Creating Global Standards in Health Promotion Training – the International Institute for Health Promotion

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Abstract

The International Institute for Health Promotion (IIHP) was established in 1996 at the American University in Washington DC. An interdisciplinary network between specialists from various fields was created (physicians, managers, psychologists, experts in physical education, etc.) and also between academic, governmental and non-governmental organizations.

Strategies and initiatives aimed at education, training, expertise and research, are concerning with priority health promotion at the work place.

Among the IIHP programs, the training of the staff involved in sports management is included. Thus, the German Association for Health Related Sports, affiliated at IIHP, organized in 2009 several 9-days workshops. Other IIHP organized workshops will be held in December 2010 in India and in 2011 in Germany and China.

IIHP initiatives will also be beneficial for the future students: a European summer school is planned in the coming years.

Keywords: IIHP, education, training.

Optimization of kinesitherapy programs in patients with hip endoprostheses depending on their bone mineral density

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Abstract

Background. Osteoporosis plays an important role in the rehabilitation of patients with hip endoprostheses, being involved in potential intraoperative complications (iatrogenic acetabular fractures or protrusions) and postoperative complications (early loss of the prosthesis), and becoming a serious problem in the case of the subsequent revision of the prosthesis, when it can limit the reconstructive options. The role of physical exercise in the rehabilitation of coxofemoral arthroplasty is unquestionable; on the other hand, any complex therapy program for osteoporosis should include specific kinesitherapy.

Aims. The aim of the study is to demonstrate the role of bone mineral density in the case of patients with total hip endoprostheses, in order to develop specific and adequate kinesitherapy programs.

Methods. The study was performed at the Clinical Rehabilitation Hospital Cluj-Napoca, in the period June-December 2009, in 58 patients (36 women, 22 men) aged between 30-83 years with uni~ and bilateral cemented and uncemented total hip endoprostheses. A standard study protocol was elaborated, which included the information and the enrollment of the patients, the clinical evaluation of the patients, the determination of bone mineral density by the method of dual energy X-ray absorptiometry (with the software for orthopedic prostheses available), the evaluation of the patients using the Oxford hip score, the quality of life index SF-36, and the Quality of Life Questionnaire of the European Foundation for Osteoporosis QUALEFFO-41.

Results. The statistical analysis of the data demonstrated a reverse correlation between the scores and the bone mineral density value.

Conclusions. Decreased bone mineral density slows the recovery of patients with endoprostheses and reduces the quality of life of these patients. Kinesitherapy maintains periprosthetic bone mineral density and accelerates the patient's recovery.

Keywords: bone mineral density, recovery, kinesitherapy, total hip endoprosthesis.

The relationship between theory and practice in physical education teacher courses. A comparative approach between INJEPS Porto-Novo (Benin) and IUFM Caen (France) students

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Abstract

Background. The problem of the link between theoretical and practical professional knowledge is a crucial issue in the formation of physical and sports education teachers (EPS), whose history reveals the growing emphasis on theoretical knowledge developed in STAPS.

Aims. There is however the problem of the meaning students' accord to this theoretical knowledge and the use they make of it in their training.

Methods. This issue is discussed here by comparing the situation of the IUFM in Caen (France) and of the INJEPS in Porto-Novo (Benin) students.

Results. The comparative study shows in two contexts the indiscriminate manner that students perceive the relationship between physical, sports and arts activities (APSA), social practices references in EPS and their future professional practices. However, in the absence of field experience the IUFM students perceive the usefulness of theoretical knowledge to be less in professional practice unlike the INJEPS's students, benefiting from much internship, who rely on their field experience to identify the link between theory and practical practices.

Conclusion. The training dispensed in the INJEPS, suit better the criteria of a vocational training than these courses dispensed at the IUFM, at the very moment when the first one is the emanation of the "French model" of the 1970s. We can then wonder, on one hand, about the effects of "the universitarization" of French teachers training in physical education and in consideration of the stakes in professionalization while on the other hand, on the relevance of the process of harmonization which is known at present by the offer of training in INJEPS not only with that of the STAPS in France, but also (as it is the case of most of the university structures of the countries of Africa) with the Licence-Master-Doctoral reform.

Keywords: Theoretical Knowledge, Professional Practice, Physical education and sports.

Operant conditioning usage in a basketball youth team

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Abstract

Background. The need for the continuous improvement of methods for motor skill acquisition has made scientists try to understand the cognitive mechanisms of learning in general. Stimulus-response learning or operant conditioning used in sports environment requires special attention due to the characteristics of the group involved in this type of learning, the identification of the group's needs and affinities for this type of learning being necessary.

Objectives. We aimed to determine whether there was a direct relationship between individual sports performance and the means of application of operant conditioning in sports: a) identification of the group's affinity for certain items and their correlation with the training period; b) development of a possible scheme for the use of items in order to increase sports performance based on the correlation of affinities identified at point a).

Methods. Observation sheets were completed according to the Youth Sports Behavior Assessment System, as well as individual records of the players, from which the percentage of successful shots was extracted.

Results. Following the collection of data, 345 positive reinforcements, 120 negative reinforcements, 465 positive technical instructions and 466 negative technical instructions were obtained. The percentages varied, depending on the athlete and the recording period, from 17% to 69%, with a recorded mean between 36.875% and 50.125%.

Conclusions. The interpretation of the data evidenced a high affinity of the group for all types of reinforcements aimed at preventing some errors. At the same time, a model of correlated functioning between two variables, positive reinforcements and positive technical instructions can be identified from the collected data.

Keywords: operant conditioning, basketball, sport, psychology.

The influence of whole body vibration training on the enhancement of quadriceps' force in rugby players

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Abstract

Background. Whole body vibration (WBV) is a concept which has become very popular over the last decades. As its name clearly states, WBV implies the exposure of the entire body to vibration.

Objective. The purpose of this pilot study is to provide preliminary data on the effects of WBV training on maximum isometric knee extensor strength in rugby players.

Methods. Data were collected from 10 male rugby players with ages ranging from 18-36 years randomly recruited from the Universitatea Cluj-Napoca rugby team. Mean age of the participants was 22.40 (±0.476) years. Mean height was 184.40 (±1.939) cm. Mean weight was 97.90 (±4.925) kg. They were equally divided into two groups: a Control group and a Vibration group. The subjects from the Vibration group were trained on the Fitvibe Excel Pro® vibration platform for three weeks (three times per week, 7 minutes per session). Pre and post training measurements of the maximum isometric knee extensor strength of both legs for all participants were performed on the KIN-COM® isokinetic dynamometer.

Results. After three weeks of WBV training, there was an increase in the maximum isometric strength of the right leg ($p=0.020$) of subjects from the Vibration group. A significant increase in maximum isometric knee extensor strength for both the right leg ($p=0.004$) and the left leg ($p=0.006$) was found in the rugby players exposed to WBV compared with a Control group.

Conclusions. In the case of rugby players, WBV training induces increases in the isometric force of quadriceps. The present study represents a preliminary approach on the effects of WBV in the case of athletes of performance.

Keywords: vibration training, rugby players, strength, knee extensors.

Attention problems in football players

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Abstract

Background. In athletes, the training of the qualities of attention (volume, stability, concentration, mobility and distributive attention) involves the intellectual side of psychological preparation for competition and is done gradually, by training and competition activities as principal means for the development and the verification of the qualities of attention.

Aims. The experimental study aimed to monitor and determine the level of distributive attention and its mobility in 15-year-old football players, as a component ensuring the active orientation of the body towards message selection, anticipatory receiving and execution adjustment.

Materials and methods. The study was conducted in two groups of subjects. The experimental group included 24 students in the 9th class, a football-playing class at the Galaţi Sports High School. The control group consisted of 24 students in the 9th class, a non-sports class from the same school. The experiment took place from February 20 to May 20, 2010.

Results. Following the performance of football game-specific exercises, significant differences in the attention shift threshold were found, which were more convincing in the group of athletes than in the controls.

Conclusions. In order to increase sports performance, the use of means for the improvement of the training of the qualities of attention is recommended as part of the training process.

Keywords: sports, distributive attention, psycho-pedagogy, modeling.

The role of functional and proprioceptive kinetotheraphy in the prophylaxis of the ankle-flat-foot complex - a case study

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Abstract

Premises. Correct posture is ensured by the adequate synergic and perfectly coordinated contraction of the antagonist muscle groups. From the studies performed so far on flat feet in little children (4-7 years) a segmentary approach to the problem which contains classical exercises (tip toe walking, shoe inserts, sole massage, rolling of the sole on a stick) has been observed. All these exercises are valid, but there is a new theory - which is aimed at the analysis of the ankle problem as a complex - named "the Berstein module".

Objectives. As general objectives we have established: identification and detection of the causes which determine the dysfunctional posture of the ankle-foot complex. The physical therapy objective consists in the formation of the adequate placing of the soles of the feet on the ground during orthostatism and walking, combating imbalance, formulating a strategy for the alignment disturbances, the achievement of a balance between muscular contraction and relaxation, the improvement and obtaining of an efficient, normal, correct, economical, energetic walking and the improvement of the static/dynamic balance in different postures of the body.

Methods. Case study: AC, female gender, 6 years old with incipient flatfoot and mild deformities of the knee articulations, and the hip articulation which had produced coxa valga (unequal leg length).

Results. The analysis of the results obtained following the case study comprised the initial and final testing of the measured parameters: body alignment, strength of the inferior limbs, balance, obtaining positive results for all the parameters.

Conclusions. One of the causes that that caused the dysfunctional posture of the ankle-foot was genetic. Therefore we can confirm that the kinetic programs that appeared in the specialty literature such as: tip toe walking, sand walking, seizing different objects with the toes, wearing shoe inserts, proved to be less effective (the little girl had worn shoes with inserts since she had began to walk). The kinetic program suggested by us proved to be more efficient, a fact that was demonstrated by the results of the evaluations that were made. Following the implementation of our kinetic program, the child became very willing to do the proposed exercises, a fact that led to the increase of their efficiency.

Keywords: Physical therapy, proprioception, „Bernstein module", ankle-flat-foot complex.

Influence of specific training means and dynamics of exercise parameters in learning technical elements of women's artistic gymnastics

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Abstract

Background. The paper deals with the scientific argument which describes the influence exerted by specific training stages and the dynamics of exercise parameters whereby, ensuring an optimal relation between the practice of the technical elements, conforming with the classification program, and the international Code of Points, will contribute to exercise capacity increase and to an overall training level improvement.

Aims. The authors present the influence of a specific training program and exercise dynamics in performance artistic gymnastics. We felt that by ensuring an optimal relationship between the content of the specific training program and the number of reps on different apparatus depending on the athlete's training level and on the training objectives will help to increase the exercise capacity and improve training.

Methods. This approach has led to a case study conduct in the School Sports Club No.7 Dinamo Bucharest. The study was conducted throughout the basic stage and pre-competitive training period (05.07 - 06.09.2010), formed of 8 training microcycles, applied to one female gymnast 23 years old, senior category level. The gymnast's evolutions were registered during the preparatory training stages, using statistical-mathematical and graphical representation methods.

Results. The study points out the influence exerted by the specific training means and the effort parameters dynamics in learning the technical elements of performance artistic gymnastics. The comparative analysis of the relationship created between the training used in basic and pre-competitive mezzo-cycles highlights an increase of 9 at vaults, a diminution by 17 at uneven parallel bars, an increase of 5 at beam and an increase of 4 on the floor. As for the relationship of the reps number during the basic and pre-competitive training mezzo-cycles, the following decreases were noticed: vaults - a decrease of 39 reps, parallel uneven bars - 210 reps, beam - 84 reps and floor - 93 reps. The results of the statistical-mathematical calculations regarding the relation of the specific training means per workout and the effort volume throughout the training stages show the diminution of the arithmetical average in pre-competitive period by: 1.41 means per training session, 5 training, 56.29 total number of reps, 426 reps number during the training and significant differences between the number of means per workout and the total number of reps at $p<0.01$.

Conclusions. Ensuring an optimum relationship between the content of the specific training means and the number of reps on different apparatus, depending on the athlete's training level and the training objectives, contributes to an increased exercise capacity and improved training level.

Keywords: artistic gymnastics, exercise, means, learning, training, case study.

Aerobic exercise capacity at the children

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Abstract

For a child, the aerobic exercise capacity is estimated by evaluating the maximum oxygen consumption (VO2 max) during a physical exercise. Ideally, the standard values of VO2 max are calculated using an allometric equation that needs to take into account the lean mass and the physical activity of the subject. Presently, this kind of data regarding children is not available which makes interpreting the effort tests extremely difficult. This study aims to review the data published in the literature, with the intent of accumulating the child's VO2 max standard values and of facilitating the data interpretation by a clinician. The use of standard values for VO2 max which would be common for all exploration procedures represents a first essential step in proposing standardization for the exercise intensity in protocol, to be able to compare, in different centers, the submaximal parameters' values of the aerobic effort capacity.

Keywords: child, aerobic exercise capacity, standards.

Flavonoids and exercise capacity

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Abstract

Flavonoids are antioxidative substances with several roles: anti-atherosclerotic, anti-inflammatory and anti-proliferative. They are beneficial for the bone mass of post-menopausal women and for the physical decline associated with age and increase energy metabolism and resistance to respiratory infections.

Numerous studies have emphasized the appearance of oxidative and nitrosative stress during physical exercise, due to the increase in the reactive oxygen and nitrogen species and the decrease in the antioxidative defense capacity. The data regarding the strong antioxidative effects of the flavonoids demonstrated especially in vitro, stimulated the researches on their use as protective antioxidants in oxidative and nitrosative stress during exercise.

The conflicting results regarding the positive effects or the lack of effects of flavonoids during physical exercise may be due to: the complexity of the flavonoids class and the representatives which were studied, the purity of the extracts used and of the concentration in the active substances, the dose and the duration administrated, the metabolism in the organism, the type of exercise, the training status.

Keywords: flavonoids, oxidative stress, antioxidants, physical exercise.

A study on a mathematical model to design experiments for human muscle activities

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Abstract

In the context of diagnosis–prognosis, a core of coherent aims and objectives emerges, for which effective work strategies, intended to solve them in a planned and programmed manner are proposed. Prognosis is the starting point in the elaboration of work strategies with sports teams and is defined as "a scientific prediction of the development of future event states, expressed as prognostic information".

This method can be made operational using mathematical statistics, includes simulation and optimization and may lead to effective training programs. The calculation technique, by calculating the working variants and determining the optimal variants, increases the decision-making speed in the selection of action strategies and technologies regarding the achievement of the proposed objectives, without changing the essence of the problem to be solved.

It should be considered that the ethical principles of the society no longer allow for experiments in humans and the only way to mediate the requirements of modern scientific research – which are difficult because of the complexity of problems – is the use of the most advanced calculation techniques aimed at the optimization of motor activities.

Keywords: design, model – modeling, simulation, optimization, sport motor skills.

Optimizing technical training through monitoring cinematic elements in the 110 meters hurdles race

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Abstract

The paper addresses the issues of kinematic analysis of sport techniques, which may be one of the most effective ways to optimize sports equipment. The method permits the objective evaluation of independent variables of sport techniques that enables them to compare the models in the literature and allows monitoring of the training course, which facilitates the manifestation of performance capacity of athletes in the competition.

The goal of this research is to optimize the sample preparation technique in the 110-meter hurdles, to maximize the performance of sports, by benchmarking the value of kinematic parameters measured by case studies of the model with the existing literature and methodological operationalization of individualized intervention..

The main objective of the research is focused on identifying the kinematic parameters of the steps over the hurdle and determine their value in a case study, comparing the parameters determined by the existing models in literature, monitoring them over a year of preparation in order to optimize the technical preparation of runners in the 110 meters hurdles race.

Keywords: monitoring, optimizing, kinematics, technique, 110 meters hurdles race.

Data and significant events for the evolution of competition ski jumping at international and national level

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Abstract

Ski jumping is a spectacular branch of sports that was developed initially in northern European countries and later expanded to all countries with mountain regions, but also in other locations such as USA, Canada and Japan.

Although, apparently, ski jumping was exclusively male, and media focused their interest in this direction only, data and events recorded over the evolution of this sport have proved the presence of women in national and international competitions. Nowadays women are practicing this sport under the patronage of the International Ski Federation.

In Romania, although competitive events and sports performance are less conclusive, the future of Romanian ski jumping has initiated a new development strategy created by the Romanian Ski Biathlon Federation. They have now concluded a partnership agreement - a period of ten years - with OMV - Austria (2007), which has restructured both national training bases and training methodology, in view of achieving top sports results at an international level.

Keywords: ski jumping, development, competitive systems, sport performance.

Jews in the sports life of Oradea between 1900 and 1942

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Abstract

Our aim was to study the contribution of the Hebrew community in Oradea to athletic development in our city between 1900 and 1942. Through its content, the work presents an interesting account to those researching the history of sport in Oradea in the period before the Second World War, particularly the role of the Jewish leaders of sports clubs, coaches and athletes in the development of sport in our city.

We studied Hebrew ethnic participation in sport development in Oradea. The scientific documentation consisted of the study of the works dealing with the history of sport in Bihor County, researching the press articles published in local newspapers that appeared in the period 1900-1942 and consulting documents in private collections.

The paper refers to the context that influenced the Hebrew community involvement and participation in the sporting life of Oradea, its contribution to the establishment of sports clubs and their activity before the First World War. In addition, it presents the role played by Hebrew athletes, coaches and leaders in the implementing of new sports branches.

Further, the paper refers to changes in the status of the Jewish community in Romania after the First World War and how it influenced the work of Hebrew ethnics in sport movements in Oradea. Also it studies the sport activity of the Jews in Oradea under anti-Semitic policy and discriminatory measures taken against the Hebrew community and after the enforcement of the Hebrew laws of the Hungarian government as a result of the annexation of northern Transylvania.

On account of its role in the establishment of sporting clubs and in the management and the financing of these and subsequently the results in local and national competitions managed by these athletes who were in the minority and, finally, because of the athletes promoted in Romania's national teams, the Hebrew city community made a great contribution to the sport development in Oradea.

Anti-Jewish policy, banning the right of the Jews to participate in sports, the dissolution of Hebrew associations or those which did not expel the Jewish members, destroyed a valuable tradition which was on its way to establish and strengthen part of the heritage of Oradea.

Keywords: sport, history, Jews, Oradea.