Abstract Book

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Welcome

On behalf of Asian Exercise and Sport Science Association and conference organization, it is my great pleasure and honor to welcome all of researcher and scientists to this event at this moment. Also, a worm welcome to all our participants from everywhere, hoping the most benefits from this online conference.

Nowadays sport science is developing and growing faster than previous. Improving healthy lifestyle, developing ability of work, preventing several chronic diseases and improving athlete's performance at the highest level of competition all are resulted by developing all aspects of sport science. Because of these we need to share researches result at any time. This event is the place for knowledge sharing at area of sport science.

Much thanks are endorsed to our valuable teams, and colleagues in our Association and from outside who spend much time and efforts and are dedicated to the success of this conference.

Dr. Ali Reza Amani
President of Conference

The Developmental Framework of Futsal in Iran and Turkey and Designing and Presenting a Model to Promote Turkey's Futsal

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Abstract

FIFA is seriously pursuing futsal growth and prosperity around the world. The question is why some countries have not succeeded in promoting their futsal despite FIFA's support and recommendations. The present paper seeks to analyze the frame of futsal development in Iran and Turkey and design a model to promote the latter's futsal. The research method is qualitative and grounded theory (GT), and the data were collected through scrutinizing documents and semi-structured interviews. Statistical sample includes Iranian and Turkish futsal and football experts' views, which were selected through snowball sampling until theoretical saturation is achieved.

First, the experts participated in interviews in order to collect data. Then they sorted the data derived from interviews by Delphi Technique, with the help of other experts. Structural validity was performed through exploratory factor analysis using SPSS software. Thematic Analysis and Networks were used to design the model.

The results show that the most important factors of futsal development are organizing and participating in futsal competitions, providing accessible hardware and infrastructure, policy making and planning, talent search and grassroots projects, education, cultivation, and encouraging public futsal, respectively.

According to the experts' views, holding regular clubs' league competitions and improvement of futsal departments will provide the ground for the growth and development of this attractive sport in Turkey.

Key words: futsal, development, grassroots, league, promotion.

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The Relationship between Trunk Muscle Strength and Body Mass with Static Balance and Youth Volleyball Players

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Background and Objective: The balance is one of the most important parts of athletes' ability to engage in almost any form of exercise. Balance is a complex skill that describes the dynamics of the body's condition in preventing it from falling(1). So it's one of the key factors in the performance of athletes,Which unfortunately is not noticed by many of the coaches. Balance not only prevents sports injuries but can also increase performance during competition(2, 3). Abdominal muscle weakness can have a negative effect on balance(4).The central region is defined as the lumbar-pelvic-femoral complex(5). The area is considered to be a box with abdominal muscles in the front, torn muscles in the back, diaphragm muscle in the roof, and pelvic muscles in the floor(6). The stabilization of the central region as an interface with the effective transfer of force produced in the lower extremity to the upper extremity through the trunk helps to better perform the exercise and improves the gaining the strength needed to perform the exercise(4). The present study sought to establish the relationship between static and functional balance factors with factors such as body composition and muscle strength in the central body.

Materials and Methods: In this study, 31 male volleyball players who had three consecutive training sessions per week participated in the study.To evaluate static balance, Romberg Balance Test, Functional Balance Test (SOMAL) and Abdominal Muscle Endurance Test were used for one minute. Data were analyzed using Pearson correlation coefficient to determine the relationship between research variables.The significance was established at $p<0.05$ for all statistical sets.tatistical analysis was performed using SPSS software version 16.

Results: The results showed that there was a significant relationship between abdominal muscle strength and static balance. (r=0.571, Sig=0.001) Also, data analysis showed a significant relationship between abdominal muscle strength and functional balance. (r=0.500, Sig=0.004) Statistical analysis showed that there was no significant relationship between body mass and functional balance. (r=0.189, Sig=0.3) Finally, statistical analysis showed that there was no significant relationship between body mass and static balance. (r=0.023, Sig=0.9)

Discussion: Statistical results showed that there is a significant relationship between abdominal-central muscle strength and static and functional balance. What is certain is that most people are unaware of the effect of central muscles on balance. Since balance is important in the performance and maintenance of athletes' health. According to the results of this study, in order to improve the performance of athletes and their performance in sports fields, It is recommended that a specific training program to strengthen the central area muscles be given to sports trainers. To strengthen the muscles in the center of the body, to improve balance in athletes.

Keywords: Static balance, Functional balance, Core muscles, Body composition

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Video analysis for the improvement in the didactic of sports performances

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Abstract

This chapter includes a series of studies conducted on different sports, using video analysis as a tool for literacy and technical training and to improve sports performance, and in particular we will present a study on tactics in water polo, a study on the use of the image motor gymnastics and finally the use of video analysis as a training tool in futsal.

Introduction

In water polo, situation sport, an analysis of the correct application of the tactics provided by the coaches is not yet very developed, hence the need to create systems for decoding the tactics applied in the various game situations.

Motor imagery is a cognitive process of mental simulation of actions in the absence of movement. In literature there are two methods to improve the learning of skills through motor imagination: first-person and third-person. This approach based on the theory of motor images is formed by: mirror neurons. The objective is to evaluate the effects of the practice of motor images for the improvement of sports performance but above all for technical alphabetization.

In Futsal, a sports discipline born in Uruguay in the 1930s, one of the most important variables to perform an effective action is the time needed by the athlete to complete his technical gesture [9].

The futsal is useful in the development of specific motor skills due to the technical characteristics of the game, such as: the rules and the playing field for which the time to analyze, evaluate, process and perform is limited compared to other situation sports [6]. Futsal is particularly suitable for children between the ages of 8 and 10 [10] who are learning specific game techniques and therefore for technical and technical technical alphabetization.

Aim

The aim of this research (water polo) is to verify the correct application of the game patterns prepared by the coach, in order to obtain objective data and start an investigation on the various tactics in water polo.

The purpose of this pilot study (futsal) is to test if members of a sample are better at learning specific techniques [12] than a control group when the sample players observe and review the videotaped actions or skills acquire recorded video while practicing or video or a motor skills module.

Method

In the water polo study the method consists of 3 different phases
1 case study
2 action research
3 theoretical-argumentative approach.
Data were collected using Kinovea softwear.
In the study of motor images in gymnastics, on the other hand, the approach is experimental and consists of two steps:
1) Administration of a questionnaire.
2) Video analysis.
In study futsal protocol is, 20 players practice twice a week for a year. But only 10 players view workout videos before each workout. The two groups have the same technical characteristics (homogeneous). Each group is tested at the beginning, during and at the end of the study on three game techniques, selected from the basics of the game:
1. Ball control: control of the ball oriented with the lower foot ("stop by sole" or "Exclusive control");
2. Drive the ball: move the ball with the sole;
3. Shooting: peak shooting
Two technicians and the sampler expert evaluate the videotape together. Statistical evaluation is performed using multiple regression analysis of the curves of the two groups.

Results

For each water polo player, 20 game events were selected, for a total of 386 frames.
The data were compared with the diagrams provided by the coaches and for each athlete a sequence of images was elaborated in order to determine the correct play and the application indications during training.
For each athlete based on the results obtained from the analysis of the collected data, his strengths and weaknesses in the approach to the various tactical situations of the game were identified, so it was possible to develop a codified methodology and a personalized tactical training.
In the study on the motor image in gymnastics there have been improvements for about 80% of the evaluations that show how the training of motor images, in the first person, can be accompanied by a third person.
In the futsal study, significant increases in the performance of game techniques in the group of video-recorded samples were observed, which should however lead to a more in-depth study with a larger study sample.

Conclusion

The results in the water polo tactics study showed a general effectiveness of the tactical models prepared by the trainer, but showed significant differences within the correlation coefficients of the individual schemes.
It is necessary to have a broader database, in order to establish a direct, clear and general relationship between the calculated coefficient and the effectiveness of the scheme prepared by the coach, so we are aware of the internal validity of this type of qualitative analysis. , which with appropriate modifications can extend to other teams.
The study use of motor imagery in physical education and sport, two aspects of performance were examined: motor performance and motor image, the study showed that this system is useful and effective for training the cognitive and physical skills of an athlete and providing a support tool in the race to improve performance, optimize time and reduce the margin of error.
Finally, in the study of young futsal players, the positive results of the hypothesis would suggest the inclusion of video analysis in training programs as an educational and evaluation tool, but above all for the approach to the technical-tactical alphabet.

Keywords: Sports performances, Video-analysis, Didactis.

Effect of using core stability trainings on the level of the performance of some skills in volleyball

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Introduction:

And by observing the **researcher** in the field of training and his presence in many tournaments organized by the Union weakness of the muscles of the trunk when performing offensive skills, including the spike skill and Spike serve, which leads to weak strength of the ball with the possibility of injury during performance.

The volleyball player cuts in average during the performance of the game about 1500 - 2000 m interspersed with about 100 - 350 movements, and each movement in the preparation and then rapid running and then a dynamic leap and therefore requires volleyball players exercises for the development of fitness Anaerobic especially for the elements of skill, speed, muscle strength .

In light of this opinion **researcher** trying to design a training program using training core stability to development some of its skills in volleyball.

Objectives of the research :-

This research aims to design a training program using training core stability, to identify the impact on: -

1.physical variables to the development of the research sample.

2.Development of the skill level of the research sample.

3.Identify the percentages of improvement of physical and skill tests for the research sample.

research hypotheses:

1. There is a significant statistical differences between the averages of the two measurements (pre- post) of the sample in the development of some of the physical variables in favor of the post measurement.

2.There are significant differences between the averages of indices (pre- post) of the sample in the development of the skill level in favor of the post measurement.

Research Methodology:

The **researcher** used the experimental method due to its suitability to the nature of this study, it has hired one of the experimental designs for one group of measure (pre- post).

The research community:

The research community has been chosen the way deliberate from volleyball players at the Cairo area under 19 years old, reaching a strength of the research community (150) for the player.

Sample search:

Was selected sample way deliberate on the (10) players from the Police Sports Club under 19 years old season 2015/2016, and the number of exploratory sample (20) player (10) players from the Police Sports Club and outside the core sample, (10) players from Esco sports Club in order to conduct scientific transactions (Believe – stability).

Tools and means of data collection:

To collect data and information on this research was to use the following tools and methods:

1- Reference and research and studies related to research :

Was found on references and research associated with the sport of volleyball, so take advantage of them in determining the physical and Special skill variables under discussion.

2- Personal interview:

Has been conducting several interviews with a number of experts in the sport of volleyball and the number (3) experts in the field of volleyball to determine the appropriate tests, as well as to stand in the form of the proposed training program.

3- Tests used :

(A) physical tests:

• Vertical jump of run.

• Wide jump of stability.

• Sit Ups (Bent Knees).

• Reverse Sit Ups.

• push the Medical ball handed.

• push the Medical ball of the right hand.

• push the Medical ball of the left hand.

(b) skill tests:

• Spike serve.

• Cross spike.

• Line spike.

4- Forms Search:

Data collection forms for the sample were prepared for unloading and processing statistically.

Tools and devices used in the search .

It was used the following tools and hardware: -

- Electronic scales to measure weight, Ristamitr device for measuring length, Dinamomcitr device for measuring force, Swiss balls, medical balls.
- Volleyball court, volleyballs legal, wall and chalk, stop watch to measure time.
- Tape measure, protractor scale on the wall, foam mattresses, cones,.

Scientific Transactions:

The **researcher** calculated the transactions of all scientific tests to find the veracity of the tests using the sincerity of differentiation, and the calculation stability factor .

The training program:

And includes (48) unit for a period of training (12) a week at four units per week and the time variable according to the severity of.

Statistical treatments:

-Descriptive statistics "central tendency measures of the standard torsion coefficient of deviation".

-The correlation coefficient to calculate the stability tests.

-Test "T" (T. test).

- Analysis of variance in one direction.

- Ratio improvement by percentages.

Conclusions :

In light of the nature of this study and the sample and the methodology used and the results of the statistical analysis in the scope of this research **researcher** reached the following conclusions:

-The impact of the training program in the development of the physical requirements for a moment the muscles of the trunk through the implementation of the program for 12 weeks.

- There is a strong correlation between the development of the ability of muscle of the trunk and the ability for muscular arms and legs through the implementation of the program for 12 weeks.

Recommendations :-

In the light of the conclusions adopted on the nature of the study and the sample and the methodology used and the results of the statistical analysis, the **researcher** was able to identify recommendations that benefit the work in the field of training for volleyball players is as follows:

1. The need for the training program in volleyball includes the many different models for training core stability because of its significant impact in the progress of the skills difference levels.
2. Carry out similar studies on different skills in the sport of volleyball.

Investigating the Relationship between Tourism Development and Employment Generation of Physical Education and Sport Science Graduates of Tehran Azad University with Entrepreneurial Approach

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Abstract

The purpose of the present study is to investigate the relationship between tourism development and employment of physical education and sports science graduates of Islamic Azad University units of Tehran province with the approach of Afrin. The purpose of the present study is to apply a descriptive-analytical method that is cross-sectional in terms of field data collection. . The data collection tool is a tool that enables the researcher to collect, record and quantify the required data. In this research, data collection will be done in the form of a library and a field. The tool will be a measurement tool in this application. In this research, the following methods were used to collect data from library studies and questionnaires. The statistical population of the study consisted of all physical education graduates of Tehran province sport management tendencies from 1990 to 1900. Using the Morgan table, 320 people were selected as available. Descriptive statistics and Kolmogorov-Smirnov test, one-sample t-test and Friedman test were used for data analysis. In this regard, 10 components were identified: places and equipment, security, economy, housing, human resources, tourist attractions, sporting events, advertising and marketing, transportation and services and facilities. The most important component of tourism related alumni are alumni, resettlement, tourist attractions, transportation and security. Finally, it is suggested that tourism managers and officials in the country develop the basics and backgrounds for the presence of domestic and foreign tourists in the country by developing programs and infrastructures in the field of domestic tourism.

Keywords: Tourism, Employment, Graduates, Physical Education, Entrepreneurship

EFFECTS OF THE CHRONOLOGICAL AGE AND GENDER ON VISUAL - SPATIAL PERCEPTION AND MOTOR SKILL COORDINATION; WITH REFERENCE TO THE PARTICIPANTS AT "BIATHLE AND TRIATHLE NATIONAL TOUR 2019" IN SRI LANKA

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ABSTRACT:

The visual-spatial perception and motor skill coordination shall also refer to eye-hand coordination. The eye-hand coordination is the perceptual-motor skill involving the combination and processing in the central nervous system of visual input so that purposeful motor movement can be made. Triathle and Biathle events are developed games from modern pentathlon. It included 10 meters laser pistol shooting. The purposes of this study are to assess the effect of chronological age on eye-hand coordination rates and participants gender on eye-hand coordination rates. The purposive population sampling technique used for the study (N 92). Alternative (Anderson) eye-hand coordination test was utilized to measure the eye-hand coordination of the participants. Independent Sample T-test utilized to compare the means to determine a statistical difference between male athletes and female athletes on eye-hand coordination. One-way Analysis of Variance (ANOVA) test utilized to find a statistical mean difference in chronological age and the eye-hand coordination. The data were analyzed using Statistical Package for the Social Sciences (SPSS) version 20. The Shapiro-Wilk test indicated the data were normally distributed ($P>0.05$) at 95% at confidence interval. A total of 65 male 26 female athletes participated in the study. The participants' chronological ages ranged from 10 years old to 58 years old (mean 25 years old). Male athletes chronological ages ranged from 10 years old to 58 years old (mean 25.3 years) while female athletes chronological ages ranged from 12 years to 43 years old (mean 22.8 years old). The overall highest eye-hand coordination result achieved was 31 (overall mean 19.2) and it was achieved by a male athlete (male mean 20.6). The highest eye-hand coordination result of female was 26 (female mean 15.8). The findings revealed that there is a statistically significant difference between male athletes and female athletes in eye-hand coordination rates ($P<0.05$). Also, results showed that there is an effect of chronological age on eye-hand coordination ($P<0.05$). According to the Anderson test ratings, the participants overall mean scores on eye-hand coordination is at a fair level. However, the male athletes mean scores meet the average ratings while female mean scores ratings were at a fair level. Athletes at the chronological age between 21-25 have the highest eye-hand coordination rates. To conclude the study, it is evident that male athletes have better eye-hand coordination compared to women athletes and chronological age affects eye-hand

coordination performance. The athletes need to improve their eye-hand coordination which directly affects the shooting accuracy to gain competitive advantage. Further in suggestion, the authorities need to consider training chronologically younger athletes to gain higher sports results when they chronologically aged in the long term.

KEYWORDS: Eye-hand Coordination, Pistol Shooting, Elite Athletes, Triathle, Biathle, Modern Pentathlon

Reference:

Nayak, A. K. (2015) 'Effect of hand-eye coordination on motor coordinative ability of tribal adolescents', *International Journal of Physical Education, Sport and Health*, 2(2), pp. 328–330.

Omar, R. *et al.* (2018) 'The Importance of Visual Awareness Among Junior Athletes in Klang Valley, Malaysia', *Malaysian Journal of Public Health Medicine*, 1(1), pp. 124–129.

Recovery of Maximal Force Generation Capacity Proceeding Low Load Blood Flow Restriction Resistance Training vs. High Load Resistance Training in Trained Individuals

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ABSTRACT:
INTRODUCTION: The novelty of exercising with reduced blood flow has gained recent popularity based on its effects to promote muscular hypertrophy even with low loads (Lixandrao et al., 2018). The present study sought out to compare one of the most frequent blood flow restricted resistance-training (BFR-RT) protocols in the literature with a traditional high-load resistance-training (HL-RT) protocol on the recovery of force characteristics and fatigue development proceeding a single bout of either training modalities. METHODS: Twenty-one strength trained participants (males n=9, females n=12 and age 24±3) were recruited to participate in the study. Preceding the acute study, all participants performed a 9 week training-block with thrice weekly sessions of either HL-RT (4 set x 8 rep, 10 RM) or BFR-RT (30-15-15-15 rep, ~30%/1RM) with the same exercises: Barbell back squat, leg press and leg extensions. The acute study took place at the end of the training block in an attempt to remove any exaggerated responses that occurs due to participants being unaccustomed to a particular training protocol. Prior to exercise and at 0-, 2-, 24- and 48-hours after a single bout of either HL-RT or BFR-RT, muscle function was assessed to evaluate fatigue and subsequent recovery. Maximal voluntary contraction (MVC) of m.quadriceps was assessed with unilateral maximal isometric leg extensions with a dynamometer (HUMAC Norm), countermovement jump (CMJ) height was assessed using a force-platform (FP4, HUR Labs), and lastly, a subjective rating of perceived muscle soreness (0-10 scale) test was employed. RESULTS: MVC changed in a similar magnitude (BFR-RT vs. HL-RT, P=0.866) in the order of: (1) post exercise, BFR-RT (-31.2 Nm, -12±13%, p<0.001) and HL-RT (-26.6 Nm, -12±5%, p<0.001), (2) 2h-post exercise, BFR-RT (-7±13%, p=0.014) and HL-RT (-9±4%, p=0.076), (3) 24h-post exercise, BFR-RT (0±12%, p>0.05) and HL-RT (2±10%, p>0.05), and (4) 48h-post exercise, BFR-RT (4±19%, p>0.05) and HL-RT (3±7%, p>0.05). CMJ jump height changed in a similar magnitude (BFR-RT vs. HL-RT, P=0.933) in the order of: (1) post exercise, BFR-RT (-4.4 cm, -12±10%, p<0.001) and HL-RT (-5.1 cm, -11±9%, p<0.001), (2) 2h-post exercise, BFR-RT (-4±8%, p=0.142) and HL-RT (-6±3%, p=0.018), (3) 24h-post exercise, BFR-RT (1±3%, p>0.05) and HL-RT (0±5%, p>0.05), and (4) 48h-post exercise, BFR-RT (4±6%, p>0.05) and HL-RT (3±5%, p>0.05). Perceptions of soreness were significantly elevated immediately following exercise for both HL-RT and BFR-RT (both p<0.001) and remained elevated in both conditions at all time-points (all p<0.001). However, perceptions of soreness were significantly greater at 24h (p=0.008) and 48h (p=0.022) following HL-RT, compared to LL-BFR. CONCLUSION: The present study reports similar significant impairments in both muscular strength and countermovement jump performance after BFR-RT and HL-RT immediately following exercise and at 2h post-exercise, while significantly recovered at 24h post-exercise. This suggests that trained individuals and athletes that are accustomed to the BFR-RT modality may recover muscular function to baseline within a day of recovery.

KEY WORDS Occlusion Training, Blood Flow Restriction, Resistance Training, Power Recovery, Force Generation Recovery

Reference:
Lixandrao, M. E., Ugrinowitsch, C., Berton, R., Vechin, F. C., Conceicao, M. S., Damas, F., . . . Roschel, H. (2018). Magnitude of Muscle Strength and Mass Adaptations Between High-Load Resistance Training Versus Low-Load Resistance Training Associated with Blood-Flow Restriction: A Systematic Review and Meta-Analysis. Sports Med, 48(2), 361-378. doi:10.1007/s40279-017-0795-y.

Research on the Development Trend and Basic Education Application of Smart Sports Watch

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ABSTRACT

1.Research Purpose

In recent years, people have introduced more and more clothing equipment from head to toe in their pursuit of health and re-order. Through the case of the body exercise smart watch, through the case of many domestic and foreign literature, collecting and organizing related data, for example, through the development process of the general smart watch, the development trend of the movement watch, the more intelligent, more convenient to carry, the body more comprehensive and accurate lysis, the combination of surveillance measurement figures and exercise is more closely promoted, such as to promote more constitutional health.

2.Research Methods

We use literature, interviews, questionnaire survey, mathematical statistics to analysis and research.

3.research results

The Intelligent Movement Clock is a product of the science and technology revolution. With the development of the times, people are turning more seriously on the extension of the gun river and life span, but the intelligent movement clock seizes these key points and defeats each other in the floating zone, and then it becomes even better. For a considerable period of time, intelligent sports watches will be improved from hardware, software will become more toughness, and will contribute to the development of various businesses by focusing more on basic activities such as education, physical education, etc. to promote various consumer experiences and health functions.

KEY WORDS: Intelligent Wear, Health, Smart Watch,Sports

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The examination of the concept of competitive state evolution in the new perspective

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Abstract. The concept of competitive conditions has been a concern, and there is some controversy. In order to have a better understanding of the concept and also define a clear logic starting point for competitive condition research, this article applies methods of Documentation and Logical Analysis to have a statement on the research achievements which are made by typical representative experts at home and abroad. At the same time, it analyses experts' research on the concept of competitive condition from the angle of time order of concept development, polysemy understanding of existence, and Science of Logic, putting forward that competitive condition is a comprehensive ability which includes pre-competition preparation state and bringing it into play. This preparation state can be influenced by kinds of factors and shaped by practice. It is adjustable and controllable. Moreover, the comprehensive ability is shown in three periods. In the early period of the game, athletes must adjust themselves to the competitive atmosphere as soon as possible so that they can be inactive position. In the middle, competitors should have good psychological quality, strong will, and hard-working spirit. Meanwhile, according to the actual situation on the track, they should flexibly use tactics to make themselves initiative and confident of winning the game and stepping into the ending period, which is fully grasped. Lastly, near the end of the game, athletes must be physically energetic to try their best, make a persistent effort and struggle to the last minute of the game.

Keywords. Competitive state; Concept; Evolution.

Postural Control Strategies during single-leg stance in Athletes with Chronic Ankle Instability and Copers

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ABSTRACT:

Background: Ankle sprain is one of the most frequent traumas of the musculoskeletal system, with an incidence rate of 2.15 per 1000 person-years in at risk populations (e.g., athletes) in the united states(Waterman, Owens, Davey, Zacchilli, & Belmont Jr, 2010)**.** The purpose of this study was to investigate the balance and compare the electromyographic (EMG) activation of the most important muscles involved in postural control strategies during single-leg stance among athletes with chronic ankle instability (CAI), copers, and healthy athletes.
Hypothesis: Electromyographic activity of muscles and balance control involved in postural control strategies are different among CAI, copers, and healthy athletes.

Study design: Cross-sectional study.
Method: 34 participants, were classified into three groups, maintained her balance 3 times for 20 seconds at levels 3 and 12 of Biodex Balance System (BBS), resting for 10 seconds between each trials, and and EMG activation of the muscles were recorded by using surface EMG. In the present study, electrical activity in the muscles of tibialis anterior, medial gastrocnemius, rectus femoris, biceps femoris, extensor muscles of the vertebral column, and rectus abdominis was recorded; 1000 Hz sampling frequency; with surface EMG (the ME6000 16-channel EMG, Megawin, Finland) during single-leg stance on BBS.
Results: A statistically significant difference was found in the muscle activation in single-leg stance at both levels 3 and 12 of BBS among three groups ($p < 0.05$). the EMG activity level of CAI group was lower than that of the other two groups. The activation of the medial gastrocnemius and rectus femoris muscles were decreased in CAI when compared with healthy individuals ($p < 0.05$). Compared to copers, the activation of the tibialis anterior, medial gastrocnemius and rectus abdominis muscles were decreased in the CAI group ($p < 0.05$). And no significant difference was observed between coper and healthy control groups in the balance indexes under two stable and unstable conditions ($p < 0.05$). However, both medial/lateral, and overall balance indices were significantly higher in the CAI group than those in healthy group under two stable and unstable conditions ($p \leq 0.05$).
Conclusions: Decreased EMG activation in CAI may be one of the reasons for the lack of balance in these individuals because there was no reduction in muscle activity of copers. Individuals with

CAI showed a decrease in activity levels of muscles both proximal (rectus femoris and rectus abdominis) and distal (tibialis anterior and medial gastrocnemius) during single-leg stance, and it is impossible to say with certainty which strategy in these individuals is more likely to contribute to maintaining the balance in single-leg stance. Also, people with CAI had balance deficits in medial-lateral direction. Reduced activity level of the muscles in individuals with CAI could be one of the reasons for the balance weakness in these individuals. Increased activity level of the muscles in copers might be due to compensatory mechanisms, which resulted in more trunk and ankle stability.

Keywords: Electromyographic (EMG) activity, Chronic ankle instability (CAI), Coper, Athlete

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EFFECT OF STEP AEROBIC EXERCISES AND YOGA EXERCISES ON SELECTED BIO-CHEMICAL VARIABLES OF OBESE GIRLS

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ABSTRACT:

The transition from a traditional to modern lifestyle, consumption of diets rich in fat and calories combined with a high level of mental stress has compounded the problem further. With a shift in eating habits and the adoption of a sedentary life style has lead to the increasing prevalence of life style diseases like Obesity, system is controlled and regulated to secrete the harmony from the glands in balance quantities. Obesity increases the risk of many physical and mental conditions. These co morbidities are most commonly shown in metabolic syndrome.

In the present study the subjects were forty five girls selected from the Little Flower School and M K Nadkarni School, Vadodara, Gujarat. The age of the subjects was ranging between 10 to 16 years. The experimental groups were imparted 40-50 minutes of training of yoga exercises for eight weeks. The subjects were equally divided into two groups namely experimental and control group. In the present study equated group design which consisted of experimental group and control group was used to compare the effect of yoga exercises on obese girls. The following variables were selected for the purpose of this study: (1) Resting Heart rate (2) Hemoglobin (3) High Density Lipoprotein (4) Low Density Lipoprotein (5) Triglycerides (6) Total Cholesterol . The analysis of co-variance was employed and significant effect was found in experiment group further In all variables, LSD post hoc test outcomes revealed a significant difference between control and experimental groups.

KEY WORDS Bio-Chemical, Obesity, Resting Heart rate, Hemoglobin, High Density Lipoprotein , Low Density Lipoprotein ,Triglyceride, Total Cholesterol.

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Effect of five weeks of plyometric training in lower limb with and without blood flow restriction on anaerobic power, muscle strength, agility, speed, limb circumference, body composition in young male volleyball players

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Abstract

The purpose of this study was to investigate the effect of plyometric exercise with and without blood flow restriction on the lower trunk on anaerobic power, muscular strength, agility, sprint, limb circumference and body composition in young volleyball players.This study was quasi-experimental. Pre-test and post-test were performed with 3 groups including plyometric with blood flow restriction (n = 8), plyometric without blood flow restriction (n = 9) and control group (n = 7).The training protocol was the same for both groups. (3 sets, 15 repetitions, resting between sets and 90–120 seconds)Including eight exercises for 5 weeks and 3 sessions per week for 60 minute.Only the plyometrics group with blood flow restriction using a flexible elastic band that was wrapped around the proximal end of the thigh. And they immediately opened the cuff at rest time.The control group did not participate in any of the plyometric activities. Before and after 5 weeks of exercise, Wingate anaerobic tests, 1 rm squat, agility T test, sprint 30 m , limb circumference and body composition were performed.The results were analyzed by one-way ANOVA with a significant level ($p < 0.05$). Significant differences in sprint 30 m ($p = 0.001$), circumference right leg ($p = 0.024$), left leg ($p = 0.046$) and muscle strength ($p = 0.004$) were observed between the plyometric group with bfr, plyometric group without bfr and control group. Agility test ($p = 0.839$), Wingate Watt ($p = 0.950$) and Wingate W / kg ($p = 0.177$), Sargent jump ($p = 0.076$), Fat percentage ($p = 0.704$), Fatigue index ($p = 0.946$).), Skeletal muscle mass ($p = 0.557$), and WHR ($p = 0.981$) showed no significant differences between the two groups.The findings of the present study show that three sessions of plyometric training with bfr for 5 weeks will increase the sprint 30 m, muscle strength and limb environment. Also training with and without bfr has increased performance in agility, wingate watt, wingate w / kg and Sargent jumping indicators,but has had no effect on fat percentage, fatigue index and skeletal muscle mass.

Key word: plyometric training, katsu, blood flow restriction, stretch-shortening cycle, sprint, limb circumference

Injury patterns among Sri Lanka army football players: A population study

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ABSTRACT:

Football is a contact sport combining high demands for physiological and technical skills, which make the players more vulnerable to injuries. Injured players have to undertake rehabilitation to get relief from injuries, which could impede their sporting career. The objectives of this study were to identify the most prominent injury pattern among football players and to identify the extrinsic factors responsible for these injuries. Further, mechanisms of common injuries, immediate treatments following injuries and treatment recommendations were also studied using a cohort survey research. The study population (n=45) consisted of both male and female Sri Lanka (SL) Army football players. The mean age of players was 25±4 years. A higher proportion (49%) of subjects played football for 11-15 years. Forty three percent players were midfielders. The most prominent injury pattern among players was identified using a self-administered questionnaire. Following the identification of the most prominent injury pattern, data were collected on extrinsic factors contributing to the identified injury pattern, using a separate questionnaire. Regression analysis was used to identify the extrinsic factors contributing to the prominent injury pattern. Within the confines of this study, foot and toe injuries were the most prominent injury pattern among the players (100%). Results revealed that lack of proper medical screening (p=0.001), improper playing surface (p=0.007) and improper protective equipment (p=0.009) significantly affected the prominent injury pattern. Twisting/turning mechanism was the most common injury mechanism (73%) among subjects. Forty five percent of the players engaged in skill-training for more than 1 hour per day and 46% of players were in fitness training for more than 1 hour per day. During the training sessions, all players used ice as an immediate treatment for injuries. However, during competitions, 80% of players applied spray/ointments but did not use ice as an immediate treatment. During their training sessions, 53% players consulted the masseur for further treatments and 50% of the players were referred to physiotherapists during competitions. It can be concluded that foot and toe injuries are the most prominent injury patterns among SL Army football players. Lack of proper medical screening, improper playing surface and improper protective equipment were major extrinsic factors contributing to injuries. The majority of the players were not referred to a medical practitioner for treatment following their injuries.

KEY WORDS Football, Injury, Extrinsic, mechanism

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THE EFFECT OF EIGHT WEEK TRAINING PROGRAMME TO DEVELOP AGILITY

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Abstract - Badminton is an open skilled racket sport. Agility is one of most important physical qualities that should be developed in the very beginner level of the badminton players. This research was conducted to evaluate the effectiveness of a planned training programme for improving the agility of female badminton players at the beginner level. The selected population was beginner female badminton players in year II from the Faculty of Social Sciences and Languages, Sabaragamuwa University of Sri Lanka. Sample was divided as treatment group and control group. Eight week training programme was applied to the treatment group and the control group was not involved in the training. Before starting the specific training, Illinois agility test was done with both groups. The mean time of the treatment group was 21.238s and that of the control group was 21.152s. After eight weeks of specific training applied to the treatment group, Illinois agility test was conducted again with both treatment group and control group. There, the mean time was 20.196s in the treatment group and that of the control group was 21.178s. It could be concluded that the specific training programme had made an effect to improve timing of the agility test. Then the paired t-test was carried out to conform the effectiveness of the training programme. There, the p-value for the treatment group was calculated as 0.012. It was less than the significance level 0.05.for the control group, p-value was calculated as 0.874. It was higher than the significance level, 0.05.It could be concluded that the planned eight week training programme was effective to improve the agility of the population.

Key words: *Badminton, agility, beginners*

The impact of electromyographic (EMG) biofeedback training on reducing shoulder pain in WB players

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Introduction: In wheelchair basketball players (WB) shoulder injuries are a common problem (Saleky García Gómez, 2017). It is evident that EMG biofeedback has value when added to an exercise intervention to reduce shoulder pain in manual wheelchair users with spinal cord injury SCI (Susan Middaugh, 2013). Therefore, the aim of this study was to investigate the effect of electromyographic (EMG) biofeedback training, during WB training, on reducing shoulder pain in WB players **Methods:** Thirteen male WB players (age = 33.4 (± 5.5) years; wheelchair basketball experience = 12.5 (±1.9 years) of 4 different classifications who were manual wheelchair users with shoulder pain were randomly assigned to 1 of 2 exercise interventions. Group A (n = 7) received instruction on a standard home-based exercise program. Group B (n = 6) received identical exercise program plus EMG biofeedback training during wheelchair basketball training. Auditory signal was given during surface EMG (Cwmfelinfach, Gwent, UK type NOS. SX2301, Data Log Biometrics, Ltd) recording on muscles anterior deltoid, upper and lower trepezius and triceps to provide biofeedback. Shoulder pain was assessed by the Wheelchair Users Shoulder Pain Index (WUSPI) at baseline, at posttest 8 weeks after the start of intervention, and at follow-up 12 weeks after posttest. **Results:** Between groups differences highlight that Group A had statistically significant difference from baseline to posttest ($P< 0.05$,ES=2.61) but failed to maintain the efffect during follow up ($P>0.05$). Group B with EMG biofeedback training showed statistically significant difference among all time series of data collection from baseline to posttest ($P<0.05$, ES=2.11) and effect remain after 12 week of follow up.($P<0.05$, ES= 1.41).**Discussion**: EMG biofeedback included during baskteball training helps to reduce shoulder pain in wheelchair basketball players with SCI, hence improves their quality of life.

Key words: biofeedback, exercise, pain, wheelchair basketball

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Effects of cold-water immersion in warm up protocol during national team training camp: an exploratory study

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ABSTRACT:

The national team training camp imposes a congested training schedule, and greater fatigue levels can be expected. Cold therapies have been extensively used to improve recovery in team-sport athletes, and their effects at physiological level are well-documented on the literature (2). However, more research is needed to understand the effect of cold-water immersion (CWI) on physical performance during on-field tasks. The aim of this study was to compare the performance on on-field warm-up strategy according CWI protocol (with vs. without). Eight basketball players who participated in under-16 national team training camp taken part of this study. Using a cross-over trial study design, players performed either warm up protocol (1) on morning session, after CWI (7 minutes at 11.8º C to a level of the iliac crest) on previous day and the same protocol without CWI, to compare both conditions. Workload data was collected via WIMU PRO Local Positioning System (*Realtrack Systems, Almeria, Spain*). External workload consisted of distance covered (DC) ($m \cdot min^{-1}$), average (AS) and peak (PS) speed ($km \cdot h^{-1}$), accelerations (Acc) and decelerations (Dec) ($n \cdot min^{-1}$), high-intensity accelerations (HIAcc; >2 $m \cdot s^{-2}$) and decelerations (HIDec; >-2 $m \cdot s^{-2}$) ($n \cdot min^{-1}$), peak acceleration (PAcc; $m \cdot s^{-2}$), and deceleration (PDec; $m \cdot s^{-2}$), body impacts (BI; >5g) ($n \cdot min^{-1}$), and Player Load (PL) (a.u./min.). Heart rate (HR) was recorded with individual HR monitors. Sample Entropy was computed for HR, and mediolateral, longitudinal, and anteroposterior axis accelerometer signals. The values of HIDec (ES = 0.66), PDec (ES = 1.19), AS (ES = 0.96), and PS (ES = 1.07) were significantly higher after cold water immersion (all $p < 0.05$). This study show that CWI may be beneficial for high-eccentric demand activities during warm-up protocol, however more studies are needed to confirm these benefits.

KEY WORDS basketball, recovery, team sports, inertial movement sensors

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PE teachers' attitudes about the human rights and democratic citizenship dimension with emphasis on the achievements of the concept of tolerance as an indicator of the right to education

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ABSTRACT:

Prompted significant reflection and discussions over the kind of education we need and want in the twenty-first-century results with many curricula changes. Emphasis on the importance of values, attitudes, and skills that promote mutual respect and peaceful coexistence provides a deep overview of many challenges that school face. Physical education as one of many subjects is subject to change but with great potential for the implementation of all indicators of the right to education. The purpose of this study is to ascertain the perceptions of attitude perspective by PE teachers about tolerance as an indicator of the right to an education that should be implemented in daily school curricula.

The research was carried out on the sample of 340 PE teachers in Croatia, consisting of 150 women and 190 men of the average age of 43. The questionnaire for the assessment of minimum quality of the educational process and general teachers' competences (UPminKOOP) (Žnidarec Čučković & Ohnjec, 2017) was applied. The component model of factorial analysis carried out on 16 items of the questionnaire confirmed two significant main components according to Guttman-Kaiser criterion. Cronbach's coefficient of reliability of the questionnaire's total result defined on the analysed sample of participants was 0.91, standardized coefficient was 0.91 and average intercorrelation of items was 0.44.

Results of the analysis showed that participants in the study see tolerance (as part of competence) as strong building block of the curriculum with all its achievements while respecting diversity as the basis of education for human rights and democratic citizenship correlated with PE.

KEY WORDS right **to education, competence, physical education, tolerance, teachers' attitudes**

Reference:

Žnidarec Čučković, A. & Ohnjec, K. (2017). Students assessment on teacher skills in physical education through the aspect of acceptability as an indicator of right to education. 8th International Scientific Conference on Kinesiology, Opatija, Croatia str. 272-276.

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Influence of 12 weeks of combined balance and plyometric training on the physical and technical skills of adolescent rugby seven players.

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Introduction: Rugby Sevens requires exceptional levels of fitness, including well-developed aerobic capacity, agility, speed, power, strength, and anaerobic qualities (Ross A. et al, 2015). Plyometric and balance training is proven to improve physical conditioning in team sports (Slimani, 2016). Still, in rugby, seven there is ineduquate evidence; hence, the aim of the study to determine the influence of 12 weeks of combined balance and plyometric training on the physical and technical skills of adolescent rugby seven players. **Methods:** Twenty-four healthy regional-level players were randomly assigned to either an experimental group (CombG; n = 12, age = 16.4 ± 0.4) or a control group (CG; n = 12, age = 17.5 ± 0.5). CG maintained their normal rugby training schedule for 12 weeks; CombG added balance and plyometric training as a part of their standard regimen twice per week. Pretest and post-tests were performed before and after the intervention. Variables included the squat jump (SJ), countermovement jump (CMJ), drop jump (DJ), 5-, 10-, and 20-m sprints, Stork balance test (SBT), Y-balance test (YBT), modified Illinois change of direction test (MICODT) and ball passing accuracy. **Results:** There were no significant intergroup differences in SJ and CMJ height. CombG increased their DJ height ($p < 0.05$, Cohens'd = 0.12). No significant intergroup differences were found for sprint performance or SBT. Dynamic YBT showed a significant group interaction ($p = 0.04$, $d = 0.16$). Post hoc analysis also showed a significant increase of MICODT for CombG ($p = 0.04$, $d = 0.09$) and passing accuracy ($p= 0.01$, $d = 0.12$). **Conclusion:** The addition of 12 weeks of balance and plyometric training to regular in-season rugby training proved a safe and feasible intervention that enhanced DJ height, balance, passing accuracy, and agility for male adolescent rugby seven players relative to the standard rugby training regimen.

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The effects of non athletic factors on sports career termination: a study of athletes in district kotli (ajk)

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ABSTRACT:

Objectives: Athletes retire due to several causes and face problems after retirement (Agergaard, S., &Ryba, T. V., 2014; Wylleman, P., Lavallee, D., 2004). The aims of this study were to identify the career termination factors (CTFs) of athletes and association of CTFs with athletic and non athletic factors (age, marital status, education, competition years & level) in district Kotli, AJK.

Methods: A sample of 122 male athletes (Rt) was selected through simple random sampling technique. Sports Career Termination Questionnaire (SCTQ) was used for data collection. Descriptive statistics, chi-square and correlation techniques were applied for data analysis.

Results: Cronbach's alpha reliability statistics was 0.80. The mean age of the participants was 32.5 years. More than 60% of the participants played at college level and 49.3% were under graduates.Age and competition years had no significant ($p<0.05$) association while marital status, educational status and competition levels had significant ($p<0.05$) association with CTFs.Over-all CTFs were not significantly ($p<0.05$) contributing towards the retirement. However, financial difficulties had higher impact on career termination. "Sadness" and "Fear of an uncertain future" were major and significant ($p<0.05$) causes of retirement. "Financial difficulties", "Difficulties with adjustment to regular study" and "Lowered self confidence" were the most significant ($p<0.001$) problems of the athletes after retirement. The athletes received significantly ($p<0.05$) below average of psychological and financial support from their partners, parents, friends and other sources. Satisfaction, life adjustment, usefulness and new career opportunities of retired athletes were significantly ($p<0.05$) below from moderate level. The CTFs, emotional states, problems after retirement, psychological support, financial support and post sports life were positively and significantly ($p<0.01$) correlated with each other.

Conclusion: Professional athletes in district Kotli (AJK) were facing financial problems during and after their sports career and they had found no moral, social and psychological support by the society after retirement. Therefore, government and other sport federation should address these issues in comprehensive way to provide material security with no fears for their life after sports career.

KEY WORDS: Athletes, Career Termination, Emotional, Financial Support

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Serum Omentin-1, insulin resistance and lipid profile response in exercise trained Cigarette smokers

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Abstract

Background and aim: Omentin-1 is a newly discovered adipokine that plays an important role in the pathogenesis of insulin resistance and diabetes. We investigated the effect of 8-weeks aerobic exercise training on serum omentin-1, insulin resistance and lipid profile in smoker.

Methods: Nineteen healthy men and twenty smoker men were randomly assigned into healthy control group (C), healthy exercise group (E), control smoker group (CS) and exercise smoker group (ES). Exercise groups participated in an 8-weeks aerobic exercise training program (three times a week, 45 min per session at 65%-80% of maximum heart rate). Serum omentin-1 and insulin levels were assessed by ELISA and HOMA-IR, glucose and lipid profile were measured before and after the intervention. Paired Sample t-test, one-way analysis of variance (ANOVA) and Tukey's post hoc test were used to analyze the data ($p<0.05$).

Results: Aerobic exercise improved serum omentin-1 and high lipoprotein cholesterol (HDL-C) in the exercise groups ($p<0.05$). Also, Exercise training reduced insulin, blood sugar, HOMA-IR, total cholesterol (TC) and low-density lipoprotein cholesterol (LDL-C) levels ($p<0.05$). Omentin-1 significantly correlated with insulin ($r=-0.40$, $P=0.01$), HOMA-IR ($r=-0.38$, $P=0.04$), TG ($r=-0.40$, $P=0.01$), TC ($r=-0.49$, $P=0.02$), LDL-C ($r=-0.70$, $P=0.02$) and HDL-C ($r=0.55$, $P=0.03$).

Conclusion: The findings suggest that aerobic exercise-induced changes in omentin-1 may be associated with the beneficial effects of exercise on reduced insulin and lipid profile in exercise trained smokers.

Keywords: Omentin-1, Insulin resistance, Lipid profile, Smokers, Aerobic exercise.

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