations of its provisions. Decree 169 was supplemented by the Decree of the Ministry of Health of 09/07/2012 which allows the use of substances and preparations listed in the annex to the decree. In 2006 the EC Directive n.1925 on foods with added vitamins and minerals. At the same time the EC Directive was enacted n.1924 on nutrition and health claims provide the products supplied, the so-called claims, which apply to all foods, including supplements. A nutritional claim suggests a food has beneficial nutritional properties, such as "low fat", "no added sugar" and "higher in fiber". A health claim is a statement that suggests a relationship between food and health. This Directive, however, considers supplements, only those products that do not have a significant impact on food intake in terms of energy, ie calories. Therefore, the products previously considered as "energy supplements" and "protein supplements" to caloric significant impact, such as the bar that are consumed by athletes, are excluded from the scope of Directive EC 1924, falling within the scope of Directive EC 1925.To try to make things clear, in the Italian Ministry of Health has issued the Circular of 11/05/2009 - replacing the previous circular of 11/30/2005 - whose Annex I is devoted to products intended to meet the intent muscular effort, especially for sportsmen. According to the said Annex, the products must submit a composition nutritionally adapted to the particular needs of sportsmen and be appropriate for the specific uses for which they are proposed. If there are vitamins and minerals, the content of the portion should not be less than 15% of its RDA. In any case, through self-control plans should be excluded even in the presence of traces of possible doping contaminants and/or substances included in the list referred to in Law no. 376 of 2000 relating to the regulation of the health protection of sport and the fight against doping. As a general rule, formulated products to meet the specific nutritional needs of athletes can be traced to the following categories: energy products, protein-concentrated amino acids to support the nitrogen demand, products intended to replenish the losses idrosaline due to profuse sweating, other products specifically adapted.

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Dancing beyond the differences

R. Scarpa, G. Raiola

Abstract

Dancing is one of the innate human expressions and the birth of humanity that man began to move, using body movement to express the deepest emotions or to express the folklore of his country, but it is in Egypt that we began to talk of choreography based on rhythms by clapping their hands and than began to talk about the correlation between music and movement. It's in the 1896 in the first Athens' Olympiad dance matured the desire to get closer to competition by Pierre de Cubertin and so the first completion began, so-called "dance marathon", which spread to Italy at the early nineteenth century. The work with the disabled came to life in dance and is now known to consider how dance can help to smooth out the differences and to promote cohesion and participation in the group, in the realization of a sport healthy and of a healthy competition. This is a preliminary work, the method used was theoretical-argumentative. Preliminary results show of certain points to see at the first line, next to other sports and other federations, the FIDS opening the sport to the disabled, showing a highly inclusive for certain types of disabilities, moving towards the aim of ensuring a philosophy the combination music / dance can help people with physical or mental limitations to overcome their problems and to excel where there is a passion. The Choreographic Team (dance's group choreography), is a discipline in which the dance's group is held together by an invisible thread that is the choreography and the group itself is broken up into small groups and in which the level of motor coordination of individual members must be such as to ensure the performance of a set of fluid movements. This example shows, dance's group choreography may be possible. The movements are coordinated, the choreography is developed, the disabilities are integrated.

Keyword

FIDS, integration, inclusion, dislabed people

Introduction

Dancing is one of the innate human expressions and the birth of humanity that man began to move, using body movement to express the deepest emotions or to express the folklore of his country, but it is in Egypt that we began to talk of choreography based on rhythms by clapping their hands and than began to talk about the correlation between music and movement. It's in the 1896 in the first Athens' Olympiad dance matured the desire to get closer to competition by Pierre de Cubertin and so the first completion began, so-called "dance marathon", which spread to Italy at the early nineteenth century (AA. VV. 2005).

In 1925, Camille De Rhynal, French dancer and choreographer, developed a system of dance competition, organized by national associations of amateurs and professionals though, out of England, began to rise to the relevant bodies for the organization of races and championships (Rullens. Danceplaza. com). It was the 3rh of December in 1935 that some national associations gave rise to the first organization of amateur dance, the FIDA (Federation Internationale de Dance pour Amateur), that checked all international competitions until 1939. Soon it came to its closure and amateur dance was abandoned, until 1956 a German founded the ICAD (International Council of Amateur Dancers). Despite the many associations belonging to this organization the difficulties did not cease, but for the first time was granted all'ICAD the organization and control of international championships, and these led to a general improvement of the situation and was promoted the recognition of Dance Sport by CIO (International Olympic Committee).

In 1990,this recognition led to the ICAD changing its name to IDSF (International Dance Sport Federation),it was the transition of the Dance in the sport. In 1996 in Italy, it was founded the FIDS (Italian Dance Sport Federation), the only federation recognized the Olympic Committee (CONI) to organize the instructions of Sporting Dance; in 1997 the CONI recognized this association as "associated discipline" but it was only in 2007 that was recognized as National Sports Federation (www.federdanza.it).

The FIDS regulates and organizes various disciplines:

Couple Dancing:
- International Standard, Latin American, Jazz, Caribbean, Hustle;
- National: Dining and Smooth Unified;
- Regional: Smooth Traditional Folk Dances of Romagna and Piedmont;

Artistic Dancing:
- Academic Dances: Classical, Modern;
- Choreographic Dances: Freestyle (Synchro, Choreographic, Show and Disco Dance), Ethnic, Folk and Character;
- Street Dance

The federation has tried, during the time, to solve the social problems, trying to achieve the objectives where the sport fails.

Dance Sport not moved away from that aspect of reaching important milestones in the insertion also in the activities with the disabled, by setting up a memorandum of understanding signed by the President of the CIP (Italian Paralympic Committee) Luca Pancalli, who gave the opportunity to organized in 2007 the first Italian Sporting dance championships for athletes in wheel chairs.

The Dance Sport for the disabled is the union of show and sports that wants remember us that there are no barriers," these are the words used by the President of the CIP at the time of the signing of the memorandum of understanding with the FIDS.

The main organizations who spend in the promotion and organization of events and sports competitions are the CIP and the Special Olympics, which will foster the participation of disabled sport ratified by a wide range of laws that protect their right to social integration.

The Italian Paralympic Committee (CIP) born as a sport federation and in 2003 was founded under that name and provides for facilitating the practice of sport for peaple with disabilities and the recognition of the equal dignity of Paralympic athletes compared with able-bodied as well as allowing people with disabilities to access sport as therapy, as a means of socialization and integration, such as competitive sports.

The CIP establishes a regulation of Sporting dance in a wheelchair. Every year, during the summer, the FIDS organizes the largest European Festival of Dance Sport at Rimini Fiera, wich involves athletes with disabilities too.

The FIDS organizes the Paralympic sports for different sectors:
- Dance in a wheelchair (weelchair)
- Intellectual and relational disabilities (DIR)
- Impaired vision and hearing (MIV)

Disabled athletes compete in all disciplines sanctioned by the federation. The couple dancing is structure in two sections: the "combo" in which one component has a disability; "duo" in which both components are disabled athletes. In freestyle can compete dancer, soloists, duos or groups, in the latter case the members of the group may have different disabilities and must be at least 30% of the total (FIDS- RASF Regulation dances Paralympic www.federdanza.it).

FIDS has signed an important agreement with the FISD (Italian Federation of Sports Intellectual Disability Relational) by signing a Memorandum of Understanding on the 19 of May in 2010 and renewed on the 8 of May in 2013, to guarantee the development of Dance Sport among people with intellectual and relational disabilities (Costato, 2011).

Objective

The work with the disabled came to life in dance and is now known to consider how dance can help to smooth out the differences and to promote cohesion and participation in the group, in the realization of a sport healthy and of a healthy competition.

So we can deduce that this discipline can go beyond the disparities and including of people with physical, mental, and also adapting it for the blind, of course, the differences and the single situations where there is.

Having established this, the goal that arises with this preliminary work is to assess whether, and how, in the choreographic dance, developing or enhancing coordination skills and motor coordination, in particular, you can expand the cohesion of the dance's group to get better results at the demonstration and especially in personal and social level.

Method

This is a preliminary work, the method used was theoretical-argumentative. With this method, we tried to go to find out whether and in what proportion the Italian Sporting Dance Federation increases its activity towards the disabled.

Results

Preliminary results show of certain points to see at the first line, next to other sports and other federations, the FIDS opening the sport to the disabled, showing a highly inclusive for certain types of disabilities, moving towards the aim of ensuring a philosophy the combination music / dance can help people with physical or mental limitations to overcome their problems and to excel where there is a passion.

Emphasized this aspect, the work has some critical points: there are championships in which to compete people who have different disabilities, but how they can integrate their different problems by increasing the cohesion of the group? It has been noticed that the Paralympic dance covers only certain categories of freestyle (only the show dance, which is a form of a ballad dance in group, but that tends to be a show where everyone assumes different roles and moves with the

different movements one from the other), it is not sanctioned any competition regards, for example, the choreographic Team (group dance choreography). Why FIDS has not worked and will not work on this?

Discussion

The Choreographic Team (dance's group choreography), is a discipline in which the dance's group is held together by an invisible thread that is the choreography and the group itself is broken up into small groups and in which the level of motor coordination of individual members must be such as to ensure the performance of a set of fluid movements.

The term choreographic its lexical meaning, leads one to think something of visual, schematic, of organized, precisely choreographed. At the root of this meaning, the choreographic dance is formed by three essential elements: the gesture, rhythm and execution, and provides a wide range of gestures, body language, movement that reference spontaneous expression of emotion and affectivity that are part of a complex system of adjustments and automatic reflex muscle tone, distance and personal use of the surrounding space. All these elements can be enclosed in the hub of what is known as motor coordination and refers to the ability that allows us to perform any movement, as close as possible to the image processed by the brain motor; then allows the perfect coordination of the various muscle groups of the body, in order to obtain a sequence of movements fluid.

The disabled person lives with a vision of his motor pattern that is almost always different from the one of which has an able-bodied; may submit clumsy execution of movements or it can be perfectly equal to the others in the case of the deaf and blind, other times certain muscular sensations are absent from birth or are suddenly gone. That's why the sport in general and dance in particular sports, must see as one of its objectives the integration of differences, which can be many and difficult to understand; must begin with a proper initial medical history in order to understand how to work even when the differences are not immediately visible, and this should be one of the skills of the technician who looks at this horizon.

Conclusions

Coordinate the movements may seem like a simple thing for those of us not suffering from any physical disability, but to coordinate those of a group of people becomes a really difficult thing especially for people with disabilities. Difficult but not impossible, an example comes from China, where a company that has long show in the world their art, the China Disabled People's Performing Art Troupe combines perfectly dance and oriental culture enhancing the capacity of each individual regardless of disability that may have.

The company was founded in 1987 thanks to the determination of 30 people with disabilities who choose to participate in the Festival of Chinese art, and today the company performs all over the world and it is composed of 110 disabled actors whose average is 20years and 37 members of the staff, also disabled, that do not exceed 30 years.

This example shows, dance's group choreography may be possible. The movements are coordinated, the choreography is developed, the disabilities are integrated.

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Football in mental health

P. Tritone, G. Raiola

Abstract

The game of football is used as a practice in rehabilitation activities to a more public and private organizations involved in mental health, identifying it as a useful tool for the physical and psychological wellbeing of patients, the therapeutic compliance and to counter the metabolic syndrome. these structures were created in different areas of the Italian territory, in particular, in 2002 was established the non-profit association "Calcio Insieme" which involves patients and mental health workers in the Campania region, with the purpose of rehabilitation and integration. The practices used in the project "Calcio Insieme" has proven to be effective in improving the general state of health and the maintenance of appearance and hygiene, personal and social relationships and limit disturbing and aggressive behavior, as demonstrated at the xxii conference SIEP of 2010. study the practice of rehabilitation activities with football, analyzing the problems arising from the conference XXII SIEP. Methods of research is analysis of the literature and scientific production of reference. Distribution of semi-structured questionnaire. Graphic presentation and discussion of the results of a sample of mental health centers 25. In conclusion the study of a rehabilitation practice and testing instrument obtained.

Keywords

Wellness, integration, expertise.

Introduction

Kicking a ball in the street, in the gardens or on the football field attracts the attention of all the fans of this game, indifferent to the context or social class. According to the study "big count 2006," conducted by FIFA in 2006 and published in May 2007, worldwide there are 265 million people who play the football of which 38 million members for various companies. Including referees and officials from the total number of people directly involved in the football reaches 270 million, or about 4% of the world population. Football fan and supporter of physical activity as a tool for knowledge of self and of others and physical well-being, I have prepared this work in relation to disability. Football is a sport of a collective nature and is, for people with and without disabilities, an important means for the physical and psychological well-being and integration. Paralympic sports such as football 5-a-side for people with visual impairments or football 7-a-side for people with cerebral palsy are examples of how football can be played by everyone. The Italian football 5-a-side championship, sport of FISPIC (Italian federation Paralympic sports for the visually impaired and blind), has a growing following of athletes, spectators and TV audiences as some games are transmitted on the channel Rai Sport, in the program "Sportabilia". The SIEP (Italian society of psychiatric epidemiology) at the XXII Scientific Meeting of 2010 has explored the world of sport in mental health and the result was a significant spread of football as a rehabilitation tool in the structures of the areas north of Milan, south of Rome and the area included between south of Naples and north and Salerno. In the Campania region there is an non-profit association "Football together," which was founded in 2002 and has created a football league, currently promoted in collaboration with the AICS Naples (Italian culture sports association), which may involve patients of UOSM (operational unit mental health) of ASL in the region. Patients included in the program have in common difficulty, discomfort, disability and mental illness of a certain severity, mainly schizophrenic psychosis, personality disorders, depressive syndrome, mental retardation less frequently. The regulation provides the unified sport, like Special Olympics, teams can have a operator, a volunteer, a family member or a person known as a testimonial. They can participate in male patients, aged between 17 and 55 years without cardiovascular disease, with medical records "in progress". Football is a team game so it requires interaction between the players, it starts the process of re-socialization in addition to imparting respect for the rules and to increase self-esteem. Aim is to **s**tudy the practice of rehabilitation activities with football within the region of Campania, analyzing the problems arising from the conference XXII SIEP.

Methods

Study of literature and the scientific production of reference, in particular, the material produced during the XII meeting SIEP 2010. distribution of semi-structured questionnaire containing 10 items to a sample of 25 operators of community mental health centers of the area included between south of Naples and north and Salerno. Analysis of the practices used by UOSM Nocera part of the "Gruppo calcio" concerning the project "Calcio insieme."

Discussion

The processing of the questionnaires has provided the following information: there is a predominance of centers that do not practice physical activity in a structured manner (64%) in those who practice it, football is the sport that is performed 56% better. Only in 36% of cases is carried out measurement of the shape of the state of the patients, while in 77% of cases the figure that coordinates the activity is not a specific profile that is in charge of physical education and sports but nurses, educators, psychologists and animators community. The activity appears to be difficult to be studied, highlighting the lack of practice. The diffusion of physical activity in structures that deal with mental health is still limited by the ephemeral aware of the benefits that this activity involves both physical and psychosocial counseling, resulting not recognized by all as a rehabilitation activity. There are also issues structural and functional, designed as a lack of funding and lack of skilled personnel. Underfunded economic cause structural and functional problems.

Conclusions

Analysis of the existing literature and the results obtained from the questionnaires it is appropriate to conduct a study of specific practices relating to the game of football as a rehabilitation activity in mental health, that includes the figure of a technician in the physical education and sports as a specialist.

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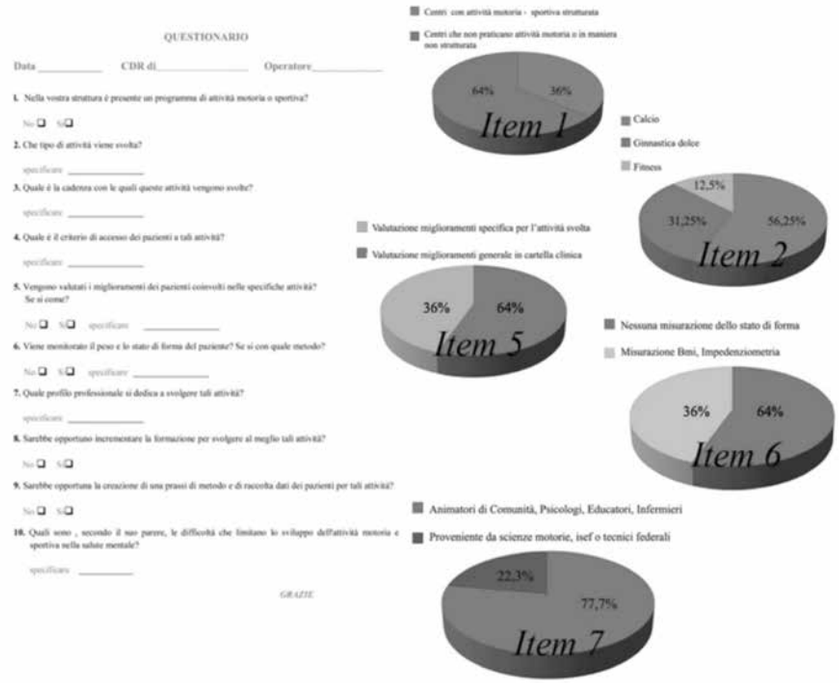

INTERNATIONAL CONFERENCE ON SPORT SCIENCE AND DISABILITY

Febraury 15, 2014 | University of Neaples "Parthenope" | Italy

SESSION III

Chair: Prof. Domenico Tafuri

Sport science and disability

Development of strength and its expression in football Through the method of periodization

A. Acanfora, G. Raiola

Abstract

Football is a sport of the situation and therefore imposes high demands for technical skills and physical specifications that must be continually stressed in training. Several key components affect the performance of athletes during the race. The ability to make the best depends on the technical and tactical skills of the players as well as from the physical, psychological and theoretical. (Total Training chap. 1 Technical training for team sports by Tudor Bompa)The thesis developed is the concept of periodization, that is the division of athlete's preparation in particular periods of time with well-defined objectives. The research was carried out with the collaboration of the University of Salerno on 10 tleti male between the ages of 20 and 30 years of a football team to 11 enrolled in the fields of excellence onato bell, as well as regional Italian Cup finalist through the use of zo physical tests for the assessment of Resistance, speed, acceleration, measurement of body circumferences, height and weight. Periodization is a proposal for a Tudor Bompa and constitutes a methodological approach aimed at achieving the objectives of training required for competitive levels predetermined. At the base of periodization, the principle of progressivity of the load and physiological adaptation. The exercises will be proposed in strength training will reproduce the technical model of a sport tracing movements similar to it, to be run repeatedly, in order to facilitate learning. The research takes into account the different phases of training annually monitored for a period of 4 months using 4 measurements of physical tests. The data collected will have to demonstrate an improvement in the ability of conditional force in order to reach the peak performance of the variables under consideration within the period.

Keywords

Periodization, peak performance, progressive load

Introduction

Coaches need to understand the specific technical skills and tactics required by their sport and then to follow the dictates of the most current methods of physiological and psychological training in order to maximize the potential of the players and the resulting optimal running technique and tactics of individual team. According to Tudor Bompa achieving the best run of form by athletes in team sports, it must be through a targeted workout methodology, rather than through the practice of the game, instead favor an approach that many coaches. The models of training are intended to simulate or reproduce the elements of a real game situation with the intent of enhancing the effectiveness of the team in specific situations and against specific opponents. "Mold" means, therefore, create training programs that reproduce the technical, tactical and psychological aspects of competition and training schedule based on teams that you will encounter. The model of training prepares the players according to the specific meeting, the strengths and weaknesses of the opponent, the climatic conditions and social environments in which the race will take place (Total Training chap. 5 Modeling and plan an effective workout for team sports by Tudor Bompa). Periodization The term refers to two important aspects: the periodization of the Annual Plan, which allows you to split and manage the training program and to achieve maximum shape for the biggest races, and the Periodization of Motor Capacity conditionals, which allows you to carry at an optimum level skills conditional, such as strength, speed and endurance (Bompa T. O. & Haff Gregory G., Periodization. Theory and Methodology of Training, 5th Edition, Human Kinetics, 2009, pg. 126). Periodization for the Annual Plan means the annual organization of training in phases, so as to:- manage the process of training more easily;- have the peak of form in conjunction with the most important races;- prevent injuries;- avoid overtraining.

Periodization in team sports come so divided:

1) Period introductory or pre-season preparation that provides strong valence organic and muscle recovery overall efficiency.
2) Period or critical load, where the volume of work prevails on the intensity of the same. Be expected during the break times in the league or in conjunction with lots

of secondary importance. The acquisition of technical skills will be more difficult for a possible condition of fatigue. the main objective of this phase is to develop the highest possible level of strength.

3) Period or special processing to increase the intensity of work and to develop a growing technical work.
4) Competitive Period: This is the time when you have the achievement and maintenance of maximum fitness during the most important races.
5) Period of transition coincides with the long break between one season and the other to regenerate the body. The objective of the study is to verify the improvements after the conditional period of training and testing of the moment of maximum performance (peak performance) over the time period under evaluation.

Method

As already mentioned, football is a sport high situational then necessarily have to train all three aspects of performance, technical, tactical and conditional. Coaching for example only conditional aspects would be detrimental in a sport like football in which successive quick actions and technical actions, combined with a tactical team previously established. During the various stages of periodization the goal will be to improve both the appearance conditional progressively increasing workloads, both the technical and tactical exercises introducing eco - dynamics aiming at reproducing the context of race. This type of exercises, unlike those that refer to a cognitive approach, intended to improve the capacity of choice for athletes, who will meet from time to time to cope with different situations. In this research, we will discuss only the quantitative aspects. The tests will be carried out:At the beginning of the preparatory periodthe end of the loading periodand at the end of the processing period (which coincides with the beginning of the period agonistic)

The tests that will be carried out are:

1) Measurement of body circumferences.
2) Evaluation of the level of resistance (Test of Ruffier-Dickson)
3) Evaluation of Speed and Acceleration (Test on 60m)
4) Weight and height

Results

The objective of the study is to verify the improvements after the conditional period of training and testing of the moment of maximum performance (peak performance) over the time period under evaluation. The expected results, are expected to increase at least 12% of the variables under consideration, which would be an important result because we are talking about professional athletes that even in times of transition is not greatly reduce their level of performance.

Discussion

For ease of reading, the results of the planning of training with the method of periodization, will be converted to statistical data from which shows the trend of physical performance in the different training periods and in particular the Peak Performance. This usually matches in football, Competitive period.

Conclusion

The objective of this research is to support the method Bompa about the periodization in training for strength development, confirming theories and assuming new variables to be tested in order to improvements in athletic performance.

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A few aspects of Alessandro Del Piero's long career

G. Alagia, G. Raiola

Abstract

Del Piero is one of the most important football player of Italian soccer. Its career is object of discussion of many experts. An interesting statistic about given by the Professional Footballers' Association (PFA), says that 35 is the average age that football players stop playing professional football. Their career usually lasts for about 8 years (sports Guerin 01/14). So since one does not start playing at the age of 27, there will be football players that reach playing professional football for 15 years and instead others that score only a few series of attendances to eventually be forgotten while remaining to play on the team.

The aim of this study is to individualize during Alessandro Del Piero's long career the significant aspects that can be referable to a particular development of the results in terms of absolute performance.

Keyword

Case study, soccer, jnjury

Introduction

An interesting statistic about given by the Professional Footballers' Association (PFA), says that 35 is the average age that football players stop playing professional football. Their career usually lasts for about 8 years (sports Guerin 01/14). So since one does not start playing at the age of 27, there will be football players that reach playing professional football for 15 years and instead others that score only a few series of attendances to eventually be forgotten while remaining to play on the team.

Injuries certainly determine the quality and duration of a player's career, in particular for those football players that play on certain areas of the football field, like the position of the striker, which may prove decisive for the outcome of their team.

The unprejudiced summary of this study is to individualize during Alessandro Del Piero's long career the significant aspects that can be referable to a particular development of the results in terms of absolute performance.

Method

The method and case study. The case study, leads the researcher to focus on the 'fact-finding investigation of a "situation" that may be indicative compared to a larger sample.

This way, it is the reseacher who distingishes the "case", making it become through a series of inquiries the object of understanting, application and analysis.

It defines historical circumstances, enviormental and contextual reaching conclusions that have no claim to finality (Kemmis 1980).

Stenhouse identifies different types of "case studies", including the ethnographic model in which the observer carefully studies the individual case (Stenhouse 1985).

Preliminary results showed, that the long career of Alessandro Del Piero, a football season that stands out above all for continuity (and therefore appearances: 47), combined with prolificacy (goals scored: 32). This season no injuries occurred, except for the last match of the season which then lead to the athlete's precarious conditions in the World Championship which took place in France 1998.

Discussion

Considering this information we can see how the football season 1997/1998 is the one where the athlete was the heart of the matter since there were no injuries and for his amazing technical skills, reached very high performing levels, establishing himself as one of the major talents of international football. Linking the data that we can find for the football season 1999/2000 the athlete was recovering from a very serious injury to the ligaments in his left knee, while he still had a high number of attendances (45). Unfortunely his performance levels declined and he carried out only two actions during the whole season (99/00).

	MATCH ATTENDENCE	MINUTES PLAYED	GOALS	INJURIES	ITALY CUP	UEFA CUP	CHAMPIONS LEAGUE	SUPERCOPPA EUROPEA	SUPERCOPPA ITALIANA	COPPA INTERCONT.	MONDIALE EUROPEO
Year 93-94	14	442	5	No	m.a 1 goal 0	pres.2 goal 0					
94-95	50	3331	10	No	10 goal 1	pres 11 goal 1					
95-96	43	3123	13	No	2 goal 1		pres. 11 goal 6				EUROPEO pres. 1 goal 0
96-97	35	2489	15	Uno	4 goal 0		pres. 6 goal 4	pres. 2 goAL 2		pres. 1 goal 1	
97-98	47	3890	32	Uno***	4 goal 1		pres. 10 goal 10		pres. 1 goal 0		MONDIALE pres. 4 goal 0
Year 98-99	14	1134	3	Serious Injury	1 goal 0		pres. 4 goal 0		pres 1 goal 1		
99-00	45	3433	12	No	2 goal 1	pres. 6 goal 1					EUROPEO pres.6 goal 1
00-01	33	2324	9	Uno	2 goal 0		pres. 6 goal 0				
01-02	46	3657	21	No	4 goal 1		pres 10 goal 4				MONDIALE pres.3 goal 1
02-03	38	3055	23	No			pres 13 goal 5		pres. 1 goal 2		
03-04	31	1784	14	Uno	4 goal 3		pres.4 goal 3		pres. 1 goal 0		EUROPEO pres.3 goal 0
04-05	41	2723	17	No	1 goal 0		pres.8 goal 2				
05-06	45	2393	20	No	4 goal 5		pres.7 goal 3		pres. 1 goal 0		MONDIALE pres. 5 goal 1
06-07*	37	2768	23	No	2 goal3						
07-08	41	3031	24	No	4 goal 3						EUROPEO pres. 3 goal 0
08-09	41	3322	21	No	3 goal 2		pres.8 goal 5				
09-10	29	1910	11	Uno	1 goal 2	pres.3 goal 0	pres.2 goal 0				
10-11	45	2654	11	No	2 goal 0	pres. 6 goal 1					
11-12	28	960	5	No	5 goal 2						
12-13**	24	2035	14	No							
*series B; **Sydney FC; ***Injurie in the final champions league											

Conclusions

The data emerging from a long career as one as that of Alessandro Del Piero, are very sigificant. The sporting history of an athlete is closely linked to specific events that accompany the athlete's life. It is not just the accident itself that can lead to a decrease in the performance levels, but we can just have a look how at the athlete's data to understand how the psychological factor, the lack of clarity, due to a physical condition which is not optimal, can lead to difficulties to accomplishing technical skills that only months before he was able to do naturally. This study becomes important even in those professions where one needs to develop protocols. It is therefore acceptable as "standardized" working protocols proving to be absolutely inconclusive in terms of absolute performance.

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Development of strength and its expression through the method of periodization on football

G. Cirillo, G. Raiola

Abstract

Football is a high situational and high competitive engagement sport,that include the development of all the conditional capacities.. The research will be carried out by the collaboration of the Salerno on 10 male athletes aged between 20 and 30 years, that belonging of a football team to 11 enrolled in the region Campania championship, through the use of physical tests of maximal strength and muscular endurance as well as body parameters such as muscle circumference, height and weight. Periodization is a proposal for a Tudor Bompa and is a methodological approach to achieving the goals of training required for competitive levels predetermined.At the base of periodization, the principle of progressivity of the load and physiological adaptation. The exercises will be proposed in strength training will reproduce the technical model of a sport tracing movements similar to it, to be run repeatedly, in order to facilitate learning. The research takes into account the different phases of training annually monitored for a period of 4 months using 4 measurements of physical tests. The data collected will have to demonstrate an improvement in the ability of conditional force in order to reach the peak performance of the variables under consideration within the period.

Keywords

Periodization, peak performance, progressive load

Introduction

Periodization the term refers to two important aspects: the periodization of the Annual Plan, which allows you to split and manage the training program and to achieve maximum shape for the biggest races, and the Periodization of Motor Capacity conditionals, which allows you to carry at an optimum level skills conditional, such as strength, speed and endurance (Bompa T. O. & Haff Gregory G., Periodization. Theory and Methodology of Training, 5th Edition, Human Kinetics, 2009, p. 126).

In amateur football sector and especially in the professional sector, the training stimuli generated exclusively from the game are no longer sufficient for a further increase of the force (J.Weineck, 1994). It 'so obvious that you need to set an appropriate program of increase of the same. In practice "training is no longer capable of arousing processes of adaptation to overcompensation" (J.Weineck, 1994, The optimal physical preparation of soccer player, Calzetti Mariucci Perugia).

During the periodization must coexist:

1) Individual and team improvement
2) Short, medium, long-run of work development
3) The turnover of load and unload phases
4) Contemporary improvement of motors and cognitive abilities
5) The achievement of peak performance in the characterized competitive time.

The periodization in team sports is divided this way:

1) The introductive phase which is necessary to the general rehabilitation of psychophysical fitness..
2) Loading phase, where the amount of work prevail on its intensity. It has to be predicted during the championship downtimes or in conjunction with secondary prestige matches. The purchase of technical abilities will be able to reveal very hard due to an eventual condition of fatigue.
3) Special or transformation phase is necessary to increase the work intensity and to develop a growing technical work. It coincides with matches of medium importance approaching to the decisive moments, play off.
4) Competitive phase: It's the moment where the reaching and the conservation of the highest peak performance are gained on the occasion of the most important matches. The performance peak cant' be kept for long periods and will be necessary the best precision from the trainer to program the reaching of this stage
5) Transition phase: It coincides with a long pause between a competitive season and the other to regenerate the body.

The subject matter of the research is to verify the conditional improvements after the training time and the check of the moment of the peak performance during the evaluation time.

Method

Football as already mentioned is a sport of the situation, therefore it will be essential to train both aspects conditional, that technical and tactical performance. It would be unthinkable to train exclusively only conditional aspects omitting the technical-tactical, or otherwise. During the various stages of periodization the goal will be to improve both the appearance conditional progressively increasing workloads, both the technical and tactical exercises introducing ecological-dynamicthat are connected with the reproduction of the context of race.This type of exercises allow you to work in a dynamic way, encouraging and improving the ability of choosing the individual athlete and the entire team, who will be always faced with different situations, new, not predictable except in part. The athlete must work well on "principles" that the coach transmits and not on the obligation of choice. In this research, we will discuss only the quantitative aspects.

The tests will be carried out:

- At the beginning of the preparatory period
- At the end of the loading period
- At the end of the processing period (which coincides with the start of the competition).

The tests that will be carried out are:

1) Measurement of body circumferences.
2) Test of endurance and strength (abdominal curl-ups, bench press, upper limbs, and testing of FM for the lower limbs, wood test)
4) Test estimation of VO2 MAX (text by Cooper)
5) Weight and height

Results

The objective of the study is to verify the improvements after the conditional period of training and testing of the moment of maximum performance (peak performance) over the time period under evaluation. The expected results, predict an increase of at least 12% of the variables under consideration, which would be an important result because we are talking about professional athletes that even in times of transition is not greatly reduce their level of performance.

Discussion

Data collected during the research will then be subjected to a statistical study, we will show the development of physical performance in different periods of training during the year, showing how the planning of training carried out with the aid of the method periodization, will allow us to reach peak performance within the period that is equivalent in football, usually, the most important game of the year that is part of the competitive period. Important, therefore, the principle of progressivity of the load and complexity of the proposed exercises that will allow the nervous system to adapt in a gradual manner so as to detect and improvements.

Conclusion

The objective of this research will be to give greater credence to the proposed Tudor Bompa regarding the method of periodization for strength development, and in addition, this research will be the basis for future studies that will collect more scientific data with other quantitative tests in order to intervene with further modifications of training to improve the variables under consideration and thus the performance of athletes.

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The analysis of trunk muscle stabilisation training in football players

P. Cusano, D. Tafuri

Abstract

The practice and the implementation of a full-body stabilisation programme favours strength training as well as the prevention of muscular imbalances. As regards the specific performance development of football players, it is particularly useful to prevent hyperlordosis and functional changes of parameters relating to the athlete's motor skills. The strengthening of the trunk muscles becomes supplementary training due to the fact that it influences the capacity to contract abdominal muscles, the rectus abdominis and the back extensor muscles. Some exercises to improve the elasticity and joint mobility of the spine are described from an operational point of view. By means of practical application, this type of functional training determines the improvement of the excursion and movement direction of the kinetic chains together with the trunk muscle groups involved, contributing to the increase of muscle tone and to the prevention of accidents. Therefore, among the training objectives, the strengthening and improvement of motor skills in terms of flexibility has proved to be effective.

Keywords

Training, Strength, Muscles, Prevention, Flexibility

No athlete, not even a football player, develops all muscle groups harmonically and uniformly. The athlete-football player is not immune to poor behavioural styles, in fact, an extremely high occurrence of accidents that have taken place on the playing field has been recorded and of these, 65% are of a muscular nature: this is a fact that requires further analysis that takes little account of chance happenings and which instead attempts to both understand the causes in order to include the most appropriate solutions as regards prevention and treatment. The specific training of the football player causes specific phenomena of adaptation that are necessary above all for the development of those muscle groups that are significant for sport performance. Instead, other muscle groups, that are less important for the athlete's sport performance, are often neglected. For this reason, so-called muscular imbalances occur. Therefore, the training objectives must include the strengthening and a greater flexibility of the body by means of the correction of postural imbalance in order to making it adequate to the improvement of balance, stability and joint functionality conditions.

Muscular imbalances represent changes to muscle balance that can be described, on one hand, as a possible marked shortening of and disproportionate increase in the strength of the agonist muscle and, on the other, as a weakening of muscles that have not been sufficiently trained together with these. However, these imbalances can be due also to the fact that, by their nature, certain muscle groups tend to weaken (abdominal muscles as well as those in the dorsal and gluteal regions), while other muscles tend to shorten.

The category of shortened muscles is dominated by the ischiocrural and the rectus femoris muscles, while the most significant weakened muscles include those of an abdominal nature. It must be remembered that the formation of muscle imbalances, favoured by carrying out unilateral movements or unilateral strength training, causes changes to joint function, worsening the automatic performance of the overall movement process.

Thus, muscle or joint-related functional changes always negatively influence cardiovascular parameters (e.g. the reduction of resistivity) or the central nervous system (with alterations to muscular coordination).

If it is taken into account that the different muscle groups work according to functional kinetic chains, the shortening of a muscle affects the entire muscular chain, jeopardising the movement structure (pattern).With specific reference to a sporting discipline such as football, in which sprinting, jumping, feints and changes of direction reign supreme: if the lengthening capacity of the iliopsoas muscle (which is a powerful hip flexor) is reduced, the hyperextension of the hip joint, which is necessary, for example, when jumping, is possible only through a very marked hyperlordosis in the lumbar region of the spine. Therefore, the lumbar muscles come into action both too early and too violently, while the activity of the gluteus maximus muscle is limited and which could even not come into action at all. It can be deduced, therefore,

that during training of an extremely specific nature including running and jumping, as that which football players under go, this can favour the shortening tendency of the iliopsoas, a typical muscle that comes into action during running.

As mentioned above, in the pelvic region, above all, the footballer trains the hip flexor muscles (these play an important role when goal shooting) and by running, the muscles of the lower limbs, often excluding, not only the upper limb muscles (except for the role of the goalkeeper), but also the gluteal and abdominal muscles that support the lifting of the pelvic region. Stresses caused by jumping and running (typical motor actions in football, as it is a game consisting of running and explosive jumping movements) although these are present in this discipline, by means of carrying out the technical movement together with the ball itself, these do not specifically train the abdominal, dorsal and gluteal region muscles.

In order to avoid imbalance, it is necessary to carry out the supplementary training of neglected muscles in order to compensate the predomination of the specific muscles used during football performances.

It is necessary to highlight that back pains or football player's lumbago are often due to the excessive shortening of the most important muscle using while running (the iliopsoas muscle) that causes continual traction on the lumbar spine, consequently causing progressive hyperlordosis. Therefore it is important that an adequate strengthening of the trunk muscles, especially in sports such as football in which many changes of direction, many feints and jumps are carried out.

During trunk muscle training, numerous dorsal and abdominal muscles play an important role in maintaining balance or in keeping the spine straight.In the anterior and lateral regions of the trunk, there are the rectus abdominis, the oblique and transversus abdominis muscles; in the posterior region, there is the erector spinae muscle.

Therefore, with the aim of preventing hyperlordosisas well as the back pains associated with this condition, it is necessary that due attention is paid to the abdominal muscles. During the strengthening of the trunk muscles, above all the abdominal ones, there is the problem that, by means of many exercises that are considered to be especially for abdominal muscle group, in reality, other muscles are stressed, mainly the hip flexor muscles, which I have already mentioned as regards their marked tendency to shorten; thus, progressive muscular imbalances together with a consequent worsening of the pelvis and spine static equilibrium are unintentionally caused; a great deal of attention must therefore be paid to the choice of exercises from a practical point of view. Another problem to face, when abdominal muscles are trained, lies in the fact that we are dealing with muscles that are mainly composed of slow-twitch fibres. Thus, all exercises that are carried out in an explosive way, and, in particular, this refers to teenagers and athletes that have poorly-developed abdominal muscles, represent a non-physiological load that does not correspond to suitable activity models. Instead, with well-trained athletes, forms of training that include explosive exercises can be used, because often, explosive trunk movements are of crucial importance for sporting performance. Before passing on to the presentation of the various exercises for abdominal muscles, I would like to point out that often, the choice of certain exercises that are considered of a standard nature for the strengthening of the trunk, obtain a completely different training effect, as they do not train those muscles that are normally trained, but others that should not be trained.

The most traditional example regards the exercise called "lying supine lowering of the extended lower limbs", which is so often used for trunk muscle training purposes.

Then, if the lower limbs are pushed downwards forcibly by a partner, in football players who have weak abdominal muscles, this causes hyperlordosis to gradually increase as the lower limbs get closer to the floor; this is because the abdominal muscles are not capable of maintaining the pelvis straight that tilts forwarddue to the eccentric force of the hip.

The most important exercises for the specific strengthening of the rectus muscle of the abdomen (rectus abdominis muscle) are as follows: Trunk forward flexion, from laying supine, with lower limbs bent and feet resting on the floor (crunch); this specific strengthening exercise for the abdominal muscles is one of the most important as regards the supplementary strength training in most sports. In fact, while on one hand it strengthens the abdominal muscles, on the other it avoids also the hip flexors from being used and which have already become shorter in many football players. The exercise can be improved even further by resting the lower limbs on a plinth, in this way almost completely excluding the involvement of the psoas in the trunk flexion movement; the same exercise specified previously can also be carried out using a muscle-building machine; Trunk flexions by flexing the lower limbs onto the chest (lifting the pelvis) with or without the assistance of a partner (reverse crunch); in this exercise, it is important that the pelvis is lifted up from the floor, due to the fact that the abdominal muscles are trained best only if one succeeds in bringing the symphysis pubis (insertion)closer to the costal arch (origin of the rectus abdominis muscle). Also this exercise is suitable especially for football players that suffer either from lumbago or they have muscular imbalances. It has the disadvantage of an inadequate range of movement. According to the level of performance, 3-4 sets of the abdominal muscle training exercises mentioned so far should be carried out, repeating each exercise 15-20 times, with short recovery periods between the sets (30-45") as a result of the composition of the slow-twitch muscle fibres.

The rapid movements of the trunk and the continual maintenance of its balance are possible only by means of complex interaction between all the trunk muscles of the pelvis itself. When all these muscle groups interact in the most efficient way possible, they participate in the trunk movements or they are used in order to maintain a proper posture that is determined by the position of the spine. Now we shall look at a few exercises to help improve the flexibility of the dorsal extensor muscles: the first exercise could include the lifting of the

trunk and shoulders from a prone position lying on a plinth; by means of this exercise, apart from the deep layer of the dorsal extensor muscles, both the trapezius muscle of the superficial layer as well as the various dorsal muscles of the scapular region are trained.

A simple yet effective second exercise as regards the strengthening of the dorsal extensor muscles can be the trunk extension on all-fours, where also the trapezius and the gluteus maximus muscles are stressed. In these exercises the trunk extension must not produce a hyperextension of the hip with consequent hyperlordosis; the movement must be carried out slowly and preferably the exercises should be repeated 20-25 times.

Generally, high level specific strength and power requirements are not foreseen in football; however, the associated contribution is significant and it is highly dependent on the quality of the exercises described that aim at reaching a level of muscular balance that can guarantee a positive effect on the economy of motor actions, during which strength is expressed by means of the technical movement that is most widely used in this sport, that is kicking the ball, in order to have the correct body posture support throughout all stages of the game.

We can therefore conclude that it is opportune to introduce within the football training organisation, the carrying out of a programme intended to stabilise the entire body, with the aim of increasing the tone of postural muscles that are put under great stress when playing football, this could provide a significant contribution towards the prevention of syndromes due to postural imbalances and which could be effective in increasing the strength of kinetic muscle chains as well as improving flexibility.

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The identification of a training microcycle through the principles of tactical periodisation in football

P. Cusano, D. Tafuri

Abstract

The concept of training periodisation foresees an annual subdivision of operational contents, tactical periodisation in football develops the methodological principles to which it refers through a weekly microcycle, this conception originated from the systemic theory and its planning activities focus on a tactical element inspired by the game model that trainer wishes to create. It uses the principle of specificity, alternation, complex development and density. Great importance is given to the cognitive-emotional aspect which translates into the active participation that the athletes are asked to carry out during the weekly microcycle, within which adaptations to the game modeland the relative performance model are created. The simplification of a weekly microcycle includes the distribution of the principles and the sub-principles of the game model that has been elaborated and adapted depending on the opponents. Such strategic methodology represents a modern concept of methodological approach relating to the planning of training means having as its core feature the subdivision of tactical elements relating to the discipline of football into a weekly microcycle.

Keywords

Periodisation, Microcycle, Training, Game Model, Tactics.

To periodise means to distribute certain contents over a period of time. The general concept of periodisationis based on two fundamental aspects: the first, the periodisation of an annual programme, refers to the subdivision of various training sessions over the course of a year; the second regards the way to structure training in relation to the chosen objective so that it is possible to reach the maximum level of efficiency in relation to the specific requirements of the chosen discipline. Tactics can be defined as the action plan that determines initiatives that develop situations of advantage over the opponents. By bringing the two terms together, it allows us to consider the development of the training programme as a fundamental element depending on the desired tactics. In the specific case, this deals with carrying out the contents of a training programme within a preestablished period of time (in this case the weekly microcycle), or rather, to transmit those principles and relative sub-principles that are associated with a specific "Game model" with the consequent development of other dimensions that determine football performance, such as those of a physical, technical and psychological nature. This is an operational methodology that was created and developed in Portugal and that started during the past decade at the Faculty of Sport Science at the University of Oporto and thanks to the decisive impulse given by Prof. Vitor Frade. The philosophy that forms the basis of Tactical Periodisation (hereinafter referred to as TP) originates from the "General System Theory" or "Systemics". This is a scientific thought that arises in opposition to "reductionism", and that deals with the interdisciplinary study of the abstract organisation of phenomena together with the models that can be used to describe them. A System can be defined as a set of interdependent elements that interact according to a common objective and in which the final result is greater than the sum of each of the single parts of which this consists. As regards Open Systems, there is the possibility of interference on behalf of environmental factors, interference that may be of either a positive or a negative nature. According to this theory, instead of reducing everything to a sum of the parts (reductionism), by studying the individual properties, we have to take into account the interactions that exist between the elements of which the System consists. Moreover, any Open System undergoes a continuous and constant evolution. By applying these theories and this method of scientific inquiry into the study of team sports, such as football, we can safely say that there is no need to limit ourselves to individually analysing the various elements of the sport performance, whether of an individual or of a collective nature, such as the technical, the physical or the psychological factor, but to study the relations and the interdependencies and to always have an overall view of this. This means to implement the integration of principles and not of factors. Football is a situational sport of an essentially tactical nature; therefore it is of utmost importance, even before proceeding with any type of programming and periodisation of contents, to define a specific Game Model down to the finest detail. Each Game Model foresees a series of game principles and sub-principles, ranging

from those of a general nature to those which are more specific and detailed, for each moment of play (possession and non-possession phases, just as for positive and negative transitions). It is extremely important that none of the Game Model principles negatively interferes with the others. The definition of the Game Model must be the result of an elaboration process carried out by the trainer starting with his idea of the game (football credo) as a trainer, taking into account the characteristics of the players he has at his disposal, carrying out training by means of general game principles (individual and team tactics), in relation to environmental and cultural factors in which always works in relation to the players available, by studying the structural organisation in great detail (the game system, for example 4-4-2/4-3-3/3-5-2 etc.). These factors create the game model. Once a specific and precise Game Model has been defined, the task of the trainer shall be to operationally and methodologically structure a Training Model that is specific for the teaching/learning of that given Game model. The final step shall regard the designing of each individual exercise, according to the objective towards which one wishes to train. In fact, it is the objective that creates and determines the means of training. Tactical Periodisation refuses the subdivision of the season into periods with different characteristics and requirements; the only programming unit possible is the weekly microcycle, ranging from the previous match to the following one. This deals with creating adaptations to the exercises/drills; to the training sessions; to the microcycle structure; to the competition (match). Only during the pre-competition period, the first 2-3 days are intended in order to adapt to the resumption of activities, after this microcycles are structured in order to adapt to those that characterise the period of competition. The training volume/loadis greater due to the fact that there is a greater transmission of information and a reduction of recovery time. According to the TP operational principles, the training volume derives from the sum of the individual work phases, always carried out at a maximum intensity level; practically there is a reversal of the volume-intensity combination. It is necessary to obtain maximum availability from one's players to constantly train at maximum levels of intensity and concentration (the so-called "tactical fatigue"). The cognitive-emotional expenditure of an exercise is directly associated with the complexity of the game principles that one intends to train and its relationship with the Game Model. For these reasons continuous running around the football pitch, even if it is extremely tiring from a physical-athletic point of view, it is considered "void" due to the fact that it has no connections with the game itself and therefore it is not taken into consideration for TP purposes. The cognitive/emotional expenditure depends on the complexity of the exercise in relation to factors such as:

- Game principle complexity
- Dynamic complexity (game rules etc.)
- Number of players involved (the greater the number of players, the greater the complexity)
- Game space
- Duration

Among the methodological principles that determine the structure of the weekly training microcycle, first of all we would like to highlight the principle of specificity. This is the fundamental principle of TP. This means that every exercise/drill that we propose must be strictly linked to the principles that we have defined for our Game Model that we intend to construct and enhance. The difference between the integrated work method (the development of conditional capabilities through the use of the ball-tool, and therefore forms of work such as small-sided games etc.) can be seen right here. In the first case (integrated work) the main objective remains the development of a certain conditional capability by working in a sport-specific manner, while in the second case (TP) the main objective remains the development of the technical-tactical dimension, or rather the training of my Game Model as well as the principles that I have defined and which I intend to develop, thus it is in this case that one can truly speak of specificity. Many people think that in order to organise a game situation and, from this, to act on working time, on the recovery intervals and on the game space in order to further stimulate this or that energy system, means implementing TP. Nothing could be more wrong than this. In short, the first form of work (integrated work) refers to traditional training principles, or rather it is based on a breakdown of the factors of which sport performance consists (tactical, physical, technical dimension, etc. which are different from one another and are trained sectorially), therefore what is carried out is that one attempts to disguise a type of work the main objective of which is of a conditional nature, through the use of the ball. In the case of TP, the tactical element is the core of the entire preparation, with the consequential development of all the other dimensions. The Principle of Alternation: this means to promote the alternation of effort-recovery in the space of the weekly distribution of workloads, this is to allow the positive adaption on behalf of the football players. TP pays great attention to the aspects of recovery as it supposes that football players always work at high intensity and concentration levels. Alternation as part of the standard weekly microcycle must be intended in terms of the development of conditional aspects (strength, resistance, speed), both in terms of the development of the game principles at various levels of complexity and organisation (individual, sectorial, inter-sectorial and collective).

The Principle of Complex Development: This means to reduce the complexity of the Game Model (to reduce it without impoverishing it) by means of the "breakdown" of this into principles and sub-principles for every moment of play (possession and non-possession phases) as well as the transitions (positive and negative). In any case, it shall always be important to promote the relationships that exist between the various game principles and to know when to go beyond these, to reach a more sophisticated level of organisation (the progression from easy to difficult and it is here that lies the trainer's sensitivity and the capacity of observation). This breaking down and building up must lead to a positive and conscious evolution both of the individual and of the team as a whole. This type of pro-

gression must take place both during the course of the weekly microcycle and during the football season. It shall be important to abide by the less quantity, more quality rule.

The Principle of Density: This deals with the creation of exercises/drills that foresee a great behaviour density associated with game principles. Practically, this means allowing those situations that we intend to train (by means of rules and exercise structure) to occur a large number of times and giving adequate feedback in order to obtain a solution to the same. Each exercise /drill that we shall promote must be as similar as possible to the actual situation that occurs on the field and it must, in any case, represent a part of the real game itself. Another crucial aspect in order to work correctly according to the methodological principles of TP is that of promoting the active participation on behalf of the receiving party within the learning/teaching process, or rather the player, this can be achieved also by implementing methods such as that of the so-called guided discovery. The ultimate aim must be that of creating a standardised aptitude and behaviour on behalf of all our players, a common language together with being able to unequivocally forecast game situations. The trainer's ability to observe and correct is extremely important in order to work according to TP principles, this is in order to be able to provide both feedback that is adequate for the learning process as well as proper guidance as regards the acquisition of certain forms of conduct. The objective therefore is to determine the structure of the exercises and attention must be paid not so much to the correct performance of the same but as to the correct interpretation of the game principles that I intend to develop. It is therefore important not to focus too much on the correct dynamics of the exercises, but rather on the correct application of the principles themselves.

The representation of the weekly work schedule takes place in the development of 5 weekly training sessions, following the match itself, in which the distribution of the periodisation of the workloads is subdivided as follows:

Sunday: Match. 100% physical and above all mental expenditure.

Monday: Active recovery. Short and simple game situations are promoted (always in relation to the Game Model) (reduced number of players) which foresee a minimum degree of muscular tension. Promote physiological and mental recovery.

Tuesday: Rest.

Wednesday: Game situations are promoted according to specific strength regime. Practically, brief game situations are practiced in restricted spaces and with a reduced number of players that foresee a high density of jumps, sudden stops, sprinting/stopping and changes of direction, therefore with a high degree of muscular tension.

Thursday: Game situations are promoted according to a specific resistance regime. Exercises are carried out with a large number of players, in wide spaces and for a longer period of time. Minimum degree of muscular tension is involved.

Friday: Similar, brief-duration game situations which require a high decision-making/execution speed.

Saturday: Similar, brief-duration game situations which foresee complete recovery. Physiological and mental recovery is promoted together with carrying out pre-activation exercises in preparation for the match to take place the following day.

Sunday: Match. 100% physical and above all mental expenditure.

During the planning of this period of training, the physical sub-dimension is subject to the tactical dimension according to the day of the week by means of implementing a correct work-recovery alternation, bringing about the adaptation to the performance model of the Game model created by the trainer, which organises the tactical-strategic sub-dimension depending on the opponent, by means of focused exercises which satisfy the trainer's availability requirements with the maximum participation on behalf of the football players according to the methodological principles that determine the microcycle structure.

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Sport and disability: a case study

B. Gesuele, D. Tafuri

Abstract

Object of observation of this paper are no-profit sports companies for people with Disabilities. This phenomenon lends itself to a multi-faceted and multi-disciplinary study. During this investigation, without ever losing sight of the delicate nature of the arguments treated and the purely cultural dimension, the authors decided to give priority to a business management approach. The study underlines the importance of the relationship developed between sport and disability, outlining the link between them and emphasizing the functionality of the first against the second. The authors describe the reality of companies supporting sport for disabled people. In particular they explain, using SWOT analysis, one case study underlining strengths, weaknesses and opportunities.

Keywords

Disabled people, SWOT, sport.

In the World there are about 650 million of people with disabilities. Namely nearly 10% of the world population is affected by disability problems of different weight. Disabled people are a significant part of population and for this reason it is important to ensure integration in all social activities. In particular sport becomes an import mean of integration and socialization. Nowadays the disability is "a human rights issue" (Scheda and Donati, 2012) and many international organization are concerned with the relationship between sport and disability. In 2006, the United Nations General Assembly enacted the "International Convention on the Rights of Persons with Disabilities". This act can be considered the first document in the promotion of the disability question. The international prospective about the relationship between sport and disability shows a prospect of normalization: now there is the will to use sport for disabled people as a means for social integration.

In the time, the study of relationship between sport and disability has become more and more important. Many authors have analyzed this argument based on different theoretical prospective. Some authors explored the relationship between sport and disability based on Corporate Social Responsibility Theory, (Freeman E., 1984), the promotion of sport practice is a social responsibility, more specially the benefits of sport can be considered "stimulation good" (Scitovsky T., 1976). This type of goods have the attitude to create happiness, the society has to engage for their diffusion on all people. The introduction of sport for disability people is considered a means to create social capital namely all type of behavior that can increase the condition of people (Ecchia G. and Zarri L., 2005). Differently other authors used the theoretical framework of happiness studies (Gui, 1987; Uhlaner, 1989) to describe benefits about practice of sport by disabled people. These authors identified a positive relationship between sport practice and well-being. Participation in organized sport activities intensifies the happiness and in this way increases the general social condition (Meier S., Stutzer A., 2008). Putnam (2000) identifies the bridging social capital. He supports that when there is the production of social capital for a specific group of people, it develops externalities also for all other people. In other words thanks to the introduction of the sport for disabled people benefits for this group of people benefit the general social condition.

Sports activities produce same different benefits on disabled. These benefits can be divided according to the type of disability (Scheda F., and Donati D., 2012). In fact for people who have physical disability sport practices improve both physical and physiological conditions. On the other hand people who have cognitive disability thanks to sport improve their general conditions. In fact it is considered an educational value.

On basis of these premises the aim of this research is to describe the relationship that arises between sport and disabled people thanks to the use of a specific case study, underling the importance of sport as means of integration. Besides the study focuses on the opportunities of development a no-profit organization engaged on sport for disabiled people (npOSD). In this way we will try to describe the reality of Italian npOSD. We have used exploratory methodology, in particular it has been used a semi- structured questionnaire. The questionnaire is composed by five parts and it investigate some specific business

units that are institutional, economic, financial, network and social. The information collected are systematized in a SWOT box (Humphrey A., 2004). The SWOT analysis can allow the individuation of business development strategies.

The npOSP under investigation is "Ali di Farfalla" (AdF). AdF is a nickname chooses to protect privacy of the organization under investigation. The npOSP is an Italian no-profit company (locate in Naples) that has, as principal activity, the diffusion of sport activity between disabled people. It is recognized in the CIP Register (Italian Paralympic Committee) and it is subsidiary at FISPIC (Italian Federation Paralympic Sport). AdF joints with IUC (Italian Union Blind). The npOSP is an apolitical organization focused on sport activity. Its governance is responding to the organization model of no-profit companies. The management rules are written in Organization Statute.

The association is composed by a President, a Board, a Secretary and its members. Every individual (public and private) that accepts the organization rules and pays association fee can become a member and in this way participate to its social activities. The results of analysis can be described in the following box (box 1).

The study analyzes two groups of variables: internal ones (strengths and weaknesses) and external ones (opportunities and threats). About internal variables it shows that strengths are mainly the collaboration and the good partnership between the members whereas weaknesses are largely the reduced financial resources and auditing. Otherwise external variables show that opportunities are new collaboration with other association or the creation of public and private partnerships, whereas the threats are mostly due to financial resources.

The study shows that to increase its activity the npOSP should strengthen the public and privete partnership and it should protect the internal relationships.

[Box 1] Swot Analysis

Strengths	**Weaknesses**
Competence Democracy Solidarity Sharing Participation Collaboration between colleagues Partnership Qualification employs	Not enough financial resources Not enough communication Not enough auditing
Opportunities	**Threats**
Collaboration with other association Sharing resources- solidarity public and private partnership	Not enough financial resources

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Sport events: host coomunity prospective

B. Gesuele, U. Conte

Abstract

Object of observation of this paper are sport events. Sport events can facilitate economic progress and urban growing and it can became a business. The study focalized its attention on the economic impact of this special class of events. We explore the several groups of relations that arise between sport events and one particular class of stakeholders of these events. In particular this study explores the characteristics and peculiarities of the relation arising between sport events and host community, dwelling on different objects of this stakeholder.

During the study of sport events, we show that there are different classes of sport stakeholders for example sponsors, sport companies, media, promoters, organizers and host communities. Host communities can be considered the major stakeholders because they have various interests and objects.

Based on stakeholder theory and thanks to a literature review we try to identify several different host community objectives in business economic prospective.

Keywords

Host community, events, sport

The scholars recognize as major problems, when they speak about events, the right definition of these. In general, an event is an organized occasion like a meeting or a convention and it can planned for different reasons.

In literature, there are several definitions about events. Getz, in the 1991, defined the events as a particular tourist attraction otherwise Goldblatt, in the 1997, defined the event as an only and special type of celebration. For Tribou, 2002, the event is a means of communication likewise Scheny, 2003 and 2006, considered the events like a mean of communication between its stakeholders. In the 2008, Silvers identified the events as an organized occasion where the participants can communicate, educate or celebrate about a specific argument. The events can be classified based on several approaches, for example it can be classified thanks to the size (Bowdin et al., 2006), type of organization (Jessen, 1992), number of organizers (Barney, 1991), location and frequency (Cherubini and Iasevoli, 2005).

The sport events can be classified as a particular type of event which offers mainly a sport competition (Sorrentini A., 2008). The typical characteristics of this type of event are: uncertainty (it can't provide the results), participation (there is a relationship between event and spectators), contemporaneity (distribution and consumption happen simultaneously), intangibility (the event can't be touched and it can't be preserved, it has limited time).

In time the attention about sport events is increased. The sport event generates more significant turnover than other types of events (the 37,1% on events turnover, SIAE 2011), in addition the sport events can create several relationships between the event and some stakeholders. The sport events are able to generate a network.

Based on this approach, many authors describe this type of relationship unlighted on Stakeholder Theory (Freeman E., 1984). This theory concentrated its attention on three topics: study on central organization, study on all stakeholders and finally, study on relationship between stakeholders and organization. For every topic there are three different approaches: descriptive- empirical, instrumental and legislative.

Thanks to the literature reviews seven groups of stakeholders can be identified and so: sponsor, sport company, host community, media, spectator, organizers and ownership of location. These stakeholders can be present or not.

In this study we prefer to analyze the relationship between stakeholder and sport events focusing our attention on a special type of stakeholder, host community, and we are using descriptive- empirical approach.

We chose to analyze only the relationship with host community because it can be considered the major stakeholder. It has not only economic interests but has also social, cultural and political interests.

To host community can pursue different objectives (Sorrentini A., 2008; Junod T., 2007; Ritchie J., 1984). This objectives can be divided in three groups (table 1), these are economic, social and environmental and are illustrated below:

Economic objectives: they relate to the growth of economic outcome. The realization of sport events increase tourism

flows and the increase of income. Otherwise the realization of sport events improve the image of location and this increases tourism flows also in the following years. The economic objectives can be separated in two groups: economic (in specific manner) and commercial. It can be illustrated, for every group the positive and the negative impact.

Environmental objectives: they relate to the growth of attention on host community by local manager and politician. The execution on sport event increases the local attractiveness, both in term of tourism attractiveness and in term of economic attractive.

In many cases, the growth of the attention on the place of the event is the most important reason to host the event.

Social objectives: the major effects that sport events realized on host community are public goods or externalities, for example increasing cultural activity, increasing social and cultural participation by citizens or reinforcing social values.

The sport events study, often, considers only economic and commercial objectives and it doesn't consider social and environmental objectives that have an important weight in the total objects. In fact the social, environmental and economic and commercial objectives can't be analyzed in separate ways but like different parts of one objectives.

Table 1. Host community Objects

	Type	Positive Impact	Negative Impact
ECONOMIC	Economic	Increasing economic activity Increasing new opportunity of work Increasing general life condition	Increasing of price Increasing of cost for security Increasing of taxes
ECONOMIC	Commercial	Increasing fame location Creation new accommodations	Unfair competition
ENVIRONMENTAL	Environmental	Construction new accommodations Improvement accommodations Promotion of Heritage	Pollution Ecological Damage Damage of Heritage
SOCIAL	Social- cultural	Increasing cultural activity	Increasing criminality Changing nature of events
SOCIAL	Pysicological	Development local identity Increasing awareness	Shock local identity
SOCIAL	Political	International recognition of host community Development international competence	Corruption Illegality Exploitation

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The effects on economic system by sport. The italian situation: a descriptive analysis

B. Gesuele, A. Ascione

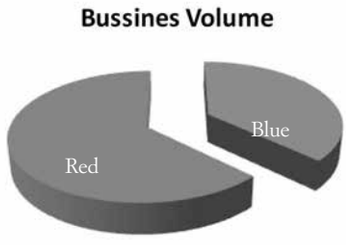
Abstract

Object of observation of this paper are the effects on economic system by sport. Sport events can facilitate economic progress and urban growing and it can become a *business*. The study explore the general economic impact of sport in Italy. In particular, we explore the economic impact of sport events in relation to all types of events in Italy, during 2011.

We chose to investigate this particular business sector because sport activity, in Italy, represented the 37, 1% of total business volumes. This tendency is in line with the international prospective. Whit the aim of identify the effects of sport on economic system we chose to explore these dates: number of shows, entrances, presences, spending at the box office and public spending. We implemented a descriptive analysis on Italian date during 2011.

Keywords: economic impact, business sport, sport.

In the time the attention about sport events is increased. Sport events generate the more significant turnover then other type of events. In the 2011, the total business volume of events is composed for the 37, 1% by sport events turnover (SIAE 2011). Sport events can create several relationships between sport business and other typeS of business. In literature the sport business can be considered a driving force (Wilson R., 2007).



Business Volume: Italian situation, 2011
Red: Sport Business Volume by Football; Blue: Sport Business by Other Activity. Source: Data collected by SIAE

The first great problem that researchers find when they explore the sport business is a definition of sport event. In literature there are several definitions about events. Getz, in 1991, defined the events as a particular tourist attractiveness otherwise Goldblatt, in 1997, defined the event as an only and special type of celebration. For Tribou, 2002, the event is a means of communication likewise Scheny, 2003 and 2006, considered the events as a means of communication between its stakeholders. In the 2008, Silvers identified the events as an organized occasion where the participants can communicate, educate or celebrate about a specific arguments. The events can be classified based on several approaches, for example it can be classified thanks to size (Bowdin et al., 2006), type of organization (Jessen, 1992), number of organizers (Barney, 1991), location and frequency (Cherubini and Iasevoli, 2005).

Sport events can be classified as a particular type of events which offer mainly a sport competition (Sorrentini A., 2008).

Based on this approach, for our study we chose the SIAE'classification (Italia Society of Authors and Editors). Based on this classification we can divide sport events in four macro clusters and so: football, team sport (no football), individual sport and other sport.

In this study, whit the aim to identify the economic impact of sport events, we implemented a descriptive analysis. We chose to explore these datas: number of shows (numbers of shows during the period under investigation), entrances (total number of sport events participation, this date include entrances thanks to single tickets or entrance whit season tickets), presences (total entrances, this date shows also the free entrances and then total entrances) the spending at the box office (this date shows the spending to participation sport event and so single tickets and season tickets) and finally the public spending (this date shows the total spending to participation sport event including tickets and correlated services) on Italian date, during 2011.

The following table shows the dates collected for every cluster and for every variable.

The total business volume is about two billion of euro and the major part of these is represented by football (the 71%), the other part (the 29%) is represented by other clusters (team sport for the 15%, individual sport for the 9% and

others for only 5%). The dates collected for spending at the box office show: that football has the 80% of total value. This inclination is confirmed by public spending. In 2011 the football presences are the major date: they are about the 80%.

The interest date is represented by presences. In fact the presences are the highest date in the period under investigation. We explain this value because in the period under investigation the World Champion (for athletic and other individual sport) are celebrated.

Cluster	Number of shows	Entrances	Presences	Spendind at the box	Public spending	Business volume
Football	109.217	22.559.035	139.563	283.715.609	397.441.303	1.498.682.243
Team sport (no calcio)	12.344	3.415.837	55.013	29.421.045	48.050.488	315.343.062
Individual sport	6.824	1.487.717	251.490	34.571.842	102.965.579	194.584.362
Other sport	7.822	871.886	63.185	8.214.765	31.497.466	105.954.294
Total	136.207	28.334.475	509.251	355.923.261	579.954.837	2.114.563.962

Source: Annual SIAE, 2011

The following table shows the geographic influence. The dates collected show that the Geographic area that has major economic benefit in Italy is North -West. It can depend on several factors as general economic conditions of people, general good geographic conditions, presences of adequate infrastructures and others(Cherubini S., Bonetti E., Iasevoli G., Rescinetti R., 2012).

Cluster	Number of shows	Entrances	Presences	Spendind at the box	Public spending	Business volume
North-west	50.579	10.161.448	74.492	143.481.151	222.929.583	812.800.939
Center	43.560	6.959.287	63.157	83.807.722	139.455.870	506.094.857
North-east	32.101	5.460.892	340.675	54.245.341	102.728.306	487.981.201
Soth	7.258	4.117.481	19.197	54.831.666	79.278.111	232.586.767
Island	2.709	1.635.367	11.730	19.557.379	35.562.964	75.100.195
Total	196.207	28.334.475	509.251	355.923.261	579.954.837	2.114.563.962

Source: Annual SIAE, 2011

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The ecological-dynamic approach to Sitting Volleyball

D. Maccioni

Abstract

The Paralympic Volleyball (or sitting volleyball) is a variation of the traditional volleyball that is played by athletes with disabilities. The teaching of Volleyball is traditionally given by the coach with exercises that have the theoretical basis in the cognitive approach. In the heuristic learning the teacher must help the student in finding solutions of autonomous mobility. Whether the learning task is too complex, one does not have to impose constraints pointing to the learner in a prescriptive way so to simplify the motor running, but one must apply constraints to the environment. Aim is to Show how the eco-dynamic approach in ways of heuristic learning, can find educational implications in the Paralympic Volleyball, and how the teaching of sitting volleyball can have educational implications of the able-bodied volleyball. The heuristic procedure is a method of approach to problem solving that does not follow a clear path but that relies on intuition and the temporary state of the circumstances in order to generate new knowledge. The Sitting Volleyball is one of the few "Para Sport" in which athletes do not make use of technology and special equipment and where disabled and able-bodied can coexist, expressing together also a good technical level, thus representing a great example of cooperation and inclusion.

Keywords

Open Circuit, Closed Circuit Generalized motor program, degrees of freedom, motor imagery

Introduction

The Paralympic Volleyball (or sitting volleyball) is a variation of the traditional volleyball that is

played by athletes with disabilities. The teaching of Volleyball is traditionally given by the coach with exercises that have the theoretical basis in the cognitive approach

Such techniques, described in detail by the coach, are of Partial, Varied, Randomized- type, and Mind Training. They make reference to the models of motor control Open Circuit, -Closed Circuit Generalized motor program and Mind training.

In the didactic of physical activities, there is also another approach called Ecologic -Dynamic -where the coach does not prescribe exercises but builds a setting, a "learning environment" aimed at the variety of learning.

It refers to the models of motor control of the imagination and the Theory of steps of freedom in three consecutive phases for motor learning: Reducing, Exploration and Accumulation of degrees of freedom. According to the ecological approach "learn" means being able to progressively find the best solution to a given(motor) task in a certain context.

Practicing does not mean repeating the same solution of a given task, but repeat again and again the process of solution of the task itself. When learning the movements means optimizing the process of solution of motor tasks; it entails educational implications different from those prescribing their cognitive approach.

In the heuristic learning the teacher must help the student in finding solutions of autonomous mobility. Whether the learning task is too complex, one does not have to impose constraints pointing to the learner in a prescriptive way so to simplify the motor running, but one must apply constraints to the environment.

Educational and methodological implications of the comparison between cognitive and the ecological approach.

Kind of approach	Cognitive	Ecological-dynamic
Teaching method	Prescriptive	Heuristic
Teaching techniques	Partial, varied, randomized exercising and mind training	theory of levels of freedom, exploring and accumulation
Teaching bonds	Do not alterate the general motor program structure	Do not change the unit structure perception-action

Goal

Show how the eco-dynamic approach in ways of heuristic learning, can find educational implications in the Paralympic Volleyball, and how the teaching of sitting volleyball can have educational implications of the able-bodied volleyball. Then,

program and verify the learning of certain technical skills of the fundamentals of volleyball with workouts based on different scientific paradigms and compare the results of different exercises.

Materials and Methods

The teaching approach that this study wants to convey is that exercises directed at paralympic athletes can be of great scientific and educational impact, and they can find fertile ground in exercises directed to able-bodied athletes where heuristic learning comes into play.

Didactic Proposals

Sitting posture. Sitting posture and balance. Standby position. Interventions of the figure. Translocations. Actions outside the figure.

Teaching progression

Theoretical knowledge of the fundamentals of the game. Knowledge and learning of typical movements of the Sitting. Exercises with facilitation tasks. Exercises with breakdown tasks. Knowledge and control of own space of expertise. Preacrobatic exercises. Exercises with synthetic consolidation of tasks. Global Game 6 vs. 6 progressions tactics.

Methods that will be used: "**Cooperative Learning"** and "**Problem Solving**" as teaching methodologies. Cooperative learning is a specific teaching methodology through which the students / learners helping each other and the feeling of mutual co-responsible way. The coach plays a role of facilitator. The problem solving (solving a problem) is an activity of thought that an organism activates to achieve a desired condition from a given condition. Should be pointed out that the problem solving is only part of what the whole process of solving a real problem: the latter also includes the so-called processes of problem finding and problem shaping.

Results and Discussion

The heuristic procedure is a method of approach to problem solving that does not follow a clear path but that relies on intuition and the temporary state of the circumstances in order to generate new knowledge. The Sitting Volleyball is one of the few "Para Sport" in which athletes do not make use of technology and special equipment and where disabled and able-bodied can coexist, expressing together also a good technical level, thus representing a great example of cooperation and inclusion. The game, as you can see, it's fast and exciting in its sudden changes of situations: from attack to defense, from the also tricky services to avoid the wall (one of the variations that characterize it), most receptions techniques, to more courageous raises, rebounds to the wall, to the most unpredictable situations that require intervention even the acrobatic ones.

Conclusions

Show how much the approach can find eco-dynamic educational implications greater than the cognitive. It is therefore considered appropriate to investigate the two approaches (cognitive and ecological-dynamic) in order to improve teaching practices in the light of the findings, given that there are no direct confrontations documented. In these activities will also find a proper place in the universal parameters of the Sitting Volleyball tutorials that can be very useful for the able-bodied, connected with aspects of the heuristic.

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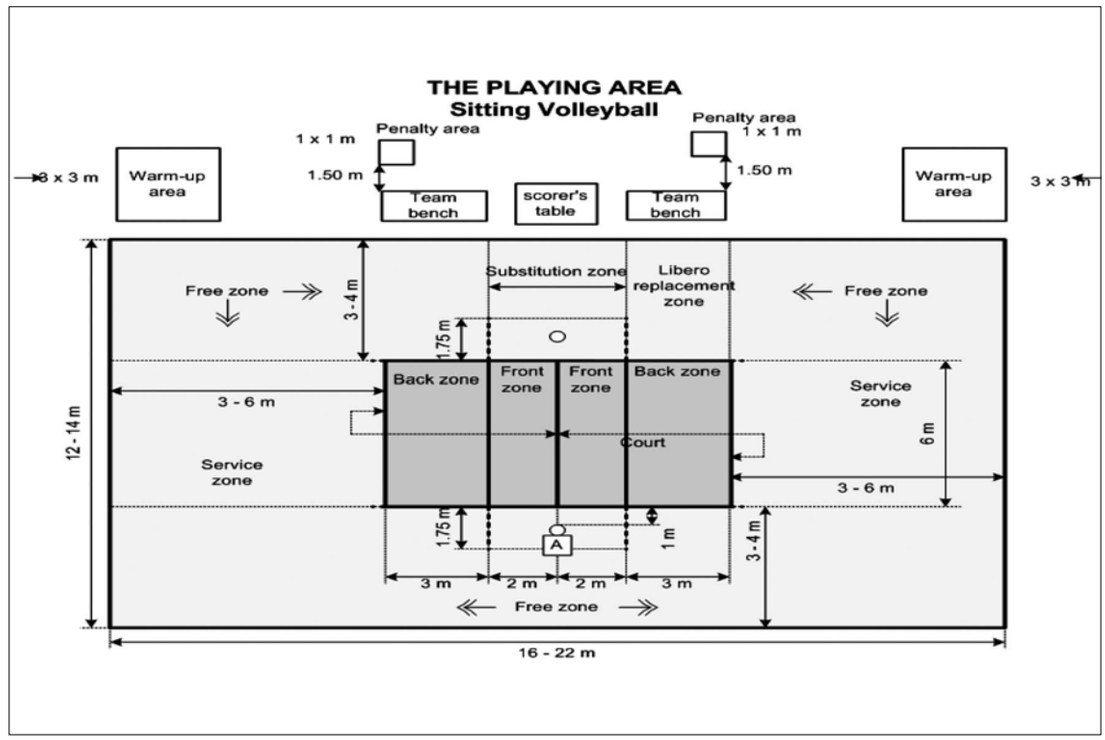

The playing area of the Sitting Volleyball

Doping in sports: biomedical new developments

F. Mazzeo, U. Conte

Abstract

Sports activity, at any level, remains a competition and emulation in respect of the other competitors and towards ourselves. Therefore, since the ancient times, were researched illicit systems that could artificially improve the athletic performance, in addition to training and physical preparation; in ancient Greece for example, during the carrying out of the Olympic Games, the athletes used to assume an infusion of herbs and mushrooms in order to increase their performance. More recently, athletes began the use pharmacological practices by assuming a stimulant of popular diffusion called strychnine. With the years gone by and the pharmacological progress, the use of drugs by athletes became more intense reaching a point of international phenomenon known as "*doping*". The restless evolution and multiplication of doping methods and substances, the fear by athletes of harsh sports and legal sanctions as well as the inadequacy of the identification techniques for illegal substances, contribute to make a not accurate evaluation of the prevalence of the Doping Phenomenon. In the course of the time, the results obtained in genetics have been used in the field of sport, creating a new form of doping, called "gene doping". The athletes may be able to use gene therapy to reengineer their bodies for better performances. In the world of sport, leading authorities predict that the genetic engineering of athletes will be widespread by the 2004 Olympics. This new type of doping can be dangerous and detrimental to health as with it, gene transfer vectors may be produced in non-controlled laboratories.

Keywords

Doping, gene doping, sport.

Sports are of considerable importance both for the physiological end ethic benefits, not only by improving the performance conditions of an athlete but also for the positive influence on the character and personality of a individual. Drug abuse is one of the biggest problems in sports. It involves the repeated and excessive use of chemical substances to realize a certain effect. It can also be referred to as substance abuse or doping. Many athletes use drugs in sports medicine, *doping* is "the assumption of substances or the recourse at particular methods which are able to artificially increase an athlete's performance during a sports competition, contrary to sports morals and despite physical and psychological health". Drugs, substances biologically and pharmacologically active and medical practices, which their application are considered doping, are divided, in compliance with the provisions of the Strasbourg Convention and under the indications of the International Olympic Committee (IOC) and other international organizations responsible in the sports sector, in classes, according to their chemical and pharmacological character and their corresponding effect.

To guarantee identical competitive conditions and to protect the health of athletes, the International Olympic Committee, WADA (World Anti-Doping Agency) and International Sports Federations have accepted use of performance-enhancing substances and methods by competitors directly or indirectly as 'doping', and have forbidden them. The WADA was an international organization, that is established on November 10, 1999 with the aim to promote, coordinate, and monitor the fight against doping in sport in all its forms.

In accordance with the WADA Code doping is the presence of a prohibited substance or its metabolites or markers' banned; the use or the attempted use of a prohibited substances or a prohibited method; the refusing or the failing, without compelling justification, to submit to sample collection; the violation of applicable requirements regarding athlete availability for out-of-competition testing; the tampering or the attempting to tamper with any part of doping control; the possession of prohibited substances and prohibited methods; the trafficking or the attempted trafficking in any prohibited substance or prohibited methods; the administration or the attempted administration to any athlete of any prohibited methods or prohibited substances, or the assisting, the encouraging, the aiding, the abetting, the covering up or any other type of complicity involving an anti-doping rule violation or any attempted anti-doping rule violation. In the time, the results obtained in genetics have been used in the field of sport, creating a new form of doping: "gene doping": a new border reached by the doping is the use of genes. Recent developments in genetic engineering have contributed significantly to the progress of gene therapy

research and currently numerous clinical trials are underway. Some athletes and their staff are probably watching this progress very much At the present, one of the prime candidates for gene doping is myostatin. Gene doping is defined, for the first time in the 2003, in the IOC List of Prohibited Substances and Methods. Now, in the 2013 WADA Prohibited List, gene doping, is "the transfer of polymers or nucleic acid analogues" and is defined as the "non therapeutic use of cells, genes, genetic elements, or modulation of gene expression, having the capacity to improve athletic performance. Gene doping is done using techniques developed for gene therapy. The most commonly used method is a viral vector, a "delivery vehicle" that does not cause disease, contains the gene of interest, and can be obtained to inject this gene into a specific type of tissue. In the case of certain muscle-enhancing treatments, the virus is injected directly into muscle tissue, where it proceeds to "infect" the muscle cells' nuclei, replicating the gene and ultimately increasing muscle mass.

Injection of EPO (Erythropoietin) increases the number of red blood cells and thus enhances oxygen-carrying capacity. This conventional method of doping is believed to be in widespread use in endurance sports like cycling and long-distance running.

The field of gene therapy going to dangerous results. The health risks associated with the use of the genes for the purpose of doping is not yet well known by athletes and their coaching staff. It is necessary that the WADA develops written, interactive and in different languages educational materials pertaining to the risks of gene doping so that the athletes can increase their awareness and knowledge about this method of doping.

Also, research needs to be coordinated in order to investigate the development of methods to detect gene doping. The pharmaceutical industry should preferably subscribe to a code in which they state that they will not produce or sell genetic products for other than therapeutic use, banning gene doping.

As effective and stringent laws came into effect, use of traditional doping agents were restrained but some athletes turned to other means to improve performance, including blood doping and use of recombinant peptide hormones such as Erythropoietin and insulin-like Growth factor-1. And hence highlighted the potential misuse of this technology and 'gene doping'. With development in genetic engineering, many other genes with this potential for abuse will be discovered and tried subsequently.

Drugs or methods use for doping purposes is a dangerous practice, that exposes who uses them to considerable risks. This practices must be discouraged not only for social and moral reasons but also for toxicological reasons, both in short and long term. On the whole, doping substances must be banned from sports, making a work of vigilance and authority accountability of sports nucleus and authorities in this field. To assess the medical and social aspect of the doping phenomenon, it is necessary to conduct surveys and periodic surveillance on abused drugs.

Moreover, the potential benefits to the individual and generally to society from sports will only be maximized where fair play is ensured at all costs. The following three principles are fundamental: the protection of the health of athletes, respect for both medical and sport ethics and equality for all competing athletes.

Substances and methods prohibited at all times (in- and out-of-competition)*	**Substances and methods prohibited in competition**
S1. Anabolic agents	S6. Stimulants
S2. Peptide hormones, and related substances	S7. Narcotics
S3. Beta-2 agonists	S8. Cannabinoids
S4. Hormone antagonists and modulators	S9. Glucocorticosteroids
S5. Diuretics and other masking agents	Substances prohibited in particular sports
M1. Enhancement of oxygen transfer	P1. Alcohol
M2. Chemical and physical manipulation	P2. Beta-blockers
M3. Gene doping	
In addition to the categories S1 to S5 and M1 to M3 are prohibited in competition	

[TAB. 1] The WADA Prohibited List for 2013

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Doping policy: a brief juridical and ethical analysis

S. Mazzeo, L. Varriale

Abstract

Starting from the ancient Greece, the relationship between sport and medicine was very difficult to manage because of the conflicts between health and sport. In the recent decades, modern sports medicine achieves the goal of improving performance and preventing injury. In this scenario, the existing legal issues, ethical principles and norms require further depth attention. Criticisms of the ethical justification of anti-doping legislation are not unusual in the literature on medical and sport ethics and sports medicine. This study aims to analyze the ethical and juridical aspects of the doping phenomenon in order to clarify and systemize the existing contributions in the literature and the broad discipline about anti-doping. We evidence that the World Anti-Doping Agency (WADA) was established in Lausanne on the basis of equal representation of the Olympic movement and public authorities. One of most important WADA function was to harmonize the Olympic anti-doping code and develop a single and complete code applicable and acceptable for all the stakeholders. The world anti-doping code developed by WADA introduced several international standards (ISs) with the main goal to harmonize the anti-doping disciplines from each country. The ISs were developed for laboratories, testing, the prohibited list, and for therapeutic use exemptions (TUE). It seems that the 2009 version of the World Anti-Doping Code (WADC) obliges all the healthcare professionals not to assist athletes engaged in doping behaviors; they can be removed from working with athletes. Several legal and ethical issues can explain limitations of athlete privacy in anti-doping practice and policy.

Keywords

Doping, doping policy, ethics, sport.

The desire to increase their own physical performances in order to obtain better results in sports led athletes to seek alternative methods to train hard. For a long time individuals have tried to improve in artificial way their physical performances. Doping has ancient origins, probably it would have the same age of sport phenomenon as from the moment in which individuals began to practice physical activity in competition with others, in fact, they have sought to improve their own performance by taking mixtures of various types of plants. Indeed, it seems that the term "doping" is derived from an ancient African dialect "doop" as meaning "a mixture or a potion". The willingness to compromise the performance involved, as victims, even the animals. The World Anti-Doping Agency (WADA) was established on November 10, 1999. In 2004, the World Anti-Doping Code has harmonized the rules and regulations governing anti-doping across all sports and countries for the first time. If we consider all substances included in the WADA Prohibited List, we conservatively estimate 253,700 users of doping products in Italy for specific use. In accordance to the WADA Code, doping is conceived in different ways including different specific meanings, namely it is: "the presence of a prohibited substance or its metabolites or markers' banned; the possession, use or attempted use of prohibited substances or methods; the refusing or the failing, without compelling justification, to submit to sample collection; the violation of applicable requirements regarding athlete availability for out-of-competition testing; the tampering or the attempting to tamper with any part of doping control; the trafficking or the attempted trafficking in any prohibited substance or methods; the administration or the attempted administration to any athlete of any prohibited methods or substances, or the assisting, encouraging, aiding, abetting, covering up or any other type of complicity involving an anti-doping rules violation or any attempted anti-doping rule violation".

In the beginning of the 20th century, in the search for substances able to make it stronger than others, the athlete was matched and complicity in different professionals: coaches, managers, doctors and pharmacists, nutritionist, equally interested in increasing their power, in a general and economic perspective. In the last quarter of the twentieth century, the use of doping in sport activities has become massive and systematic. With the advent of sponsors and mass media, the success in major sports competitions (Olympics, World

Championships, and so on) has been playing an increasingly significant social and economic goal, such as to encourage the use of all means, legal and illegal to catch up. The economic factor plays an important function, but certainly not the only one: doping cases have also been discovered in amateur athletes and, even if specific economic benefits are not achieved, this aspect indicates the existence of motivations more complex and sometimes not easily understood. About doping phenomenon, as already evidenced, several definitions have been developed over time, and sometimes partially conflicting. Doping is also known as follows: "*The intentional use by the athletes of drugs or methods aimed at obtaining an improved sports performance beyond the limits possible only with the training*". However, although this definition is very easy to understand might bring a wide debate: it does not take into account, for example, any medical needs of athletes and, conversely, lead to an improper use of nutritional supplements, vitamins, minerals and more. In the ethical perspective, the athletes resort to doping contravening the fairness rules that characterize the sport and competition whatever they might be. In addition, there is no doubt that the substances and methods used to artificially enhance the body posing a risk to the health of those who use it. More specifically, the problem is much more nuanced and articulated. In the elite sport, for example, doping phenomenon is complicated from some factors that must be taken into account to avoid unnecessary, often counterproductive, legal disputes. First, it is necessary remind that sport means work for an elite athlete. Any disqualification for doping automatically involve the loss of job for a certain period of time (months or years), with understandable economic damage. For this reason, it is necessary that the anti-doping procedures and results of the tests have the character of absolute certainty. The athlete is deprived of his/her right to work that is, a measure against which it will try to fight with all the weapons at his disposal and, for that reason, must be conclusive in technical terms (fairness of the procedures used in the doping control), and legal. Secondly, the athlete can have common diseases (e.g. asthma) or troubles caused by sporting activities (e.g. tendonitis) and, like all the citizens, this can rely on the right to heal in the best way possible, using virtually any drugs if available, including those that may be included in the list of forbidden substances.

Moreover, many aspects are involved in the prevention and fight of doping (as damage to the health of the athlete). In this scenario, also we need to pay attention to the adequacy of sporting rules against doping, the adequacy of state regulations doping (Law 376/2000), the harmonization of regulatory system doping, including sport and state at national and international level.

Furthermore, the desire to enhance their physical abilities did not even spare the disabled athletes. The International Paralympics Committee (IPC), a non-profit international organization for the Paralympics Movement, organizes the Summer and Winter Paralympics Games, and serves as the International Federation for 12 sports, which supervises and coordinates the organization of the World Championships and other competitions. The mission of the International Paralympics Committee is to allow disabled athletes to achieve sporting excellence and to create opportunities for everyone at any level. In addition, the IPC sets as its aim the promotion of the Paralympics values, which include courage, determination, inspiration and equality. The information stored in an athlete's biological passport may be then sufficient to launch a disciplinary procedure against the athlete but the rationale for doping control is based on the need to respect and maintain both ethical and medical principles.

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Anti-doping law: legislation and actors

S. Mazzeo, S. Santamaria

Abstract

High-level criminal investigations carried out in Italy on the production and trafficking of doping substances. The introduction of extensive anti-doping criminal provisions with Act 376/2000 boosted criminal investigations on doping. The investigations have been made essentially by three elements: anti-doping Law 376/of 2000 (the wide-ranging offense of doping that the act established), the NAS (a law enforcement agency specialized in public health issues) and the autonomy of public prosecutors. That NAS and prosecutor's offices conducted several incisive investigations even before the adoption of this act, resorting to suitable provisions in the Italian Criminal Code (e.g., article 445 CP, "Administration of drugs in a dangerous way for public health" and article 348 CP, "Illegal exercise of a profession") and to the offense of sporting fraud, which was introduced with Act 401/1989. Therefore, Act 376/2000 establishes three distinct types of doping offenses. The first two concern both athletes and their support personnel for procuring, administering, assuming or even encouraging the use of doping substances or methods, with the aim of improving an athlete's competitive performance or to modify the results of an anti-doping test (article 9, sections 1 and 2). The third offense is the most innovative, as it tackles illegal suppliers who trade in doping substances outside the official distribution channels (article 9, section 7).

The Law 376/2000 cleverly are indicates three aggravating circumstances, in particular if the offender is "a CONI component or employee of a national sports federation" and also provides additional sanctions for them and those practicing a health profession.

Keywords

Anti-doping policy, Law 376/2000, WADA.

Doping is a complex phenomenon considering the vast variety of substances, supplied through both legal and illegal trading routes, and the extensive connections between the people involved in the network. While doping may appear as the doing of an athlete on its own, it always involves one or several entities in the supply of doping agents or in their use, whether the friends and relatives of the athlete, or the medical staff, manager and teammates of a sport's team, or chemists, biologists and pharmacists, or pharmaceutical industries and clandestine laboratories, or criminal organizations.

Behaviour in mind that in most parts of the world there is no regulation on the production and trafficking of doping agents, there are very foundation for the development of clandestine pharmaceutical plants. On the whole, industries in Thailand, China, India and Russia play a leading role with numerous production sites and well-established trading routes. Actually, statistics on seizures of doping substances indicate China and India as the fastest growing source of suppliers of the international graymarket and a their ever-expanding pharmaceutical industries. In short, production in Thailand, China, India, Russia, Greece and Mexico account for approximately 55% of the global distribution of doping agents.

We will agree that sport is essentially under the current anti-doping campaign executed by an coordinated alliance between the World Anti-Doping Agency (WADA), law enforcement authorities, sports organizers and the media.

The World Anti-Doping Agency (WADA), which provides the regulatory and legal framework through which the vast majority of international sports federations harmonise their anti-doping programmes. On outlining briefly both the broad administrative structures of international sport's various anti-doping mechanisms, and specific legal issues that arise in disciplinary hearings involving athletes accused of doping. Today's approach to anti-doping is mostly centred on the judicial process, despite pursuing a further goal in the detection, reduction, solving and/or prevention of doping. In Italy Law 376/2000 establishes three distinct types of doping offenses. The first two concern both athletes and their support personnel for procuring, administering, assuming or even encouraging the use of doping substances or methods, with the aim of improving an athlete's competitive performance or to modify the results of an anti-doping test (article 9, sections 1 and 2). The third offense is the most innovative, as it tackles illegal suppliers who trade in doping substances outside the official distribution channels (article 9, section 7). Imprisonment

from three months to three years and a fine from €2,580 to €51,645 are the sanctions foreseen for the first two offenses; imprisonment from two to six years and a fine from €5,164 to €77,468 are foreseen for the third offense. Act 376/2000 can also be praised for development a 20-member national anti-Doping Commission, CVD, even before the establishment of a National Anti-Doping Organization (NADO) was requested by WADA.

CVD is entrusted by Law 376/2000 with the development and update of Italy's own prohibited list, the organization of anti-doping controls and the maintenance of operative contacts with the European Union and the international bodies.

Nevertheless, CONI, which has managed to remain in charge of anti-doping tests of elite athletes in Italy and to be recognized as Italy's NADO by WADA despite the fact that CVD's testing effectiveness is much higher than CONI's. Although CVD has developed in recent years close collaboration with NAS, a representative of which is a CVD member, it has not played a major role in the criminal action against doping. Intelligence sharing between CVD and NAS only began in 2008.

From 2000 to 2011, NAS investigations led to the report of 3,794 suspects and to the arrest of 446 persons for doping-related charges. Over the years, NAS have also been responsible for about 90% of the seizures of doping products carried out in Italy. Between the years 2012 and August 2013, eighty-seven people were arrested, 589 people reported, more than 100 thousand and 12 thousand doses of drug packages seized banned for doping, for a market value of more than two million Euros is the NAS activity for doping. In Italy, NAS composed by 38 centers with a separate unit of the Carabinieri, which is composed of about 1,100 members and operates under the direct authority of the Ministry of Health.

Moreover current anti-doping strategy is aimed at eradication of doping in elite sports by means of all-out repression, buttressed by a war-like ideology similar to the public discourse sustaining international efforts against illicit drugs. ethical foundation for anti-doping is the protection of the athlete's health. It is reasoned that anti-doping control is necessary to prevent damage from doping. Elite athletes only represent a small fraction of the global population but the resources of anti-doping almost exclusively go into testing of these athletes. WADA Accredited Laboratories are absorbed by the constant and significant flow of blood and urine analyses required by National and Regional Anti-doping Organizations (NADO and RADO), National and International Sports Federations and the International Olympic Committee (IOC) and the regular demands for case support.

Additional concerns, related to research and the challenge of developing and validating methods for the long and ever-increasing list of prohibited substances and methods, as well as proficiency testing programs, internal and external quality management audits, ISO 17025 accreditation surveys and the specific requirements of the International Standards for Laboratories (ISL) complete the schedule of Accredited Laboratories.

While doping may appear as the doing of an athlete on its own, it always involves one or several entities in the supply of doping agents or in their use, whether the friends and

relatives of the athlete, or the medical staff, manager and teammates of a sport's team, or chemists, biologists and pharmacists, or pharmaceutical industries and clandestine laboratories, or criminal organizations, drug smugglers and dealers. Italy's adherence to the principle of legality, criminal investigations in anti-doping and other fields end up depending to a considerable degree on the good will and dedication of the individual prosecutors. This is particularly dreadful in a technical and specialized field such as that of doping, where not all prosecutors are equally conscious of the problem and familiar with the special legislation. Therefore, doping is a public health issue and not simply a problem inside the professional sports community. Raising consciousness on the reality and involvement of the situation would help to legitimate the establishment of legal grounds necessary to the implementation of Anti-Doping Intelligence and this might prove efficient at a more proactive response to any potential or emerging doping phenomenon or to address existing problems with innovative actions or/and policies.

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Sport e counselling
New horizons in the activities of special olympics

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Abstract

"Let me win, but if i cannot win, let me be brave in the attempt". The present work aims to initiate a research plan that focuses on the inclusion of a new professional figure in the Special Olympics Team, the counsellor, as an expert in the helping realtionship. The counsellor's profession has been legally recognized by the law of 01.14.13 No. 4, that defined objectives and actions that differ this figure from the psychologist.

The objectives of the present research work relate to the proposal of a model of sporting team which also includes the role of the counsellor as a companion in the process of choice. The action plan also aims to strengthen the value of sport as a relational, social and rehabilitational tool for children with disabilities, to encourage a constructive dialogue between the adults as reference figures and a full integration with the peer group through techniques such as parent training and coperative learning. The sport is by now an indispensable tool in the process of integration and inclusion of children with physical and / or intellectual disabilities. On the other hand, the action of the counselor aims to strengthen the resources and the performances of the "special" athlete, through empathy and active listening. The research project involves action at two levels: the individual one, establishing a long relationship with the athlete, in which he can feel welcomed, supported and accompanied in achieving its objectives through his forces and his resources; the group one, involving in sports activities appropriately studied by specialists of the team, families or reference figures and the peer group.

In this sense, there is a care taking of the entire system of relationships and the social context in which the boy lives on a daily basis, allowing a real integration and inclusion for a full bio -psycho-social well-being. The spirit of the Special Olympics, expressed by the oath, and the mission of the counsellor represent a possible and concrete combination in a network that, by combining different skills and different roles of each, can be an invaluable resource for the life of the athletes with disabilities.

Keywords

Sportive counselling, active listening, team, different abilities.

Introduction

"*Every human being should be able to take care of himself and others, to feel part of the world in which he live, to be the person who exchanges desires, values, identities, beyond his psycho-physical skills.*" (Cornoldi, Vianello, Lanfranchi, 2004).

The main international organizations (OMS, UNESCO, EU) have offered a definition of sport particularly suited in the broadest sense of the term, describing it as an essential component for a balanced human, cultural and social development of young people and adults throughout the whole of their lives. This can also be found in the fundamental principles of the ICF (International Classification of Functioning), in which it is central the quality of life of people with disabilities in relation to the new bio-psycho-social model. Through it, in fact, it can be grasped the dynamic of the interactions of the individual with his environment, considering for the first time in a holistic manner, the medical-biological model, the psychological one and the social one. Starting from these assumptions, the following work aims to highlight the importance of sportive activities offered by the international programs of training of Special Olympics which are addressed to children with physical and / or intellectual disabilities, with regard to actions of counsellors experienced in the helping relation.

The cultural and social mission of Special Olympics is to appreciate the intellectual disabilities in order to promote it as an resource for the society and target the actions and strategies towards a steady and growing commitment to increase the level of sensitivity of public opinion, setting the basis for an accurate and definitive overcoming of prejudices and mental barriers, still often difficult to eliminate.

It is in this context that fits the teamwork of specialized figures such as that of the counsellor, legally recognized as a profession not organized by the law of 14.01.13 No. 4 and different from that of the psychologist by structure and range of action.

But what this figure is and how can it be helpful in the context of sport? According to Rollo May, one of the founding fathers of counselling with Carl Rogers, the counsellor's task is to "promote the development and utilization of the customer's potential, helping him to overcome any personality problems

that prevent him from expressing himself fully and freely in outside world [...]. Overcoming the problem, the real transformation, however, could only be done by the person, the counsellor can only guide him with empathy and respect, to regain the freedom to be himself". The intervention of the counsellor is, therefore, aimed to promote the recognition, development and utilization of the potential of youth and seeks both to solve the existential conflict or emotional distress which affects the full creative expression of the person, and facilitate the dialogue between the person and his social context (family, work environment, interpersonal relations in general).

And it is precisely from this, we want to start the process of experimentation on the field, adding to the Special Olympics Association Team - Campania the figure of the counselor to allow the athlete to be able to develop his full potential and also educate him to the acceptance of a possible defeat.

The project also aims to:

– stimulate, through the coperative learning, a constructive dialogue between the families of children and adolescents with disabilitiesinvolving, too, the peer group, to promote the need to find out what are the added value of different abilities;
– monitor the levels of well-being of athletes and any problematic nodes through scientific tests such as the TMA test (Test of Multidimensional Assessment of self-esteem), the SAT-P test (Test on subjective satisfaction and quality of life) test TVD (Test of Evaluation of Discomfort and School Absenteeism), for an action by the counsellors, more targeted and personalized.

Methodology

A first phase of the project involves the study of the possibility to insert into the training program, a specific time dedicated to personal relationships and listening of the athlete, where the counsellor has the main task to assist, facilitate and support the boy entering a group.

A second phase involves the analysis of the possibility to involve families or the figures of reference, with a parent training, or even the peer group, using the technique of cooperative learning (Bruner - 1984), in sports activities that are specific and appropriately designed by the specialists of the team, with the goal of improving / strengthening the parent-child relationship, the relationship with the adult figures and the one with their peers.

Results

The counsellor, through active listening and accompaniment in sports activities offered by the National Special Olympics programs, individual and / or of group, wants to be a facilitator of the processes of inclusion and wants to implement the unconditional welcome to make sure that the person could feel included by helping create an empathic relationship of trust, through which could emerge the quality of the boy. In addition, the team wish to create a behavioral model, practicable even outside the sports, by placing the disabled, in other areas, capable to independently face different types of situations.

All of this would not be possible without the full and concrete integration and the inclusion into the social reality in which the boy is on a daily basis, with the same involvement in the same sports activities of both family and the peer group, as explained in the methodology.

As a result, the listening modes in the absence of judgment, the involvement of key figures to the athlete and the action of the entire sporting team, want to accompany him to clarify and define the goals that lead to the full development of his different abilities.

Discussion and Conclusions

The spirit in which it was born the Special Olympics is to be able to promote training and the practice of sport by giving the boys with disabilities continued prospects and opportunities to demonstrate courage, ability and desire to achieve their dreams. All of this always with the support of family, friends and of the entire community. Any kind of path, however, is characterized by obstacles of different degrees of difficulty, which is why a figure of relationship and support, such as that of the counselor can be a winning move within sporting teams. The network that links together different skills and different roles of each, may represent for the disabled athlete a total care addressed to his concrete well-being.

Alone we go fast, but only together we go far.

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The increase of parasympathetic activity in female professional baketball players is related to an increase in resting energy expenditure

G. Messina, S. De Blasio, F. Palmieri, U. Conte

Abstract

Since there are few studies concerning the comparison between vegetative and energetic changes of sedentary individuals and those of sportive subjects, the aim of the present study was to evaluate the influence exerted by sedentary and basketball exercise training on the relationship between the activity of the autonomic nervous system and resting energy expenditure.

The resting energy expenditure and the adaptation of the autonomic nervous system induced by sport activities in sedentary women and in female professional basketball players have been studied. Resting energy expenditure, body composition and the level of activity of the autonomic nervous system were measured before and after a period of six months. The physical activity induced an increase in resting energy expenditure and free fat mass without variations in bodyweight. Basketball players showed a significant increase in the parasympathetic activity, measured by the power spectral analysis of the heart rate variability. These findings demonstrate that resting energy expenditure is higher in the athletes than in sedentary women, despite the augmented parasympathetic activity that is usually related to lower energy expenditure.

Keywords

Parasympathetic, sport, energy expenditure, body composition.

Power spectral analysis (PSA) of the heart rate variability (HRV) is considered a non-invasive method for quantitative and qualitative evaluation of the autonomic nervous system activity in various fields of research and clinical studies. HRV represents continuous fluctuations in heart rate. In the frequency domain method of HRV, the high frequency (HF) component is associated solely with parasympathetic activity. The low frequency (LF) component is associated with both sympathetic and parasympathetic activities, but sympathetic activity is the greater contributor. Furthermore, it has been shown in the last several years that the activity of the autonomic nervous system is related to the body composition. The percentage of adipose tissue of the human body is associated to variations of the parasympathetic-induced HRV modulation. By using the parasympathetic activity of the HRV, it has been shown that young obese women have a weak sympathetic response to different thermogenic stimuli, like cold exposure or food intake. Recently, significant correlations were observed between HRV and obesity indices at rest. During the resting state, higher levels of fat mass were significantly associated with the lower LF variable, which mainly reflects sympathetic activity. Then, an increase in the ratio between parasympathetic and sympathetic activities is an important factor in the induction of body weight gain. The reduction of sympathetic activity causes a reduction in energy expenditure, with a consequent obesity. On the other hand, sports are known to induce several adaptive modifications, including changes in the activity of the sympathetic nervous system and in resting energy expenditure. The parasympathetic tone is enhanced by physical training, so that a reduction in the heart rate (induced by vagal influence) is considered as an index of training status in athletes.

The aim of the present study was to evaluate the influence exerted by sedentary and basketball exercise training on the relationship between the activity of the autonomic nervous system and resting energy expenditure.

Ten sedentary women and ten female professional basketball players were enrolled among those who contacted the ambulatory of Sport Patho-physiology of the Faculty of Medicine of the Second University of Naples. All subjects were informed about the treatment, the instrumental procedure and the aim of the experiment and gave their informed consent.

Resting energy expenditure (REE) was measured by indirect calorimetry using a computerized flow-through canopy-gas analyzer system (VMax 29, Sensor Medics, USA), which was calibrated with the precision gas mixture before each measurement. Samples of inspired and expired air were analyzed for the difference in oxygen and carbon dioxide concentrations through a paramagnetic differential oxygen sensor and an infrared carbon dioxide analyzer, respectively. Signals from the gas analyzers were processed by a computer-assisted software and oxygen consumption and carbon dioxide production were calculated once every minute for 30 min. The REE was measu-

red in subjects after a 12 h period of overnight fasting. The measurements have been made between 8:00 A.M. and 11:00 A.M.

The PSA of HRV was evaluated by an electrocardiogram (ECG) for 5 min. The signals were acquired on a PC at 100 s/s by an electrocardiograph connected to the serial port of a PC.

Body composition was determined by conventional Body Impedance Analysis (BIA) with a single frequency (50 kHz) bioelectrical impedance analyzer, according to the standard tetrapolar technique, with the subject in supine position and the electrodes placed on the dorsal surface of right foot and ankle, and right wrist and hand. All the participants to the study were submitted to the BIA between the eighth and eleventh day from the onset of the menstrual cycle. They had been fasting for 12 h, they had not assumed drinks for 4 h and they had not assumed contraceptive over the last three months; this condition assured an optimal state of hydration for BIA.

REE, body composition and HRV were measured before and after an interval of six months. Sedentary women did not perform any sport, while female players performed competitive sport. At the time of the first measurements, the female players had two months of sports inactivity (period of summer holidays), while at the time of the second measurements they have performed a competitive sport activity for the last six months.

The results showed the variations of the REE both in the sedentary women and in the trained ones. There was a significant increase of the fat free mass in female players. During the period of observation, body weight remained unchanged both in the sedentary women and athletes. Also was analyzed the resting heart rate (HR) in both sedentary and trained women at 0 and 6 months. The resting HR of athletes was significantly decreased by training, whereas there was no difference for sedentary women.

To our knowledge, this is the first study to examine the effect of long-term training on relationship among cardiac HRV, REE and body composition. In this study, an increase of the HF of the HRV-PSA has been noted in sportive women, confirming that exercise induces an increase of the parasympathetic activity at resting. On the contrary, the LF of the PSA of HRV has not been modified by sport activity, indicating that the basketball does not modify the sympathetic discharge. The increase in the parasympathetic activity is associated with an increase in REE and this association is an important result considering that the parasympathetic activity has generally been demonstrated to have an inverse relation to REE. A plausible explanation could be that sport activity let energy waste increase through a development of the muscular mass, despite the increased activity of the parasympathetic nervous system. Another possible explanation is that an increase of the parasympathetic discharge "per se" could induce an enhancement of REE, suggesting an innovative vision of the relationship between REE and the parasympathetic activity in sportive women. This adaptive modification of autonomic activity could explain why REE of sportive women is higher than that of sedentary subjects. Indeed, the present experiment shows that sport activity produces an increase in REE, not only during the sport performance, but also at resting time. When analyzing the ECG of athletes, there are identifiable changes found with prolonged training. The common ECG changes found include sinus bradycardia, atrioventricular conduction disturbances, and tall t-waves. Some of the ECG changes found may be attributed to increased parasympathetic tone. The changes of HR in the athletes of this study are in accord with upon reported modifications due to the sport practice. In the future, this type of research can be extended also to older women, in order to analyze aging effects on the autonomic adaptations induced by sport activity. In fact, as shown in previous research on fertile women and on subjects in menopause, aging modifies the type of adaptation of oxygen waste and of the autonomic nervous system activity. Furthermore, this study could be replicated in young and old men, considering the metabolic and vegetative differences due to the gender. Finally, practical implications of energetic and autonomic adaptations shown in this study can include different strategies for prevention and therapy of the obesity, a pandemic disease in the Western World.

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Neuroendocrine and autonomic functional changes caused by stress in skydiving

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Abstract

By using a psycho-physiological approach we investigated the stress response during parachute jumping, a well-characterized stress model to study emotional and physical stress in humans. This study focused on the correlations among competitive state anxiety components, hormonal and autonomic responses. Seven male sport-parachutists, took part in the study. Neuroendocrine and autonomic variables were measured 12 h before jumping (basal), within 60 s (jump) and 90 min after touching the ground (post-jump). Participants were administered the Competitive State Anxiety Inventory-2 (CSAI-2) questionnaire. Salivary cortisol (Cort) and α-amylase (A-A) concentrations were measured by spectrophotometry using commercial kits. For heart rate (HR) and galvanic skin response (GSR) assessments data were acquired by holter recording. One-way analysis of variance with repeated measurement were used to analyze both psychological and physiological responses to stress. When significant differences were found, a linear regression analysis was performed. Parachute jumping led to a strong response of Cort, A-A, as well as HR and GSR. In examining bioumoral correlates and psychological measures of stress and anxiety we found correlations between neuroendocrine parameters and anxiety components. Alpha-amylase seems to be a better physiological indicator than cortisol to examine the relationship between neuroendocrine parameters and state anxiety components. Finally, this is the first report that GSR significantly correlated with A-A and the somatic component of competitive state anxiety, confirming its potential to provide researchers with a tool for objectively measuring stress during operational conditions.

Keywords

Stress; cortisol; α-amylase; GSR; parachute jumping; autonomic nervous system;

Many studies recognize the hypothalamic-pituitary-adrenal (HPA) axis, the sympathetic-adreno-medullary (SAM) and the sympathoneural (SN) systems as the main components of the psychobiology of stress, by means of both the secretion of glucocorticoids (e.g., cortisol) and the release of catecholamines into the blood stream (Lundberg and Frankenhaeuser, 1980; Chrousos and Gold, 1992) Neuroendocrine and autonomic responses can differentially react to stressors, depending on the type and intensity of the stressor itself and interpreted in light of individual experience (Goldstein, 2003). Cortisol is related to the amount of threat or distress produced by a task, which is especially relevant in situations inducing ego-involvement leading to negative affective states. By contrast, SAM activation appears to be related to the amount of effort put in action by the subject in a task and associated with feeling of alertness and action proneness. Therefore, the excretion rates of cortisol and catecholamines could be seen as indicators of the effect of different task and environmental demands on healthy people. Individual differences in response to stressors can be measured non-invasively in saliva. The salivary α-amylase, produced locally by salivary glands, has become feasible, as a marker of the adrenergic component of the stress response.

Non-invasive measurement of activity in the SN system is also possible via skin conductance. The GSR has long been considered a measure of physiological and mental stress. Morris et al.(1981) have proposed a multidimensional view of anxiety, which differentiates anxiety into physical and mental components. The physical component of anxiety included bodily symptoms of anxiety or autonomic arousal, while the mental component of anxiety was characterized by negative concerns. Conversely, somatic anxiety is correlated with SN and SAM activation. Consistent with this multidimensional theory of anxiety, Martens et al. (1990) developed a sport anxiety scale, the CSAI-2, to differentiate between the cognitive and somatic components of state anxiety, when investigating anxiety components during a competition. Competitive parachute jumping is an acute, intensive stress situation, which has been employed by several investigators as a real-life stress situation. Sport parachuting is characterized by a markedly accentuated sympathetic activation, as shown by the increase in heart and respiration rates and a higher degree of self-rated arousal during jumps. Time kinetics of the endocri-

ne response in inexperienced parachutists showed a significant increase in epinephrine concentrations during the jump itself, while norepinephrine, cortisol, growth hormone, prolactine, and TSH peaked with a latency of 10-20 min. Using a psycho-physiological approach to investigate competitive stress during parachute jumping, this study aimed at providing indications on the relationship between anxiety components and hormonal responses and determining whether the GSR can be adopted as a tool for objectively measuring the stress response during operational conditions.

Seven healthy adult male sport-parachutists, with different level of experience, took part in the study. The altitude reached by the aircraft at the time of the jump was 4500 feet. Salivary samples were collected in the first 30 min immediately after awakening (basal), within 60 s (jump); and 90 min after touching the ground (post-jump). The Cort and A-A concentrations were measured by commercial kits (Salimetrics LLC, State College, PA, USA). HR responses and GSR data were recorded and the GSR parameters were measured simultaneously

Thirty min prior to entering the aircraft participants were administered the Italian version of the CSAI-2 questionnaire (Robazza and Bortoli, 2007). Parachute jumping induced the expected significant increases in both autonomic and hormonal variables. The concentrations of A-A and Cort rose in parallel, reaching peak values immediately after landing. Interestingly, the concentration of Cort fell to basal values within 90 min, but the concentration of A-A remained significantly elevated after 90 min from touching the ground, with respect to basal value. Heart rates as well as GSR levels, recorded at jump, are significantly increased, suggesting high levels of stress, remained significantly elevated after 90 min from touching the ground. Regarding the correlation between physiological responses and psychological variables at jump the study show a significant correlations emerged between A-A and GSR and between Cort and HR, instead, no correlation was found between A-A and Cort responses, and between HR, GSR or A-A responses. Regarding psychometric variables, SA scores correlated with both A-A and GSR. A significant relationship was also found between SA and S-C. Interestingly, the negative relationship between Cort and HR was confirmed.

In the present study, physiological measures were recorded from sport parachutists before and after a single jump session and compared with self-reported state anxiety ratings, arising the question whether differences in physiological responses would correspond to differences in subjective ratings of both SA, CA and S-C. Emotions can be considered the result of two major components: a physiological arousal and cognitive assessment of the environmental situation. Data presented in this study demonstrated that at jump HR peaked, increasing by 180% as compared with the basal values. The A-A paralleled this trend increasing more than 400%. These data are consistent with previous findings in parachutists (Chatterton et al., 1997). Although there are no absolute levels of GSR, indicative of high workload or stress, higher GSR levels recorded during certain tasks suggest higher levels of stress. Changes in A-A concentrations were significantly related to the change in the GSR response produced at the jump. In our study we have also shown that in response to conditions that stimulate autonomic functions and adrenomedullary secretion a concurrent activation of the HPA axis exists. Data presented in this study demonstrated that parachute jumping led to a strong response of Cort, which increased by 380% as compared with the basal values. Such an increase can't be solely explained by the common knowledge that cortisol increase is linked to exercise. The HPA axis is activated by negative affect associated with stress, including fear and frustration, whereas the SAM system is related to effort and is valence non specific (Frankenhaeuser, 1982; Lovallo and Thomas, 2000). Data presented in this study demonstrated that physiological responses showed a similar pattern of changes as a function of time to the jump, confirming their integrative role into a common system of arousal. In fact, our data clearly demonstrated the relationship between GSR and A-A responses to stress, but failed to show association between Cort and A-A changes, When evaluating HR and Cort together, as a combined physiological reactivity, no correlation was found at the average basal values.

A negative linear relationship with CA and a positive linear relationship with their personal capacity has been proved in relation to physical performance. Data presented in this study demonstrated that parachutists reported a moderate level of anxiety and a higher level of S-C.

In conclusion we obtained the first data on the relationship among hormonal, autonomic and both somatic and cognitive anxiety in subjects practicing sport parachuting. Data presented suggest that SA is correlated with SN and SAM activation, and that coordinated regulatory mechanisms for endocrine and autonomic responses to stressor may exist. Our findings also confirmed that GSR has the potential to provide researchers with a tool for objectively measuring stress during operational conditions.

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Management of sudden cardiac arrest on the football field

G. Messina, R. Russo, F. Palmieri, U. Conte

Abstract

Football is the most popular sport on earth. The reported incidence of sudden cardiac arrest (SCA) varies from 1:65 000 to 1:200 000 athletes. Immediate cardiopulmonary resuscitation and early defibrillation is the treatment for SCA. High success rates can be achieved if this is initiated promptly, preferably within seconds of the arrest. Trained medical responders must be allowed to respond, ideally with a defi brillator (manual or automated) in hand, to a player who suddenly and unexpectedly collapses and remains unresponsive on the field. Immediate defibrillation of a pulseless ventricular tachycardia or ventricular fi brillation, within 1 to 2 min of onset, has a successful cardioversion rate exceeding 90%. Medical responders should be well trained and rehearsed in the recognition of SCA, including distractors such as seizures, myoclonic jerks and agonal (gasping) breathing.

Keywords

Football, sudden cardiac arrest, sudden cardiac death

Football is the most popular sport in the world. When a popular player in great shape suddenly collapses and dies during game play, the tragic event is often recorded and publicized worldwide. The incidence of sudden cardiac arrest (SCA) is from 1:65 to 1:200.000.000 athletes. A broad spectrum of cardiac and non-cardiac causes are involved, and preventive medical evaluation is recommended as a regular measure. The immediate cardiopulmonary resuscitation (CPR) and early defibrillation is the treatment for SCA. For a qualified doctor should be allowed to act, theoretically with a defibrillator (manual or automatic) in hand, for a player who suddenly and unexpectedly collapses and remains on the field. The immediate defibrillation of a pulseless ventricular tachycardia or ventricular fibrillation, within 1-2 min from the onset, has a higher success to 90%. Rescuers doctors need to be well trained and prepared in recognition of SCA, including indicators such as seizures, myoclonic jerks and gasping. Start chest compressions in the field, along with early defibrillation, will result in saving the lives of many athletes and leads through the immediate implementation of these simple recommendations. The true incidence of sudden death syndrome is not known but may be estimated by using 1 of 65, 000 to 1 in 200, 000 that is a SCA every 3 days and is 2. 5 times higher than non-athletes. These figures are underestimated, however, there is no doubt that the sudden cardiac arrest (SCD) is the leading cause of death in young athletes during exercise.

In 60 to 95% is structural in origin and includes especially: hypertrophic cardiomyopathy, arrhythmias, right ventricular dysplasia, congenital anomalies under the age of 35 and coronary heart disease over the age of 35 that induce ventricular fibrillation as the main cause of SCD. In the band under the age of 16 cardiac contusion (commotio cordis) is considered to be up to 20% of incidence. Rare after the age of 21. The Commotio cordis is the induction of ventricular fibrillation during the vulnerable period of repolarization of the myocardium due to a blow to the chest obtuse, non-penetrating, usually high speed, both from a small solid object (soccer ball) or from contact with another player. Other cardiac causes of SCA include myocarditis, Ruptured Aortic Aneurysm, Aortic Valve Stenosis, Mitral Valve Prolapse, Dilated Cardiomyopathy, Cardiac Arrhythmias drug-induced and ion-channelopathies, which includes long and short QT syndrome, Brugada syndrome and family catecholaminergic polymorphic ventricular tachycardia (abnormal regulation of the ryanodine receptor calcium release). Non-cardiac causes of SCA include asthma, heat stroke, cerebral artery rupture stress and Rhabdomyolysis secondary to sickle cell trait. And common for a player on the field collapses to the ground for a possible collision, the referee controls the needs of the medical field (max 2) and the intervention of the stretcher-bearers, and this may' result in a delay in rescue operations. SCD should be considered whenever a player collapsed on the field after a collision so that the fourth official at the sideline all active relief (medical ambulance bus physiotherapists). It easy to see a myoclonic reaction of the subject so as to appear an epileptic seizure. So it would be strongly recommended the formation of cardiopulmonary resuscitation and defibrillation by first responders.

Emergency Management field

Emergency management has been described in many publications. The most representative (2005) is the ILCOR (guidelines for resuscitation). The SCA is an arrhythmogenic cardiac event, the prevailing arrhythmia is ventricular fibrillation and the treatment of this ' immediate use of external defibrillator and in the case were not immediately available with cardiopulmonary resuscitation (CPR).

The success is related to time of intervention with defibrillator, for every minute of delay, the life expectancy is reduced by 10 %. The time recommended by ILCOR is 3-5 min from happening so you riudurre time approach to the sport the recognition of the arrhythmia, the recovery of the defibrillator. The SCA is an arrhythmogenic cardiac event, the prevailing arrhythmia is ventricular fibrillation and the treatment of this ' immediate use of external defibrillator and in the case were not immediately available with cardiopulmonary resuscitation (CPR).

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Conclusions

It clear the need for specific training of doctors, physical therapists and practitioners that should be put in a position to operate quickly with appropriate equipment.

So every sports facility dedicated to this activity should have resuscitators with Defibrillator Cardiopulmonary on the sideline in addition to equipment for first aid (ambulance equipped for resuscitation).

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Karate for visual disabled

C. Milione, S. Liguori

Abstract

This work wants to focus on the improvement of mental and physical balance of blind people, increasing their potential and therefore to assess whether karate can help people feel self-confident and able to physically interact with others, providing them a wealth of self-defense and self-control.

The introductory part highlights the distinction made by "Italian Union of the Blind and partially sighted" among blind and visually impaired people, and the presence of many associations, including the Federation of Italian Paralympics sports for the visually impaired and blind people, who surround and help the visually impaired in amateur and professional level sports.

Why karate? With karate you can point to an improvement in coordination, to strengthen both mind and body, to trust and feel masters of their own body and the space around them. The method used is the theoretical argumentation and the expected results are different, trying to improve balance and coordination, to teach self-defense techniques and strengthen the body, create more self-confidence and feeling of have power even knowing their limits.

I conclude by saying that the sport is also a way of self-confronting, overcoming some of blind people psychological difficulties, which sometimes translate into a strong sense of insecurity. Being able to play sports that are commonly considered impossible by those who do not see, is an effective way to acquire self-confidence, increase self-esteem and to reverse negative psychological attitudes. You can thus achieve the important goal of not focus attention on what you are not able to do, because of the handicap, but on what in spite of it, you still manage to do.

Introduction

Sports competitions reserved for the handicapped people, for some years now, have become quite familiar to the Italian public but very often the interest of the media is still essentially tied to curiosity rather than technical elements. Spain and throughout South America give much importance to these initiatives, especially in some disciplines.

The blind people, given the characteristics of their handicap and the extreme importance that the view usually plays in almost all sports, have created a sport for them or that can be played by normal person completely blindfolded.

We are talking of Torball even if the most practiced sport by blind people in Italy is probably the Tandem, bicycle for two people, a blind person and a normal person in front.

Other sports practiced by many visually impaired people are: athletics, judo, taekwondo, fencing, swimming, cross country skiing and sometimes alpine skiing, archery and, of course, especially in Spain and South America, football. The possibilities for a blind person to practice a healthy physical activity are not few. If you want to broaden the scope to those sports who may be practiced at an amateur level, the spectrum is further bigger. Low vision in Italy affects about 1.5 million people, while the blindness affects 350,000 people. What is low vision? What is blindness? Low vision is a condition of very limited visual acuity that has significant impact on everyday life. Blindness is a very low visual-optical perception or no visual perception at all (respectively partial or total blindness). Clarified that, it is right to open a small parenthesis sull'UIC because it is the Italian Union of the Blind and Visually Impaired People and operates nationally and is present in every region and province in Italy.The Italian Union of the Blind and Visually Impaired is a non-profit organization with legal personality of private law, where the law and the statutes rely on the representation and protection of the moral and material interests of blind people against the Government.The Italian Union of the Blind and Visually Impaired ONLUS purpose is the integration of the blind people into society by pursuing the unity of the category (www.uicmi.it paper of the services of the provincial headquarters of Milan). The blind people, like many other disabled people, are at the center of many initiatives and interventions of the Government, to guarantee and protect the so-called vulnerable groups, in addition to overcome many prejudices and those little architectural barriers in our country.

Blind people are surrounded by numerous sports organizations that protect and guarantee their rights and try in some way to realize their dream. Think of the FISPIC (ITALIAN FEDERATION PARALYMPICSPORTFOR BLIND AND VISUALLY IMPAIRED PEOLE) is the Paralympic Sport Federation to whom the Italian Paralympic Committee, has

delegated the management, organization and development of the sport for the visually impaired and blind. The FISPIC put together the disciplines of Goalball, the torball, football 5- B1 and B2 / 3, the judo and the showdown. This is just an example of what surrounds the visually impaired and the blind people and how the sport becomes a therapy, if you only think about the multiple beneficial consequences it produces.

Method

The method used is theoretical – argumentative. The meaning of the term " theoretical research " is not unique, because this kind of cognitive activity by some theorists of knowledge is included in basic research (Fundamental research), in what Gilbert De Landsheere conceives as the "search for new knowledge and new fields of investigation without a specific practical purpose, free from concerns about the practical application of new knowledge."

"To argue" means to discuss about one or more key issues on relevant topics, following a route rigorously established. More specifically, this term has the meaning of "debate" by placing the ideas, opinions and knowledge in a logic interaction and chronological succession, so to bring in the other disputants opinions of sharing, acceptance or dissent of the claims of others.However, it is a real form of knowledge (Prof. Giovanni Arduini, Experimental Pedagogy).

Results

The results of this preliminary theoretical study suggest that karate develops in blind subjects not just performing ability such as coordination, self-defense ability and self-control, but also integrative and inclusive ability; the winning principle is induced from participation in training sessions also of blindfolded sighted athletes. In this way you can make them understand the difficulties of a world that they and all of us have never seen.

Discussion

Thanks to the continuous exercise of this discipline, blind people will learn the movements encoded and a complex and well-defined philosophy. The importance and benefits of practicing a martial art are many, but also the difficulties to be overcome are equally remarkable.The karate as other fighting philosophies requires a working couple and a maximum attention to himself, the other person and the distance between them. With some changes and attention it is possible to teach the art of fighting even to the blind people, but of course it is a non-violent and free of trauma training. It aims to encourage socialization and group work, to further develop the capacity tactile already very strong in people who are blind and many coordination skills such as rhythm or that of the kinesthetic differentiation. A field trial has already been made not a long time ago in the U.S. with two Italian karateka FIJLKAM (Italian Federation of Judo Karate and Martial Arts): Max Bartoli, 3rd Dan, and the World and European Champion Lucio Maurino.The U.S. school has proposed to teach to blind athletes coded techniques of karate, not to make them into fighters, but to improve their mental and physical balance and to further develop their potential.Judo, Taekwondo, MGA, Aikido, Jujitsu and Karate are now facing in this new world, understanding the importance of combat sport as life and body education, especially for the disabled and in this specific case for visually impaired people.

Conclusions

The importance of sport and especially the importance of combat sports is based on the concept of psycho-physical unity, in order to promote the harmonious development of the blind person.Psychomotor development requires some basic prerequisites:

- physical and motor coordination;
- attention capacity at various levels depending on the task to be performed (eg. Control of your body, maintaining balance, the ability to concentrate and actions of attack or defense);
- symbolic thought and capacity for abstraction; (G. Castelli, 1995)

Considering the specific area of the blind people, in addition to the direct benefits that can be drawn in the physical and muscular field, to overcome the drawbacks of a sedentary lifestyle, which is typical of many blind people, it is worth highlighting the chance to fight some of the stereotypes of behavior of the visually impaired people. The sport is also a way to deal with themselves, thus overcoming some of their psychological difficulties which sometimes develop a strong sense of insecurity, hopelessness, discouragement, with the consequent tendency to inaction and passivity. Being able to play sports commonly considered impossible for those who cannot see, is an effective way to acquire self-confidence, increase self-esteem and to reverse negative psychological attitudes.You can thus achieve the important goal of not focus attention on what the blind person is not able to do, but on what, despite the handicap, he still manages to do (Henry Pozzato, 2012).

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Knee injuries and functional rehabilitation of the athlete

D. Nocerino, V. Pipola

Abstract

The functional rehabilitation is a subject that in the last years gained the attention of several academics of different disciplines, from medicine to physiotherapy, and in sport field thanks to the care and dedication that sports trainer and sports doctors give to the knowledge of the different pathologies in their fundamentals – anatomical and clinical – and in the operative rehab aspects.

A subject that is surely exciting and engaging for ones that study and work with professionalism in the Sciences of Sports and Physical Activities.

The knee is the joint that in the last twenty years has benefited from the main advantages resulting from the progress of the surgical techniques used for the repair of its anatomical elements; not so significant have been the innovations in the rehab after the surgical treatment. Indeed up to few years ago after a reconstruction the rehab programs were overprotective and characterized by a period of limb immobilization at least of 6 weeks, with the conviction that in this way it could be guaranteed an optimal heal of the graft.

Nevertheless the non favorable effects of an extend period of immobilization on the joint cartilage, on the ligaments, on the capsular structures and on the lower limb musculature, de facto have set off the opposite concept, that is an early knee mobilization, through rehab techniques always more aggressive. Some of these operations, as the early passive mobilization, the immediate passive extension, the complete stress in deambulation within the first month, not only have reduced the percentage of complications such as rigidity or serious hypotrophies, but have also been recognised like elements able to facilitate a better reparative process of the new ligament.

Keywords

Knee, athlete, functional rehabilitation, puzzle test.

As many as 15% of all sports injuries involve the knee and these lesions differ in acute lesions and lesions by overload or fatigue with a ratio of 3 to 1. The first type are traumatic, sudden and unexpected while the latter are all those derived from extreme functional stress, and therefore essentially due to repeated micro-traumas. Acute injuries can affect the bone heads as in the case of articular fractures, much feared by athletes because they require long recovery times also due to the formation of callus; they can affect the patella, the distal femur, proximal tibia or the tuberosity.

The dislocation of the patella involves a lateral movement of the same. The tendinee lesions may be total or in most cases partial and affecting the patellar tendon or the quadriceps. Meniscal lesions are much more common on the medial, moreover there are injuries to the ACL or PCL and collateral ligaments.It must be said that often the ligament injuries are associated with the meniscal injuries.

The main overstress lesions are divided into 4 groups: tendinopathy, apophyses inflammation, bursitis as well as by the triad of syndromes. In this field we can find some factors that predispose to injury and they can be endogenous and exogenous type. In the first we find structural abnormalities both congenital and acquired, the asymmetries of the lower limbs, muscular or metabolic imbalances, previous injuries. In the second ones we find footwear or clothing used by the sportsman, the nature of the terrain and condition of the sports facilities, the biomechanics of athletic movement, the dietetic errors especially in non-professional athletes.

After knee injury it follows the treatment, that can be, depending on the case and on the seriousness, bloody or bloodless, defined technically as surgical or conservative.

Immediately after it starts the phase of rehabilitation which consists in returning to the articulation injured of its functionality. This activity for the sportsman is not only a quantitative rehab but also a qualitative upgrading to ensure that the athlete can reach again performance levels comparable to those obtained prior to the accident.

At the time when we speak of functional assessment is generally referred to a single test or functional test that can give us a clear picture of the neuro-muscular and functional situation of the injured limb. However, there is no testing or functional test of character so to speak "comprehensive", which is able to provide all the information necessary to the understanding

of the functional limitation determined by a pathology and the drafting of an appropriate rehabilitation plan. In the context of the functional rehabilitation we can define the "concept of the puzzle," it will enable more consistent functional tests assembled between them to provide a greater number of very useful information than a single test can give us.

Having a greater number of information means, ultimately, to have a picture of the functional status of the patient ever clearer and delineated, which will allow us more effective possibility of intervention. The concept of puzzle arises precisely from the need to provide the operator, specifically the physiotherapist, sports doctor, physiatrist, or any other professional that deals with functional rehabilitation, a "modular" tool through which we can build a framework reference ever clearer and precise in relation to the "modules" used.

The functional evaluation of an athlete involves the same issues of functional assessment of a sedentary individual? By definition, an athlete is an individual who uses, of course in relation to the discipline practiced, the conditional and coordinative abilities to their maximum possible functional expressions. It is obviously different the case of one who does not practice any kind of sport activity and whose purpose is to return to a functionality that does not interfere negatively with the quality of life desired. Therefore, the functional evaluation of an athlete requires special attention. All long, the main test to which any kind of athlete underwent was and still is the isokinetic test.

The isokinetic undoubtedly has allowed significant progress in the study of muscle behavior, but the type of muscle contraction produced through the isokinetic mode presents considerable and essential differences with the type of contraction which is carried out in the course of a natural movement. An athlete needs, even more than it is for a sedentary, of a methodical evaluation designed to highlight any functional deficit in the context of neuromuscular activation patterns, which then finds himself in specific technical movements. For this reason, the method of type isoinertial is without a doubt the most reliable evaluation technique in functional scope.

Isoinertial assessment and "puzzle concept", ie the building through multiple tests, each one specific to a particular type of neuro-muscular behavior, thus constitute the new key to the interpretation of the concept of functional diagnosis of the athlete, but obviously also of the not sporting man.

The pieces of our hypothetical "functional puzzle", developed to date, are nine:

- *Work test*: test that quantifies the production of strength and power, the speed of contraction and the ability to work of the injured limb while comparing these parameters with those of the contralateral limb healthy.
- *Bi-test* test that combines surface electromyography to isometric dynamometry and thus allows to investigate the patterns of neuromuscular activation of the two limbs.
- *Fvr test*: functional test that allows the construction of the relationship strength/speed of the injured limb and compare it to that of the healthy limb.
- *Elasticity test*: that gives the percentage of return of elastic energy in its various components (increasing of: pulse strength, speed of contraction, production of medium power).
- *Fatigue test*: tests that can indicate the possible change in muscle fiber type of the traumatized limb after the period of immobilization and rehabilitation after injury.
- *Power test*: through which it is possible to build the relation strength / power and speed / weight for both the injured limb that for the contra lateral healthy.
- *Stiffness test*: test that calculates the stiffness of the muscle-tendon complex and that proved to be particularly suitable and innovative in the context of some specific diseases such as injury to the achilles tendon.
- *Synchro plates*: test that uses a dual platform of power synchronized and allows, through a particular analysis of the signal strength recorded, to retrace and to interpret, under rehabilitative perspective, the sequence of the different patterns of neuromuscular activation that follow one another during the most typical of ballistic movements such as jumping.
- *Pain test*: through which it is possible to quantify the level of pain perceived by the patient during a contraction of progressive intensity. Extensive monitoring of the symptoms of the patient's pain is a very important aspect in order to assess the progress made during the rehabilitation process.

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Training periodized on a football 5 senior team, category B1

E. Nughes

Abstract

Soccer is a sport about situation, influenced by many variables like pitch, adversary, teammates and presence of ball.

In this sport the aspects concerning significantly the training are: physical, psychological and technical – tactical aspects.

The subject developed focuses on the concept of periodization, which means the division of the training season in specific periods with clearly defined aims. The research will be carried out by a football 5 senior team, category B1, enrolled in the national championship, thought of 4 subjects blind, male and age 25 and 26. , by the test of Maximum Strength and endurance strength, which will help us to evaluate the improvements of physical performances at different stages of periodization.

Periodization is an offer made by Tudor Bomba and it's a methodological approach applied in order to obtain the training aims required for the predetermined competitive levels.

At the base of periodization, there is the "principle of progressivity of cargo and physiological adaptation". The exercises during the strength training are designed in order to reproduce the technical model in soccer such as tracing movements similar to it, to be executed repeatedly, in order to facilitate the learning.

The exercises and training methods, therefore, must be directed to the movements or the situation that emulate in the match, so as to increase the discharge of motor neurons and to induce the muscles to express athletic movements made of high power and speed.

The studying object is to prove the conditional improvement after the training time and the prove of the peak performance during the proving time (competitive time).

Keywords

Conditional, technical, tactical features

Introduction

Team sport activity is composed of conditional, technical, tactical features of performance and uses the periodization to put in practice strategies, methods and teachings to develop the abilities of the individual and the collective group with the aim to get the best goals. (Manno) The periodization includes the division of the training year in specific periods with well-defined aims. This ideal planning arises under the Sovietic union by Matveev, who used this method to the preparation of Olympic athletes. During the periodization must coexist:

1. Individual and team improvement
2. Short, medium, long-run of work development
3. The turnover of load and unload phases
4. Contemporary improvement of motors and cognitive abilities
5. The achievement of peak performance in the characterized competitive time.

The periodization in team sports is divided this way:

1. The introductive phase which is necessary to the general rehabilitation of psychophysical fitness. .
2. Loading phase, where the amount of work prevail on its intensity. It has to be predicted during the championship downtimes or in conjunction with secondary prestige matches. The purchase of technical abilities will be able to reveal very hard due to an eventual condition of fatigue.
3. Special or transformation phase is necessary to increase the work intensity and to develop a growing technical work. It coincides with matches of medium importance approaching to the decisive moments, play off.
4. Competitive phase: It's the moment where the reaching and the conservation of the highest peak performance are gained on the occasion of the most important matches. The performance peak cant' be kept for long periods and will be necessary the best precision from the trainer to program the reaching of this stage.
5. Transition phase: It coincides with a long pause between a competitive season and the other to regenerate the body.

The subject matter of the research is to verify the conditional improvements after the training time and the check of the moment of the peak performance during the evaluation time.

Method

Team sport activity is composed of conditional, technical, tactical features of performance; these 3 features have been improved during in the periodization phases;; regarding quantitative features, according to the principle of the progressive increase of load; regarding qualitative feature the improve has been obtain increasing the complexity of the technical and tactical exercises proposed, starting from cognitive exercises (step by step), coming to propose ecological-dynamic exercises that aim to reproduce the same part of the match, whit all the different variable that it can show, having improves regarding the reaction-time, whit aim to reply for the better to the different incitements participating to the match, and therefore improving the single and collective performance. this research doesn't concern the quantitative features because tests won't executed to obtain scientific information which shows the improves. in football and in the disciplines based on power and speed, whose provide quick actions and explosive movements, many exercises of power and maximal loads burden on the nervous system training, whose have the object to obtain an adaptation of the nervous system (Enoka, 1996). During training the nervous adaptation of the strength improves the power and the speed contraction of the muscle evading the growth of the mass. Therefore, The exercises and methods of the training will be directed to movements emulated during the match of the discipline, in order to increase the shock of the motor-neurons and to persuade the muscles to express the athletic movements with high power and speed(Hortòbagyi, 1996).

These methods will be propose to an FOOTBALL 5 SENIOR TEAM, CATEGORY B1, trough 4 subjet blind.

Different athletic tests have been executed For the survey of the improvements during the different phases of the periodization training, in a period that will be to 4 mounths.

The Tests will be:

1. At the beginning of the preparatory period
2. At the end of the period of load
3. At the end of the period of transformation (which coincides with the start of the competitive period)

All tests allow us to find the quantitative improvements achieved.

The tests are:

1. Test of endurance and strength (curl up; push-up;)
2. Test of RM and Power (Bosco test).
3. VO2 Max (Cooper's test).
4. Baropodometry test.

Results

The studying object is to prove the conditional improvement after the training time and the prove of the peak performance during the competitive time, therefore, a statistic study will must show the graduals improves in the training phases.

Discussion

The informations that will be collect during research, it will be subjected to a statistical study, whose will show the evolution of the physical performance during the different training phases over the year, showing how the planning of the training, carried out thanks to the assistance of the method of periodization, allow us to reach the peak performance over the prearranged period that in football is equivalent to the most important match of the year which is part of the competitive year.

Conclusion

The objective of this research will have to be to give greater credence to the proposed Tudor Bompa, and moreover, this research will be the basis for future studies that will collect scientific data, but not only quantitative data, but also qualitative data that will be show through the creation of a new tests that will must show improvements qualitative and quantitative of periodized training through a unique battery of tests.

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Kickboxing and disabilities, a new inclusion way

F. Raiola, F. Parisi

Abstract

Although this discipline is not appreciated by everyone as contact sports, Kickboxing is similar to some sports that are decades CONI sports federations such as Boxing, Karate and Taekwondo which boast many atletes that in recent years have gained fame and recognition worldwide. The study aims to investigate the inclusion of persons with disabilities in the world of kickboxing and thus to promote sports among the latter also promoted by the "Special Olympics Italy" through practical studies on the subject and, in the event that it is necessary, increase and / or change some rules. For this study will be analyzed by some individuals who will be first submitted video material then will be incorporated into practice courses for as long as is necessary to accustom the body to the motor patterns to combine the basic techniques. During these courses will be able to integrate and modify rules in favor of the subjects under consideration and application of these rules is not to be considered for competitive purposes but for purposes of supplementary inclusive. The result is to give the opportunity to the disabled and the able-bodied to train together as a team trying to eliminate the differences.

Keywords

IPC, disabilities, Special Olympics

Introduction

Although this discipline is not appreciated by everyone as contact sports, Kickboxing is similar to some sports that are decades CONI sports federations such as Boxing, Karate and Taekwondo which boast many atletes that in recent years have gained fame and recognition worldwide. The study aims to investigate the inclusion of persons with disabilities in the world of kickboxing and thus to promote sports among the latter also promoted by the "Special Olympics Italy" through practical studies on the subject and, in the event that it is necessary, increase and / or change some rules. The KICKBOXING officially born in the U.S. in 1974, the word Kickboxing assumes a generic term, like a root word from which radiate all the various specialties: Semi Contact, Light Contact, Full Contact, Low-Kick, musical forms, K1 Rules, Aero-kickboxing and Kick-Light, are the specialties practiced today. WAKO (World Association of Kickboxing Organizations) is the international sports federation of kickboxing and is chaired since 1984 by Ennio Falsoni who is also the current President of the Italian Federation and now consists of 110 affiliated countries in the five continents and is the only organization recognized by the kickboxing GAISF (General Association of International Sports Federations), OCA (Olympic Council of Asia) and has already participated in both the AFRICAN ASIAN GAMES and the INDOOR GAMES in 2007. The Italian Federation of Kickboxing has been recognized by CONI March 23, 2004, as DSAS (Sports Discipline Associated Experimental) under the supervision of the Italian Boxing Federation until the President of the FPI Franco Falcinelli, dated October 22, 2005, made it possible to bring FIKB its application for approval directly to CONI out of his "protection". Today FIKB, together with the international federations of reference such as the WMF (World Muay Thai Federation) WMMAF (the Shoot Boxing World Mixed Martial Arts Federation) and the FIS (Federation International de Savate) form the FIKBMS which is a Sports Discipline Associated CONI. There are also several disciplines : The Semi Contact (recommended for children 10 years) where the fight is stopped whenever the athlete is able to place a shot on target profit without express his power. Scores vary according to the technique used. The Light Contact (aged 13) is an intermediate step to get to the fighting in full contact. The two opponents face each other, exchanging blows without interruption in the flow of technical judged according to the criterion of technical capacity to sign with precision. Also here, the technique gets to sign without express its full power. Since 16 years. The Full Contact is definitely the hardest formula racing, the athletes face off in the ring and hits sign are brought to full contact. In Low-Kick, as the term itself Low Kick = low kicks, athletes like in the full fight in the ring with the rule that the penalty can be worn both inside and outside thigh. The K1 rules is a combat sport derived by oriental art of Muay Thai.

Methods

For this study will be analyzed by some individuals who will be first submitted video material then will be incorporated into practice courses for as long as is necessary to accustom the body to the motor patterns to combine the basic techniques. During these courses will be able to integrate and modify rules in favor of the subjects under consideration and application of these rules is not to be considered for competitive purposes but for purposes of supplementary inclusive. The regulation of Kickboxing, similar to Boxing, provides that athletes fall into certain categories of weight, in the case of a trial of sport on people with disabilities, we believe that it would be appropriate to catalog the diversity possible in order to be able to make a simulation that is as balanced as possible. Taking into account the training and the proper combination, two subjects will simulate on the tatami (mat classic races which are held) a competition. In this case it is recommended that subjects simulate a meeting of Semi Contact as it is the discipline where the combinations are taken with light contact, and also this is interrupted every time the athlete scores a point. It adds that the subjects during the race simulation, must be fitted with suitable protections as normal.

Results & Discussion

The result is to give the opportunity to the disabled and the able-bodied to train together as a team trying to eliminate the differences. The goal hoped for, however, is to try to combine competition between differently abled encouraging them to pursue a better result and feel athletes in all respects. Based on the above arguments the end of the research is to assess whether a person with a disability can participate in the training and eventually compete in Kickboxing.

Conclusions

According to the above arguments the entry of persons with disabilities in training activities is feasible and could be useful to improve the physical condition as well as also the mental and social development. Therefore it would be appropriate with an in-depth experimental study.

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The italian paralympic committee: the obligation of insurance recognized in elite and non elite athlete

S. Santamaria, A. Ascione

Abstract

The sport is not free of risks associated with its exercise. In fact, those who practice sports are aware that have a higher probability of running into damaging events. The damage sport has undergone several evolutions and only recently has been recognized and it is possible to compensate it. Nevertheless, for the purposes of compensation, there are various factors to be taken into consideration such as, for example, the status of a professional athlete or amateur. The first one, in fact, practicing sports such as work, will suffer a financial loss greater than in the case of injury to the athlete amateur. The presence, therefore, of the above risks, together with the recognition of the damage sport led the legislator to provide for a system of insurance for the protection of athletes, establishing an obligation on the part of the institutions to which they belong, to ensure its members from possible injuries. In 2011, finally, the activity of the institutions of the Italian National Olympic Committee has been equated with that of institutions of the Italian Paralympic Committee (CIP) and, therefore, by the Decree of 10/06/2011, has also been imposed to bodies recognized by the CIP to conclude an injury insurance that behalf of their members.

Keywords

Insurance, sport, injury, C.I.P.

The "risk sport" is the increase of the danger or the greater probability of occurrence of a harmful event, which may be limited through the adoption of appropriate precautions.

Recently, the damage in the sports field has been recognized; it can lead temporary or permanent inability in athlete to play the sport that also coincides with the work.

For the purposes of compensation, it is necessary to differentiate the damage suffered by the athlete from amateur to professional. For the professional athlete, it starts from the consideration that he derives from the sport the only source for sustenance, unlike the amateur who practice sport for recreational purposes.

In sports, it is obliged to protect athletes from injury requiring sporting bodies to conclude contracts of insurance on behalf of their members.

Actually, on 10/06/2011, the Under-Secretary of State at the Presidency of the Council of Ministers with delegation for Sport, in consultation with the Minister of Economy and Finance and the Minister of Labour and Social Policy has issued a decree concerning compulsory insurance for the members of the Italian Paralympic Committee (C.I.P.) and institutions recognized by the said Committee, published in the Official Journal of the Italian Republic on 02/03/2012 n. 28.

Chapter I of the decree defines the persons who must be insured and which are part of the C.I.P. or of the bodies recognized by it. They are: athletes, technical, managers and other specialized figures.

The bodies recognized by C.I.P. are obliged to the conclusion of the contract of insurance against accidents, for and on behalf of those members. An accident means a sudden event beyond the control of the insured and that occurs in the course of his activities, and produces objectively ascertainable injury that can cause the death or the permanent disability and/or the worsening of pre-existing permanent disability and/or an injury and/or pathology (Art. 3, paragraph 3). In order to be compensated, the death or the injury must have their due direct and exclusive in the accident, occur within two years by the accident and to be independent of physical conditions or pre-existing pathological or supervening (Art. 5). Article 6, paragraph 3 contains, however, an exception to the first condition - direct cause- providing that insurance is also payable if death is an indirect consequence of the accident. Such injuries, however, must occur during a sport event that was announced by the body recognized by the C.I.P. or which is conventionally licensed/registered in the official calendar and occurred in areas in which the event takes place.

Injuries that are covered by insurance are only those that occurred during and because of the conduct of sports, training sessions, including individual and during the preliminaries and finals actions of each competition or official training, or during the completion of the typical activities the status of managerial, technical or other specialized figure in the organization of sport obligated parties. The sports activities are carried out according

to the manner, timing and in structures or in locations determined by the parties responsible and at such times and in the circumstances provided for in the sporting regulations and schedules and agreements and the provisions of the obligated parties, as defined in certain date prior to the event during which the injury occurred. The insurance also covers accidents that occur during the transfer but not compensate when the injuries that are the result of an abuse of alcohol, drugs or non-therapeutic use drugs; a criminal act committed by the insured person or his involvement in fights or riots or violation of prohibitions imposed on the state system or to sports Paralympics (art.9).

The insurance benefit will be different depending on the various circumstances of the death, permanent disability or aggravation of pre-existing disability. In the first case - death-performance will consist of the supply in favor of the beneficiaries of a capital of not less than € 80,000.00. In the second and third cases - permanent disability and worsening of pre-existing disability-, will be paid in a lump sum of compensation calculated in proportion to the capital required in the case of death, the amount of which will be determined based on the parameters set out in Annex A) of the decree, that contains the table of injuries of able-bodied subjects. In these cases, the decree allows obligated parties to provide for a deductible for the injuries that cause permanent disability or worsening in no more than 10%. The deductible is calculated in percentage terms, in reference to the amount of compensation. In any case, it is expected that where are multiple lesions, compensation is due in an amount equal to the sum of the percentages relative to the individual lesions. The decree also specifies that compensation will be paid only if death occurs within two years from the accident and the possible indemnification, already paid to the insured in the case of permanent disability or aggravation, will be deducted from the capital to be paid in favor of his beneficiary. In the case, then, in which the body of the deceased is not found, the compensation will be paid only six months after the submission of the presumed death. Nevertheless, when the insured is alive, the insurer is entitled to the refund of the amount unduly paid to the beneficiary for the event that death did not occur.

The decree also requires the insurer to provide additional services in the following cases:

1. the deceased was a parent. In this case, the share that belongs to the minor children living with the other parent is increased by 50%. In addition, to the minor children shall be treated adult children who are already holders of permanent disability equal to or greater than 50%;
2. the insured person has not completed the fourteenth year of age at the date of the accident. In this case, to the same shall be reimbursed for expenses incurred and documented for plastic surgery or reconstructive stomatology subsequent to the accident itself;
3. the insured person has been bitten by animals, insects and arachnoids involving an institutionalization of care. In this case, to the same shall be reimbursed for related expenses documented;
4. hospitalization with overnight stay in care institution and following its diagnosis of acute poisoning or suspected poisoning from accidental ingestion or absorption of substances and / or hospitalization with an overnight stay in an institution of care and after diagnosis of hypothermia, frostbite, sunburn or heat and electric shock. In such a case are reimbursed for their expenses;
5. the insured person because of injuries suffered following to the accident, cannot attend classes for a period which, in accordance with ministerial regulations, entail the loss of the school year. In this case, it is up to the same compensation increased by 20%.

In the event that the prize has not been paid by the person liable, the insurer shall also provide the provision of insurance, unless the right of recourse against him for a sum equal in amount compensated, plus a tenth.

The parties responsible have to choose the insurer thought a tendering procedure that must be respect the forms of law and to which they must attend no less than five competitors.

Title II of the decree is being discussed is entitled "Prevention of accidents resulting from the exercise of sport." It requires the promotion of information campaigns aimed at prevention that are addressed mainly to young people and those at risk and "promote the knowledge of the technical standards of safety and possible preventive solutions".

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Periodized training in artistic gymnastics and periodization

I. Scassillo, E. Nughes

Abstract

Artistic gymnastics is a discipline of gymnastics and an Olympic sport both male and female. The tools used in the woman's artistic gymnastics (GAF) are: vault (VT), floor exercise (FX), uneven bars (UB) and balance beam (BB). Athletes engaged in this discipline are called gymnasts. Gymnasts must be provided of many skills: power, speed and flexibility. Artistic gym is a sport closed skills. The artistic gymnastics is a sport of precision and the movements are complex. It use the abilities closed skills serial type, skills that are used in stable environments consist of a number of discrete skills are placed in sequence to form a more complex and protracted movement. The artistic gymnastics uses the model of closed-loop control with the use of feedback.

Periodization is a proposal for a Tudor Bompa and is a methodological approach to achieving the goals of training required for competitive levels predetermined. At the base of periodization, the principle of progressivity of the load and physiological adaptation. The exercises will be proposed in strength training will reproduce the technical model of a sport tracing movements similar to it, to be run repeatedly, in order to facilitate learning.

Starting from these scientific assumptions, the aim of this study want to evaluate the effects and potential benefits of the use of the instrument of periodization in order to contribute to the enhancement of young athletes performance artistic gym and to provide a tool for technicians and athletes used in training phases in order to understand the motor functioning and adjust the load during the different phases of training in relation to individual specialties.

Keywords

Strength, periodization, progressive increase.

Introduction

Now international gym is governed by International Gymnastics Federation of Gymnastics (FIG), in Europe by European Union of Gymnastics (UEG), in Italy by Italian Gymnastics Federation (FGI). The tools used in the woman's artistic gymnastics (GAF) are: vault (VT), floor exercise (FX), uneven bars (UB) and balance beam (BB). Characteristics artistic gymnastics allow the gymnast to enhance the motor skills that allow him to control complex coordinations of movement, to learn and to enhance motor skills. Motor skills are used rationally and they are adapted appropriately in relation to the needs of a changing situation. Generally, performance content is based on the execution of short exercises of variable duration accordance with the specialty considered, between 5 and 90 seconds. The high level of neuromuscular coordination, the enormous amount of technical skills that must be acquired and the high level of muscular strength (Jemni et al., 2000; McNeal and Sands, 2003; Sands et al., 2003) require a constant and substantial training. The more muscle groups used during a performance in gymnastics are: especially the upper and lower limbs abdominal. The mainly system of contraction is characterized by dynamic concentric, eccentric and plyometric contractions that favor the expression of explosive force. The energy metabolism used is lactate and alactacid anaerobic according to specialty (Goswami and Gupta, 1998). During the periodization must coexist:

1. Individual and team improvement
2. Short, medium, long-run of work development
3. The turnover of load and unload phases
4. Contemporary improvement of motors and cognitive abilities
5. The achievement of peak performance in the characterized competitive time.

The periodization in team sports is divided this way:

1. The introductive phase which is necessary to the general rehabilitation of psychophysical fitness.
2. Loading phase, where the amount of work prevail on its intensity. It has to be predicted during the championship downtimes or in conjunction with secondary prestige matches. The purchase of technical abilities will be able to reveal very hard due to an eventual condition of fatigue.
3. Special or transformation phase is necessary to increase the work intensity and to develop a growing technical work. It coincides with matches of medium importance

approaching to the decisive moments, play off.
4. Competitive phase: It's the moment where the reaching and the conservation of the highest peak performance are gained on the occasion of the most important matches. The performance peak cant' be kept for long periods and will be necessary the best precision from the trainer to program the reaching of this stage
5. Transition phase: It coincides with a long pause between a competitive season and the other to regenerate the body.

The aim of the study is to evaluate the conditional improvements after training period and to evaluate moment of maximum performance (peak performance) during evaluation and training.

Method

The method used for this study is an experimental one and it consists in a comparison between some aspects of performance. It is made at the beginning and end of the championship. The different tools used are:

1. Cooper test
2. Bosco test
3. Body circonference
4. Maximum strength test

During training the nervous adaptation of the strength improves the power and the speed contraction of the muscle evading the growth of the mass. Therefore, The exercises and methods of the training will be directed to movements emulated during the match of the discipline, in order to increase the shock of the motor-neurons and to persuade the muscles to express the athletic movements with high power and speed (Hortòbagyi, 1996).

The Tests will be do:

1. At the beginning of the preparatory period
2. At the end of the period of load
3. At the end of the period of transformation (which coincides with the start of the competitive period).

The sample is composed of six athletes of senior category.

These tests will be made during a period of four months, at the end and beginning of each stage, to show the improvements of the variables under consideration.

Results

The aim of the study is to evaluate the improvements of conditional aspects of the performance after training period and verification of the moment of maximum performance (peak performance) over the time period under evaluation. The expected results predict an increase of at least 15% of the variables under consideration.

Discussions

Data collected during the research will then be subjected to a statistical study. They will show the trend of physical performance in different periods of training during the year. They show how the planning of training performed with the help of the method of periodization, it will allow reach peak performance within the relevant period. Important, therefore, the principle of progressivity of the load and complexity of the proposed exercises that will allow the nervous system to adapt gradually in order to detect improvements.

Conclusions

The aim of this research will be to give greater credence to the proposed Tudor Bomba about the method of periodization for strength development, and in addition, this research will be the basis for future studies that will collect more scientific data with other quantitative tests in order to intervene with further modifications of training to improve the variables under consideration and the performance of athletes.

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Mentoring for sport: an exploratory study

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Abstract

The aim of this study is to investigate one innovative and specific technique in the human resources management within the sport field. We analyze mentoring experiences in the sport disciplines trying to evidence their main functions and application areas. Sport increasingly becomes a very important business for its growing economic and social impact and, it is also recognized a much interesting research field in many different disciplines such as medicine, management, economics and so on. Athletes tend to achieve the same goal, that is high level of performance in any sport discipline; for this reason the supporting and guidance process for athletes plays a key role for their success. Athletes receive continuous assistance and support by their guide, coach and also mentor. At the same time, all other individuals involved in the sport sector, such as coaches, referees and so on, need to be trained and develop their knowledge and competences. In the last decades, mentors are recognized in the sport field as key factor in the professional and psychological developmental process. Most studies tend to associate coaches to mentors because of their common characteristics. In this paper, we try to analyze this association especially in order to identify similarities and differences within sporting organizations; mentoring can have several effects, positive or negative, depending on the specific application area. This is an exploratory study conducted through a qualitative approach analyzing two different mentoring experiences in the sport field. This study shows some relevant key factors for generating and developing effective mentoring relationships by systematizing and clarifying the main contributions on this topic and identifying new research perspectives.

Keywords

Sport, mentoring, athletes performance.

Individuals with different background, expertise, and seniority can significantly learn especially thanks to social interactions. Mentoring is recognized as a forum for personal learning. Within the organizational context, mentoring is "a relationship where two individuals interact, a senior person (mentor) with advanced experience and knowledge and maturity, and a junior individual (protégé/mentee), the former guides, advises, suggests the latter for his/her professional and personal development; it's an exclusive dyadic relationship "person to person" between protégé and mentor (one-to-one)". Also mentoring can be conceived as a multiple developmental relationship phenomenon because of the existing of different relationships in which a protégé can have more than a mentor or vice versa, with a variety of mentors who give more contributions in terms of perspectives, knowledge and skills. Mentors can provide two main functions: career development support and psychosocial roles. Within organizational settings positive outcomes are associated to mentoring, such as higher levels of job satisfaction and promotions and support, counselling, friendship in terms of psychological dimensions.

Mentoring as instrument of human resources management is an innovative learning instrument or instrument for organizational socialization.

Moreover, formal or informal mentoring programs are distinguished in terms of formality and length of the relationship, and purpose of the relationship meant like specific goals. The career development support involves coaching, sponsoring advancement, providing challenging assignments, protecting protégés from adverse forces, and foresting positive visibility. Furthermore, the mentors' psychosocial roles include such functions as personal support, friendship, acceptance, counselling, and role modeling. As a consequence, most studies in sport field have evidenced that coaching plays a very important role in the mentoring relationships, allowing to associate coaching to mentoring; indeed, mentoring is most investigated in the sport management, in order to provide some guidelines of good practice that could be applied to sports coaching. Some studies examine the application of formalized mentoring as a learning strategy for volunteer sports coaches or, more specifically, to support the black-female student-athletes. Others tend to investigate the role of mentoring in the sport management outlining its contribution in terms of support to the professional development process for the athletes in any sport disciplines, especially football, and all the individuals involved in this

wide sector, such as referees or technicians, also focusing more on the spirit and nature of sport.

The main organizational areas evidenced in the literature for the application of mentoring programs are: learning and training process; the main leadership theories; negative experiences; Work Life Conflict (WLF) management through mentoring; diversity management in terms of the composition of the relationship (gender, age, race, and so on) and the function of mentoring to manage diversity; the support of the technology defining e-mentoring relationships.

In this study, we compare two different mentoring experiences in the sport field: The UEFA (Union of European Football Associations) Mentor-Talent Project and the CONI Mentoring Project "Helping relationships in the competitive sport: From Coaching to Mentoring" (Le relazioni di aiuto nello sport agonistico: dal Coaching al Mentoring).

Each experience is investigated evidencing the level of formalization and the type of mentoring relationship created and which specific organizational area of application is involved.

The first project introduced by UEFA aims to support the professional developmental process of young football referees through the experiences and competences transfer by the older and more experienced international football referees. This is a formalized multiple mentoring relationship that mainly considers the learning and training area providing a career developmental function. The protégés/young referees receive more professional support and the multiple relationship is always composed by male partners, more specifically 27 mentors/old referees; each mentor has 4 protégés/young referees conceived as talents. The partners mentors and protégés meet each other in person face-to-face in the classroom and on the pitch football.

The second project planned by CONI consists in one day seminar in which experts in the competitive sport transfer their knowledge, competences and experiences to the protégés, that is technicians, sport corporate managers, young and old athletes in order to support these individuals in their professional and psychosocial developmental process acquiring the main elements needed to manage the competitive sport in terms of level of performance and successful personality profile. This is an example of a multiple formalized relationship but it is planned most as a simple teaching activity (seminar formula) that can be more associated to coaching relationship.

In both cases investigated, we evidence multiple formalized mentoring relationships in which the composition is male dominated showing that the sport filed is still male oriented. Moreover, it is clear that both projects are successful and show that mentoring can effectively support sport field in many ways. This study has many limitations especially because of its exploratory nature considering only two case studies, but can open an interesting future research area concerning the creation and development of mentoring programs that can really meet the athletes and sport organizers needs.

FORMALIZATION/ TYPE OF RELATIONSHIP	Formal relationship	Informal relationship
One-to-one relationship		
Multiple relationship	UEFA Project CONI Program	

[Fig. 1] Formal/informal and one-to-one/multiple mentoring relationship.

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