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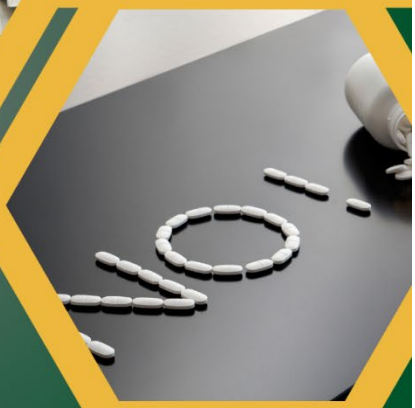

ABSTRACT BOOK

INTERNATIONAL CONFERENCE ON HUMAN PERFORMANCE AND HEALTH 2023 (ICHPH 2023)

SPORTS, MILITARY AND ANTI-DOPING

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The front page depicts an athlete, a group of soldier in their training gear and a “No to Doping” images. The page is designed by Mr. Ahmad Farizan Radzuan

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TABLE OF CONTENT-,

Oral Presentation

D1-000

Why Sports, Military & Anti-Doping?

Mokhtar AH[1]
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Abstract
In sports, we keep on trying towards a fitter, stronger and resilient individual. The aim is to become the champion in our field. With the competitors getting better, we need to push harder. Training is one of the vital keys to success. With hard training, we can become better athletes. Similarly, in the military, we need to train hard and constantly. So much so, we aim to break our own internal physiological barrier. At the same time, our performance is dependent on the external environment e.g. the terrain, climate and equipment. Due to the nature of our training and demands, Sports and Military share the same scientific knowledge, to name a few, physiology, nutrition, biomechanics and psychology. Furthermore, with such similarity in training, Sports and Military coherently have similar injury training related injuries. Doping via use of prohibited substances, while may enhance performance of an individual, may adversely affect health. Hence, both Sports and Military would benefit from anti-doping education.

KN-001

The Future of Human Performance

***Kuo CH*[1]**
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Abstract
We know very little about how human performance is constructed, despite having scientific methods to assess it. Humans are multicellular, and physical performance can be regarded as a collective effort of numerous cells against challenges. The knowledge required to optimize human performance is not only essential for athletes striving for gold medals but also crucial for the overall fitness and longevity of an individual's life. Since most cells in the human body have a short lifespan, the average cell age determines overall fitness. A recent proof-of-concept animal study has demonstrated improved exercise performance and health span by eliminating senescent cells. Senescent cell clearance and cell regeneration are regulated by inflammation, which is an immune response. During inflammation, bone marrow-derived phagocytes infiltrate challenged tissues to recognize and eliminate unfit cell populations. The elevated levels of reactive oxygen species (ROS) during phagocytosis attract tissue stem cells to the damaged site, facilitating cell repopulation and tissue rejuvenation. This entire process explains why high-intensity exercise training, despite being more inflammatory, provides a more significant fitness enhancement effect compared to lower-intensity training. The manipulation of bone marrow cell recruitment to maintain the optimal age profile of cells in tissues has become a very promising area.

LEC-001

Use and Abuse of Substance for Performance

Shamsuddin AF [1]
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Abstract
It is natural for humans to want to get involved in sport and games. It is also natural for everyone to want to win. An athlete or anyone who wants to be actively involved in sport should maintain a healthy body through a healthy lifestyle. This includes a good diet as well as robust training and physical regime. Consumption of vitamins and supplements can be seen as an early exposure to the use or misuse of drugs or medications in sport as their physical forms are like medicines. There may be a subconscious link of this physical resemblance to the issue of doping in sport. Drug doping in sport is the intentional use of medicines and/or substances (chemical or otherwise) to increase sport performance. Unintentional use of medication that leads to improved performance is also considered a doping offence (inadvertent doping). The consumption of vitamins or supplements by an athlete to maintain health is advisable. However, a healthy beginning, unguided or misguided can lead to unhealthy practices.

Lower Body Explosive Power and Balancing Ability among Malaysian Female Artistic Gymnasts

Leng CS [1]
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Abstract
Artistic gymnastics is one of the gymnastics disciplines that requires great strength, power, balance and flexibility to perform short routines on different apparatuses. However, limited research and study is done on gymnasts' performance on lower body explosive power and balancing ability. The aim of this study is to discover the lower body explosive power and balancing ability among Malaysian female gymnasts and then contributes to create normative data for local references. 44 female artistic gymnasts who aged between 10 to 23 and categorized into 3 groups: Pre Junior (PJ), Junior (Jn) and Senior (Sn). All of them will perform countermovement jump (CMJ), squat jump (SJ) and Y Balance Test (YBT). Jump height (m) will be collected for CMJ, SJ Test and absolute reach distance (cm) will be used to determine the balance ability of left and right leg in anterior, posterolateral and posteromedial directions. Sn group performed best in CMJ with 0.27m compared to PJ (0.25m) and Jn (0.26) groups respectively. However, all three groups have similar performance (0.20m) in SJ. For YBT, PJ group reached furthest in anterior for right leg (67.13cm) and Sn group (66.85cm) for left leg. In posteromedial, Jn group reached the furthest (101.83cm) in right leg where the PJ group excelled in the left leg with 96.09cm. For posterolateral, the Jn group reached the furthest for left leg (100.41cm) and right leg (106.42cm). Differences were observed among groups in CMJ jump height and YBT but all groups performed similarly in SJ. More metrics need to be observed and a larger group of gymnasts needs to be included in study to ensure the data is more reliable in the future.

OFP1-102

Effects of Combined Multicomponent Exercise and Cognitive Intervention on Cognitive Function of Older Adults with Mild Cognitive Impairment: A Systematic Review and Meta-Analysis

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[2]Department of Physical Education, Shanghai Sanda University, China

Abstract
Emerging studies have examined the effectiveness of combined exercise and cognitive intervention (combined intervention) on the cognitive function of older adults with MCI, but the conclusions remain disputed. Our study aimed to comprehensively examine the efficacy of the combined intervention on cognitive and physical function in older adults with MCI. Methods PubMed, Cochrane Library, EMBASE, and PsycINFO were retrieved to identify the relevant articles. Two researchers independently performed article retrieval, screening, data extraction, and risk assessment and eventually included 12 eligible articles. Results Combined intervention significantly improved global cognition (SMD = 0.26, 95% CI [0.14-0.39], p ＜0.001), executive function (SMD = 0.41, 95% CI [0.29－0.53], p＜ 0.00001), memory (SMD=0.30, 95% CI[0.22-0.39], p=0.12), and gait performance (SMD= 0.32, 95% CI [0.03-0.62], P=0.03) compared to the control group. Combined intervention significantly improved executive function compared to exercise intervention alone while not showing a statistically significant compared to cognitive intervention alone. Moreover, no significant difference was observed between simultaneously and sequentially combined intervention. Conclusion Combined intervention is efficacious in improving global cognition, and selectively enhancing cognition domains and physical function in older adults with MCI. More research with robust designs should be conducted, particularly involving comparisons with single interventions and different types of combined intervention.

OFP1-103

Shooting Elite Athlete Calmness in High-Level Competition

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Abstract
Shooting sports requires accuracy, precision, and control in executing the action while targeting the aim either using pistols or riffles. These sports require many psychological skills (visualization, self-talk, focus and concentration) to be mastered to deliver the best shots. Calmness is one of the main antecedents allowing the athlete to be in the zone to promote the working flow consistency in each shot. Therefore, this presentation focuses on the pre-competition calmness level of the shooting elite athlete in high-level competition. These athletes have undergone brainwave training over a period and have a good understanding of their personal brainwave states. A brainwave routine was designed as the athletes' mind activation process before they start warming up in the competition. In the mind activation routine, the athletes will use a brainwave device to capture their brain activity and a score will be given according to the state (active, neutral, calm). Hence, the data received indicates the current mind state of the athlete before they start their representative events. The higher percentage recorded shows the athletes' calmness level is optimal and thus will promote a conducive condition for the athlete to keep the focus on their preparation and competition. In conclusion, a comprehensive understanding of the shooting athletes on their personal brainwave activity state especially during pre-competition will encourage the athlete to be in the optimal zone to perform. It will help to eliminate unnecessary worries and feelings of loss or helplessness. The calmer state will increase the athletes' adaptation to the performance environment and be in a control state in high-level competitions.

OFP1-104

Investigating the correlation between visual attention selection and sports performance of badminton players - Based on eye movement technology

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Abstract
Visual attention ability is an important component of cognitive ability and one of the main factors affecting sports performance. The purpose was to investigate the relationship between the characteristics of visual attention selection and sports performance of badminton players. For the study, 40 badminton players were selected according to the expert-novice paradigm. An eye movement recorder was used to test the multi-target tracking task experiment of 2 (group) X5 (target number) and the virtual motion situation experiment of 2 (group) X2 (decision type). Under certain target numbers, there was no significant difference between the two groups in the correctness of target tracking. When the target speed increased, there was a significant difference between the two groups in the correctness of target tracking; in the cognitive decision task, there was a significant difference in the reaction time of the two groups, with the expert group outperforming the novice group; in the intuitive decision task, both the reaction times and accuracy rates of the two groups showed significant differences, with the expert group outperforming the novice group. In the multiple target pursuit task, the expert group processed visual attention faster and more correctly; the expert group was able to proactively process and integrate information during attention processing. The expert group has a stronger ability to distribute attention reasonably; the speed of visual attention processing and the allocation of attention are factors that influence motor performance.

OFP1-105

The Effects of Mantra Meditation Intervention on 100-Metre Performance Among Male Students

Wang Y[1]
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Abstract
Objective: This study aimed to explore the effects and possible mechanisms of Mantra meditation on the performance of male student-athletes in the 100-meter dash. Method: A cohort of 30 male athletes (mean age: 16.5±0.5) achieving 100-meter times faster than 11.74 seconds (level 2, based on China's performance standard) were stratified into Mantra Meditation Intervention (MI) and Control (CON) groups. The MI group underwent 12 weeks of Mantra meditation, while both groups adhered to an identical training regimen, differing only in the meditation intervention. Performance metrics for the 100 meters were recorded at pre-intervention, week-6, and week-12. Simultaneously, psychological states (cognitive anxiety, somatic anxiety, and self-confidence) and norepinephrine levels were evaluated using the Competitive State Anxiety Inventory-2. Statistical analyses employed two-way repeated measures ANOVA conducted with GraphPad 9. Results: The MI and CON groups exhibited notable performance enhancements at weeks week-6 and week-12, although the CON group demonstrated slightly less improvement in week-12. Cognitive anxiety witnessed a significant decrease in the MI group during both week-6 and week-12, while somatic anxiety experienced a decrease from pre-intervention to week-12. Self- confidence showed significant improvement in the MI group at both pre-intervention and week-12. Norepinephrine levels significantly decreased in both the MI and CON groups at week-6 and week-12. Conclusions: Twelve weeks of Mantra meditation enhanced 100-meter performance in male athletes by mitigating cognitive and somatic anxiety, lowering norepinephrine levels, and boosting self-confidence.

SYM2-201

Adaptation to Oxidative Stress

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Abstract
Intense exercise can result in an increase in oxidative stress, where there is an imbalance between the production of reactive oxygen species (free radicals) and the body's ability to scavenge them. Oxidative stress can damage cell membranes, including those of red blood cells (erythrocytes) leading to a phenomenon known as exercise-induced hemolysis. When erythrocytes undergo hemolysis, the structural integrity of their cell membranes is compromised, causing the release of their contents, mainly hemoglobin. This is aggravated by mechanical stress, increased body temperature and dehydration especially during prolonged exercise which may lead to lower RBC. It's crucial to emphasize that while exercise-induced hemolysis can occur, it is generally not a major concern for individuals engaging in regular, moderate-intensity physical activity. However, highly strenuous and prolonged activities, such as ultramarathons or intense training regimens, may experience this. Although this may be perceived as detrimental, the sequelae of events underlying this phenomenon is considered as an adaptative response which signals for sequestration of damaged and senescent erythrocytes, and activation of reticulocytes release. Oxidative stress causes hemoglobin to membrane proteins which increases its rigidity and initiates the sequelae of events to its destruction and removal from the circulation. The influx of new erythrocytes provides more robust protection against oxidative damage with higher membrane integrity and ability to bind/carry anti-oxidative enzymes such as catalase and superoxide dismutase. In brief, exercise-induced hemolysis is an adaptative response to oxidative stress which is a beneficial reaction by the body, a stimulus for new erythrocyte production.

SYM2-202

Altitude Training and Performance

Chaunchaiyakul R[1]
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Abstract
This study conducted two experiments to investigate the effects of acute and long-term altitude training on physiological and performance deteriorations in a 4*6 simulation chamber. Male soccer players from a sports school were recruited. As part of screening out for those altitude hyperreactive, all subjects were asked to sit quietly in a chamber for 20 minutes. The first set of exercise testing under normoxic (NOR, O2 21%) and acute hypoxic (HYP, O2 15%) conditions were done in 33 subjects. For long-term hypoxic training in the second set, subjects were randomly divided into four groups: Live Low-Train Low (LLTL, n = 8), Live Low-Train High (LLTH, n = 8), Live High-Train Low (LHTL, n = 9), and Live High-Train High (LHTH, n = 8). On a daily basis for four weeks, living conditions were conducted with 10 hrs duration, while training was two hrs. These combinations of living and training were arranged for either NOR or HYP conditions. Results: Acute hypoxic exposure caused physiological stresses on cardiovascular, respiratory and metabolic functions with diminutions of work rates and VO2max. Results for long-term hypoxic training from the second set show that at maximum the exercise group of LHTL had the remarkable increased in HR (heart rate), SV (stroke volume) and CO (cardiac output) than LLTH with the reduction of these cardiac variables in LHTH. Similar increased in RR (respiratory rate), VE (ventilation), and VO2max were found in LHTL. Increasing in hematological variables were detected in all LLTH, LHTL and LHTH with the remarkable reticulocyte count in LHTL. Conclusion: Physiologic stresses are in concern for acute hypoxic exposure, with performance deteriorations. LLTH is a selective practical model for long-term hypoxic training with good adaptations for cardiorespiratory, metabolism and performance.

OFP2-101

Below the elbow compression sleeves improve perception and comfort level following intense video game training: A preliminary study

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[3]Faculty of Applied Sciences, Universiti Teknologi MARA, Malaysia

Abstract

E-sport athletes require a high number of mouse and keyboard action moves on a typical training day, with substantial contractions of the wrist extensor muscles. This study aimed to examine the use of below the elbow compression sleeves on perception and comfort level while playing with compression sleeves during intense training. Four (n = 4) healthy male elite e-sports athletes were recruited in this study. Participants performed 3 intense bouts of video game training followed by a 10-minute rest after each bout. All participants revealed that wearing compression has positively impacted their performance and agreed that they would wear it if it were part of a team uniform. While 75% of the participants agreed that they would consider wearing it if it were part of a team uniform and enjoyed wearing the compression garment. This preliminary study suggests that wearing below the elbow compression sleeves while performing intense gaming may improve positive perception and comfort level and may aid in enhancing gaming performance.

OFP2-102

Implementation of Sports Science in Firefighter and Rescue

Firmansyah A[1]
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Abstract
Firefighting and rescue is a noble job. It requires not only physical but mental toughness because incidents can happen at any time. Those required to work quickly and correctly to carry out rescues must have good physical condition. Therefore, fire and rescue fighters need to maintain both physical and mental conditions in order to support their performance while on duty. The application of sports science is needed to support high-performance occupations so that physical conditions can be measured and improved regularly. This research uses a descriptive approach. There are several tests that are carried out periodically, namely blood pressure tests, body composition tests, muscle strength tests, power tests, and endurance tests. All 622 male firefighters (height 170.1 ± 5.9, weight 73.0 ± 12.7, BMI 25.2 ± 4.1, percentage fat 23.9 ± 7.1) undergo this test. After undergoing the test, the service unit will apply an exercise called firefighter fitness exercise or "sedamkar" to improve physical quality which is carried out three times a week before carrying out duties that are included in the Internal Service Affairs Regulations (PUDD). Furthermore, it is necessary to monitor the implementation of the firefighting fitness exercise so that its implementation can be more optimal.

OFP2-103

The Effects of Modified FIFA 11+ on Side-Step Cutting Manoeuvre, Agility and Speed Performance among School Soccer Players

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Abstract

Introduction. The FIFA 11+ warm up programme has been shown to improve physical attributes soccer related skills as well as reduce the risk of injuries among soccer players. However, there is no evidence that the programme can improve side-step cutting performance, which is an important manoeuvre for quick direction changes while running. Consequently, it is vital to modify the compositions of the FIFA-11+ programme which includes speed and agility components. Objective. The aim of this study was to investigate the effect of a modified FIFA 11+ (mFIFA) program on side-step cutting, speed and agility performance and compare these outcomes with the original FIFA-11+ (FIFA) among school soccer players. Methods: Thirty (n=30) males school soccer players (between 16-17 years old) participated in this study. A pre-post experimental design was utilised to compare between 6 weeks of mFIFA (n=15) with the FIFA (n=15) on side-step cutting manoeuvre, 20m-sprint and T-test for agility. A two-way ANOVA was used to determine group and time effects. Results. For side-step cutting manoeuvre, there was a significant group and time interaction ($p=0.014$) and the mFIFA showed a time effect ($p=0.04$) with relatively 17% greater improvement. And for the T-test, there was a time effect for the mFIFA group ($p<0.001$) with relatively 3% better improvement. While for the 20m sprint test, there was no group and time effects, however a trend of improvement was observed. Discussion. For improvement in side-step cutting manoeuvre, the Nordic hamstring exercise and squats exercises may exert a beneficial impact on hamstring muscles which are primarily involved in accelerations/decelerations, cutting, and side-stepping manoeuvres. These movements parallel to the simultaneous improvement in agility. Conclusion. The main findings of this study indicate that implementation of the mFIFA improves the side-step cutting and agility performance among school soccer players, which may benefit coaches and soccer players.

OFP2-104

Correlation between physical fitness and FMS functional movement performance in children aged 7-8

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Abstract
Background and problem statements: Many studies have shown that there is a significant correlation between motor skill development and children's physical activity and fitness in preschool children aged 3-6 years old. The correlations between BMI, lung capacity, muscle strength, balance and stability, and their functional movements in 7-8 years old children are unclear and need to be further analyzed and investigated. Aims of the study: to investigate the correlation between the level of physical fitness and the performance of functional movements in FMS in children aged 7-8 years. The main indicators of children's physical fitness include BMI, lung capacity, one-legged standing with eyes closed, and grip strength. Design of study: 100 children（50 boys and 50 girls）aged 7-8 years old were selected for the physical fitness test and FMS functional movement screening test. The physical fitness test standard is based on the 'National Physique Measurement Standard Manual-Student Part' as the standard for data collection. The FMS data collection was according to the scoring standards. Pearson correlation analysis was used to perform the correlation analysis between physical fitness indicators and FMS. Research results: there was a significant correlation between BMI and FMS functional movement performance in boys and girls ($p=0.008<0.01$). There was a significant correlation between standing on one foot with eyes closed and FMS ($P=0.007<0.01$). There was no significant positive correlation between hand grip strength and FMS functional movement performance in boys and girls. No significant correlation existed between lung capacity index and FMS functional movement performance. Research conclusion: Movement development and movement performance are closely related to children's physical fitness and health level in the process of growth and development.. In daily sports training, especially for preschool children aged 7-8, they should continue to strengthen the training of functional movements to help children consolidate and strengthen the basic movement skills of the body.

OFP2-105

Effects of Aerobic Exercise on Arterial Stiffness in Young Healthy Women

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Abstract

Arterial stiffness is a natural phenomenon that has been shown to be associated with cardiovascular diseases especially among women. Conversely, this phenomenon improves with aerobic exercises in middle-aged and older women. However, for young women, the findings are equivocal and to date there is no exercise guideline to improve arterial stiffness. Hence, the aims of this study were to investigate the effects of 12-week regular aerobic exercise on arterial, and to determine the plausible underlying mechanisms affecting arterial stiffness in young healthy women. Twenty participants were recruited and randomized into exercise (EXA; n=10) and control (CON; n=10) groups. The EXA group performed regular aerobic exercise at 40% HRR, 3 times per week for a total of 12 weeks, while the control group did not participate in any exercise. The pre-post outcome measures were brachial pulse wave velocity (baPWV), advanced glycation end products (AGEs), body mass index (BMI), and estradiol (E2). A two-way ANOVA was used to determine mean differences between groups. For the EXA group, significant reductions were found in baPWV (P=0.0023), and AEGs (P=0.0113) and no changes were found in BMI and E2. While for the control group, no significant changes were observed for all indicators. This study shows that aerobic exercise at 40% HRR for 12 weeks can significantly improve arterial stiffness in young healthy women, which may have been mediated by decreasing AGEs; providing an effective exercise prescription for young women to improve arterial stiffness.

OFP3-101

The use of Qualitative Survey in Researching Social Phenomenon of Sports Spectators

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Abstract
Kanjuruhan Stadium disaster happened on 1st October 2022 in Malang, Indonesia which taken 135 lives and caused more than 500 people injured. All the victims are Arema Football Club supporters or known as Aremania. It is recorded as the second worst football stadium disaster in history. The incidents may provoke cultural trauma for Malang people, due to their identity has been tightly related to the Arema football club and activities supporting the football club. Cultural trauma is when an event caused a radical loss of identity and meaning in a group of people who have achieved a certain degree of cohesion (Eyerman, 2004). The Kanjuruhan stadium disaster might potentially disrupt the identity of Malang football supporters and change the fanhood ritual in Malang. The aim of Kanjuruhan Aftermath research project is to understand the potential of cultural trauma among Malang football supporters. Considering the sensitivity of this incidents, qualitative survey is used as data collection method. Qualitative survey is a series of open-ended questions about a topic (Braun & Clarke, 2014). This article will highlight the procedure of developing the qualitative survey which consists of 1) Preliminary research to prepare the survey; 2) Designing the qualitative survey; 3) Review the survey through a focus group discussion. This article will also highlight important reflections, offer recommendations and considerations before applying qualitative surveys in the area of sport, particularly in sport fandoms. To conclude, the use of qualitative surveys is promising to investigate socially or culturally sensitive issues in sports.

OFP3-102

The influence of community sports volunteers on sports participation in East Java

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Abstract

This research aims to determine the influence of community sports volunteers on sports participation in East Java Province. This research was conducted using a survey method and was carried out once, so it was a cross-sectional study. One hundred sixty-seven community sports activity volunteers and 700,042 East Java residents were involved in this research as respondents. Data collection was obtained from filling out questionnaires by volunteers who mobilize community sports and people who are active in sports in 38 cities/districts in East Java, which are divided into 5 Regional Coordinating Bodies (Bakorwil). Data analysis uses descriptive analysis by knowing the number of people actively exercising, and the trends are analyzed from October 2021 to October 2023. The research results show an increase in community sports participation if community sports volunteers actively carry out their duties. This research concludes that sports volunteers are important because they can mobilize people to exercise. It is proven that if this program is stopped, there will be a significant decrease in the number of people who are active in sports'

OFP3-103

Assessing the Teaching Efficacy and Technology Self-Efficacy of Chinese Physical Education Teachers During the COVID-19 Pandemic

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Abstract

The recent impact of the COVID-19 pandemic on the education industry highlighted the growing importance of online education. However, our understanding of teachers' readiness for online teaching remained limited. This study aimed to investigate the pedagogical and technological preparedness of in-service physical education (PE) teachers in the ongoing context of COVID-19. For this research, we employed quantitative research design and utilized a combination of convenience sampling and snowball sampling methods. We administered the Physical Education Teaching Efficacy Scale (PETES) and the Educator Technology Self-Efficacy Survey (ETS-ES) to assess 1005 primary and secondary school PE teachers across 11 regions in mainland China. Data collection took place through electronic questionnaires distributed between March 1st and March 31st, 2022. To analyze the collected data, we used descriptive statistics and multiple linear regression analysis techniques. The findings of this study revealed that in-service PE teachers exhibited a high level of competence in several teaching efficacy dimensions, while their technology self-efficacy was rated at a moderate level. Notably, the "Efficacy for Using Technology" dimension within the PETES significantly and positively predicted their Technology Self-Efficacy. In-service PE teachers expressed confidence in possessing the fundamental skills required for delivering online PE. Nevertheless, they acknowledged the presence of certain potential challenges. It is imperative for educational and training institutions to enhance their current curriculum offerings, while schools should continue their efforts to foster the growth and professional development of in-service teachers.

OFP3-104

Hydration Considerations for Children Exercising in The Heat

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Abstract

Background: Children experience heat strain during unstructured outdoor play and training which may place them at greater heat-health risk compared to fully mature adults due to structural and functional differences in their thermoregulatory system, thirst sensation, and other behavioural factors, especially when exercising in hot environments. AIM: To collate, summarise, and comment upon the current training best-practices and hydration recommendations for children and youth exercising in the heat. Major Findings: During outdoor free-play, children become dehydrated and experience pronounced heat strain which may not be relieved from drinking water alone; flavoured drinks (grape) increase volitional drinking behaviour, although these results are not universally observed; children often begin their school day hypohydrated, affecting cognitive function; key sport recommendations emphasise the need to perform pre-season heat acclimation/acclimatization protocols, especially for certain high-heat risk sports (e.g. American football, tennis), including sport-specific and athlete-specific considerations to mitigate the risk of exertional heat illness. Conclusion: Historical work has focused on differences in sweat, hydration, and thermoregulation properties of exercising girls and boys, although more recent experimental evidence is currently lacking, especially considering the marked increase in the frequency, intensity, and duration of heatwaves worldwide. Adults (e.g. coaches, parents, caregivers) must remain ever-mindful of the hydration status of exercising children and implement effective strategies to encourage maintaining minimum water balance, including pre-training heat acclimation/acclimatisation, during- and post-hydration strategies.

OFP3-105

Classification Of Physical Fitness Performances Among 12 Years Old Children in Malaysia

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Abstract

The purpose of this study is to classify and discriminate the children's physical fitness performances based on birth-months quartile. A total number of participants in this study, which was 462 children of 12-years-old, boys and girls, without any abnormal health issues were obtained from various types of sport, and were evaluated for physical fitness test. The design of this study used the Ex-post facto study. These children were divided into the first, second, third, and fourth quartiles (n = 118, 139, 91, and 114, respectively). The Hierarchical Agglomerative Cluster Analysis (HACA) and Discriminant Analysis (DA) were used to study the relative performance variations of every birth-months quartile. The HACA identified three groups based on their performance on the parameters examined in this study. These groups are excellent, moderate, and poor respectively. Forward stepwise DA discriminates five parameters which are step test (p=<0.0001), standing broad jump (p=<0.0001), t-test (p=<0.0001), leg length (p=<0.0001), and standing height (p=<0.0001) for first quartile (Q1). While in the second quartile, arm spans (p=0.000), step test (p=<0.0001), 30M (p=<0.0001), stork stand test (p=<0.0001), and standing broad jump (p=<0.0001). DA discriminates only three parameters in third quartiles such as step test (p=<0.0001), standing broad jump (p=<0.0001), and t-test (p=<0.0001) and lastly for fourth quartile, standing height (p=<0.0001), step test (p=<0.0001), 30M (p=<0.0001), stork stand test (p=<0.0001), and standing broad jump (p=<0.0001) that differentiate all the groups. As the conclusions, the findings of this study suggest that the use of multivariate analysis is key to discovering a crucial performance characteristic in the variety of games that can reduce time, effort, and expense.

OFP3-106

Fanaticism of Malang Football Supporters before Kanjuruhan disasters: A short communication

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Abstract
Football is the most popular sport globally, which attracts a large number of fans. Each football team has their fan base commonly known as supporters. In Indonesia, football also a popular sport with a large number of supporters, often concentrated in the area where the football club is located. This fanaticism is often expressed in various expressions such as wearing attributes and the presence of supporters in the stadium is also a measure of the level of fanaticism. As supporters who have a high spirit of fanaticism, they are willing to carry out actions that are prohibited in the stadium, such as excessive racist singing, throwing dangerous objects at opposing players, and there are also supporters who seek riots with security forces. Fanaticism among football fans is a social phenomenon that is often researched, including by Gullianotti which categorised football fans into 4 (four) quadrants: Supporters, Followers, Fans, and Flaneurs. This article will depict the passion and enthusiasm for football in Malang – East Java before the Kanjuruhan stadium disaster happened at 1st of October 2023, killed 135 Malang football supporters. The aim of this article is to describe the types of football fans fanaticism in Malang before the Kanjuruhan disaster happened. Literary reviews related to fanaticism in published journals will be used to analysis the types of football fanaticism in Malang. As the research is still ongoing, this article will depict the evidence of excessive fanaticism before the Kanjuruhan disasters.

OFP3-107

Assessment of the Validity and Reliability of Instruments Measuring Social Support in Sports

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Abstract
The objective of this study was to assess the accuracy and consistency of the exercise social support instrument questionnaire. This study employs a quantitative descriptive research approach, utilizing survey methodology. A total of 20 students from the Faculty of Sports Science and Health at Universitas Negeri Surabaya participated in this research as respondents. They completed an online questionnaire of 10 statement items. The Cronbach's Alpha test was utilized for data analysis to assess reliability values, while the Pearson correlation test was employed to evaluate validity. The data collecting results indicated that the data was deemed credible, as evidenced by a Cronbach's Alpha score of 0.756. Additionally, the validity test value for the 9 question items was found to be greater than 0.05. Based on the reliable and accurate results obtained, it can be inferred that the questionnaire is suitable for usage with 9 statement items.

OFP3-108

Adapted Physical Education Program Design based on Family-Professional Partnership for Autistic Preschoolers through the Feasibility Case Studies

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Abstract

Background and problem statement: In the realm of interventions for autistic children, parental involvement plays a pivotal role. However, only a few fundamental motor skills (FMS) intervention studies involve participants' families. Establishing a robust family-professional partnership (FPP) between teachers and parents may be a promising avenue for implementing adapted physical education (APE) focusing on FMS. Aim of study: This study aims to foster a comprehensive APE program with FMS components, fostering home-school collaboration. Through a six-week exploratory case study, the research assesses the feasibility of the APE program. Design of study: The APE program encompasses both the structure and content of school activities and assigned homework. The study validates the feasibility of the APE program through a detailed examination, incorporating descriptive case analyses of FMS, adaptive behavior (AB), physical activity (PA) levels in autistic preschool children,and parental satisfaction with the FPP. Major Findings: Following six weeks of implementation, the FMS scores for the three children exhibited remarkable improvements of 52.05%, 22.58%, and 40.00% respectively. AB scores increased by 17.74%, 20.37%, and 23.21%, while average moderate to vigorous PA minutes rose by 14.15 min, 11.43 min, and 21 min respectively. Parents' FPP satisfaction scores also displayed substantial increases of 29.69%, 31.48%, and 22.03%. Conclusion: This study provides valuable insights into the feasibility of the home-school cooperation APE program through in-depth case studies.

OFP3-109

Designing and Validating SPORTTRIC: A Novel Metric for Assessing Sports Development in Higher Education Institutions

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Abstract

This research aims to design and validate SPORTTRIC, a new and innovative metric for assessing sports development in higher education institutions. SPORTTRIC was designed with the aim of providing a comprehensive picture of the development of sports in the higher education environment and serving as an evaluation tool to improve sports programs at colleges and universities. This research involved two main stages: instrument design and SPORTTRIC validation. At the design stage, the relevant dimensions of sport development in higher education are identified, followed by the development of specific indicators for each dimension. In the validation stage, data will be collected from a sample of students and staff at the university using appropriate sampling techniques. SPORTTRIC validation results will be analyzed using relevant statistical methods, such as reliability and validity analysis. The usefulness of SPORTTRIC as an evaluation tool will be tested through case studies conducted at several higher education institutions. SPORTTRIC is expected to become a reliable and valid metric for evaluating the development of sport in higher education. By using SPORTTRIC, colleges and universities can gain a better understanding of the development status of their sport and identify areas that need improvement. This will contribute to the improvement of sports programs in higher education institutions and improve the engagement and well-being of students and staff members.

OFP3-110

Translation, Cross-Cultural Adaptation, And Validation of The Chinese Version of The Injury-Psychological Readiness to Return to Sport Scale

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Abstract
This cross-sectional study aimed to translate the Injury-Psychological Readiness Return to Sport (I-PRRS) scale into a Chinese version I-PRRS-Ch and assess its psychometric properties among injured Chinese athletes. A total of 183 injured athletes participated for concurrent validity, and a subset of 91 athletes contributed to the test-retest reliability assessment. The I-PRRS-Ch demonstrated robust internal consistency, with Cronbach's alpha values ranging from .81 to .90, indicating good reliability across its six factors. Test-retest reliability was excellent, with Intraclass Correlation Coefficient values of .82 for single measures and .90 for average measures, affirming the stability of the scale over time. No floor or ceiling effects were observed, suggesting the I-PRRS-Ch effectively captured the full range of psychological readiness to return to sport (RTS) among the injured Chinese athletes. Concurrent validity was established through a significant correlation with the Chinese Version of the Tampa Scale for Kinesiophobia (SC-TSK), reinforcing the scale's validity. In conclusion, the I-PRRS-Ch scale emerges as a reliable and valid instrument for assessing psychological readiness to RTS among Chinese-speaking athletes. Its strong internal consistency, excellent test-retest reliability, and significant correlation with a related scale underscore its utility. These findings contribute to the cross-cultural adaptation of the I-PRRS scale and provide a valuable tool to assess the psychological readiness to RTS following sports injuries among Chinese athletes. Continued research endeavors should involve broadening the participant pool and taking into account injury-specific factors, thereby enhancing the scale's relevance and applicability.

LEC-003

Gender Verification in Sports

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Abstract
From the onset of competitive sports women have been subjected to discrimination or deprived of equal opportunities. During the ancient games, women were barred from participation and were unable to enter the stadium as spectators. The founder of modern Olympic Games in 1896, Baron Perrie Coubertin was against women participation. Women in sports have become keenly competitive, highly politicised and a showcase of international dominance to the World. More than 48 percent of athletes participated at the Olympic Games Tokyo 2020 were females. Early in the century, the notion that male athletes masquerading in female sport was common perceived knowledge coupled with media hype reporting successful athletes with “male like” physical features (intersex) and questionable gender led the IOC to introduce gender verification. Athletes with Diseases / Differences in Sex Development (DSD) seem to have an unfair advantage in certain athletic events. Gender verification is not fully understood, difficult, complex, and expensive as well as its validity often questionable. Gender verification started with nude parade and physical examination, later replaced by laboratory based cytogenetic testing and finally introduced molecular evaluation of androgen levels. All procedures and regulations have been subject to scientific and legal challenge. Gender screening often leads to emotional trauma, social stigmatization and are highly discriminatory in females with “intersex” diagnosis. Should serum testosterone levels be the sole criterion in determination of eligibility? The Court of Arbitration for Sports decision that the DSD regulations are discriminatory but a necessary, reasonable, and proportionate means of achieving the IAAF aim in preserving the integrity of female athletics in restricted events. Why restricted events? Are there other variables omitted? At the Olympic Games Tokyo 2020, 200 meters gold medallist Christine Mboma (DSD) from Namibia and weightlifter Laurel Hubbard from New Zealand a transgender athlete (MTF) has caused the IOC to consider re-examination of participation regulations in female sport. Do regulations that govern individual sports such as athletics applicable to team sports? The nature and demands of sport do differ from one sport to the other. The situation of gender evaluation in sports is confounded by lack of sound scientific support and strong lobby of human rights issue. Every International Sports Federation should have its own Gender Eligibility Regulation specific for its sport. Some International Sports Federations such as Rugby and FINA have banned transgender athletes from participation.

LEC-004

Gene Doping: An Overview

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Abstract
As part of the effort to prevent unfair advantages among athletes, The World Anti-Doping Agency (WADA) has indicated that Gene and Cell Doping is a part of its Prohibited list. Yet, unlike anabolic steroids and diuretics, little is known about the health risks and methods by which Gene and Cell Doping is used or detected. This lecture is aimed at clarifying the rationale by which gene and cell therapy has become prohibited in the WADA Prohibited List, and to ensure that the sport personnel understand the line between therapy and doping.

Theme: Injury Management in Sports and Combat Training

SYM4-101

Overtraining Syndrome

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Abstract
Overtraining Syndrome (OTS) is a complex condition affecting athletes due to excessive training stress without sufficient recovery. OTS impacts athletes both physiologically and psychologically, leading to hormonal changes, weakened immune systems, and mental health issues. It also results in a decline in athletic performance. Prevention involves balanced training and monitoring, and diagnosis and management require a multidisciplinary approach. Briefly, OTS underscores the need for holistic training, emphasizing recovery and early symptom recognition to optimize athletes' long-term well-being and performance.

SYM4-102

Biomechanics of Musculoskeletal Injury

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Abstract
Biomechanics of Musculoskeletal Pain- Running Related Injury Running demands more balance, muscle strength, and joint range of motion than walking because of the double float phase at the start and end of the swing phase. The incidence of running-related injuries ranged from 19.4% to 79.3% overall. The risk factors associated with running are classified as personal (e.g., age, weight, height), training-related (e.g., distance, frequency, intensity, shoes), and health-related (e.g., medication, past injury). A systematic review of running associated biomechanical factors showed patellofemoral joint syndrome associated with low braking ground reaction force and increased contact time; medial tibia stress syndrome associated with increased duration of rearfoot eversion angle and increased contralateral pelvic drop angle; and plantar fasciitis correlated strongly with an increased average and instantaneous loading rate of vertical ground reaction force. Running biomechanics assessed on a treadmill have been shown to be comparable to overground running. Using video analysis is an effective way to recognise various running styles and create a comprehensive management plan that addresses any biomechanical errors. In a basic setting, 2D analysis has proven to be a reliable and accurate tool. Among the biomechanics markers that could be assessed are foot strike pattern, tibial and hip leaning, as well as the base of support. A 3D video assessment is the best option since it provides more analysis, including kinematics of the lower body, ROM in the hips and knees, kinetics, power, ground reaction force, stride length, and speed. One drawback associated with this evaluation is its high cost and the need for specialised technical expertise.

OFP4-101

Symptomatic Bipartite Patella in a Young Athlete – A Case Report

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Abstract
Introduction: A bipartite patella is typically rare but can become symptomatic during overuse activities. Therefore, this anomaly typically presents in the young, athletic population, often inhibiting athletic activities. Non-surgical management is frequently adopted as the initial treatment of choice. Case report: A 15-year-old male Penang state badminton player presented with right anterior knee pain for the past 3 months. The pain intensified only during knee flexion activity, for example lunges, squats and jumping with the VAS score of 7/10. After training or competition, he would apply ice compression over the right knee for 20 minutes each time or at least 3 times a day. Despite the kinesio tape application over the right knee before the training session, the pain reduced with VAS score of 4/10 at rest and the pain returned during strenuous exercise. He claimed that his performance during training had declined due to the pain. Then, he was brought to Sports Medicine Clinic, Orthopaedic Department in Seberang Jaya Hospital to seek treatment. Otherwise, he denied any history of trauma, similar complaints over the right knee in the past and family history of similar issue. He had a normal gait with normal knee range of motion. No quadriceps weakness. Ligamentous and meniscal testing were normal. Tenderness was felt at the superior-lateral aspect of the right patella upon palpation. Right knee x-ray revealed an unfused ossification of superior-lateral patella pole. He was advised to avoid badminton training for 2 months. Non-surgical management was initiated with low-intensity pulsed ultrasound for 20 minutes per day along with physical therapy for 2 months. After 2 months of conservative treatment, Kujala functional score showed improvement from score of 56 to 80. However, he still complained of similar pain during return to play assessment. Conclusion: Young athletes' desire to return to sports activities quickly can result in an increased tendency for conservative treatment to fail. Hence, long term clinic follow-up is required. Ultrasound guided injection or surgical intervention can be the next treatment of choice for this subject.

OFP4-102

Understanding the Determinants of Sports-Related Concussion Reporting_ A Qualitative Investigation Among Pakistani University Student-Athletes

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Abstract
Timely reporting of Sports-Related Concussions (SRC) is crucial to avoid associated complications: however, many athletes do not report these incidents, posing health risks. This study explores the perceived barriers and facilitators to reporting SRCs among athletes employing the Capability, Opportunity, and Motivation to Behavior (COM-B) model in conjunction with the Theoretical Domains Framework (TDF). Four focus groups were conducted with a total of 33 student-athletes (19 females and 14 males) participating in contact or collision sports at Pakistani universities. Results revealed that 12 of the 14 TDF domains, encompassing all six components of COM-B model, influenced SRC reporting. Participants lacked capability, particularly in terms of SRC knowledge, reporting and assessment skills, decision-making, and behavioral regulation. Reporting motivation was influenced by factors such as athletic identity, beliefs about capabilities and consequences, intentions, goals, and emotions. While their opportunity to report SRCs was limited by social influences characterized by coach and teammates' pressures, as well as environmental context and resources which encompassed a culture of playing through pain, lack of organizational policies and support, event significance, a lack of medical personnel, and the absence of substitute teammates. Facilitators included the coach and teammates' support and beliefs about the consequences of playing through injuries. To improve SRC reporting, there is a need to improve their "Capability" in terms of SRC knowledge and reporting skills; providing "Opportunity" to make reporting easier, such as coach, teammates, and organizational support; and fostering "Motivation" to feel confident in reporting and reducing perceived negative issues.

OFP4-103

Sweet Thumb', Treatment of De Quervain's Tenosynovitis with prolotherapy

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Abstract

Background and problem statement: De Quervain's tenosynovitis is a disease which defines pain in the radial styloid process area due to chronic inflammation of the tendons within first extensor dorsal compartment. The problem has also been attributed to wrist and thumb instability due to weakness of soft tissue structures. Prolotherapy is injection of a solution which helps in stimulates soft tissue repair which also aids in strengthening and tightening the weak soft tissue structures. Aims of study: This study aims to describe prolotherapy as one of the viable options of treatment for De Quervain's tenosynovitis. Design of study: This is a case report of a 39-year-old male with De Quervain's tenosynovitis who still complaints of radial sided wrist pain despite months of conservative management by using splints and analgesia. Prolotherapy treatment was then offered to this patient as an option of treatment to help to improve the patient's symptoms. Major Findings: Patient's pain improves after injection of prolotherapy using a mixture of 12.5% dextrose and lignocaine at first extensor dorsal compartment. There was also no immediate complication seen. Conclusion: Treatment of De Quervain's tenosynovitis with prolotherapy injection has a good prognosis for improvement of pain and relatively minimal complications. It is also safe and aids in strengthening the ligament which ultimately reduces pain and instability.

OFP4-104

Research Trends in Elbow Pain among Overhead Athletes: A Bibliometric analysis.

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Abstract
Based on the increasing cases of elbow pain among overhead athletes, scientists are urning attention towards previously overlooked domains like gymnastics, kayaking,and others. Therefore, performing a bibliometric analysis of these publications can reveal hot topics and future research trends. This study aims to ascertain the research trends in elbow pain within overhead sports. Keywords;elbow pain and overhead sports; used to across major databases (WoS, PubMed, and Scopus) from 1980 to 2022, resulting in 455 relevant papers. VOSviewer software was utilized for trend analysis. Results highlight the significant contributions from the United States in this field. There is a need for increased scholarly attention to elbow pain in aerial sports in China. Elbow pain in swimming emerges as a noteworthy area for future exploration. In summary, the findings confirm a growing trend of elbow pain in overhead sports. EP is not confined to ball and throwing sports but is also present in swimming. The attention and solutions for EP in specific sports are influenced by the commercialization of sports and participation from related professional sports organizations. Regional or national developments also affect the depth and breadth of environmental protection studies. Clinical research development and in-depth exploration are fundamental to addressing EP. Non-clinical interventions benefit EP patients, although continued research exploration is warranted.

Theme: Anti-doping

SYM5-101

Athlete's Biological Passport

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Abstract
The Athlete Biological Passport (ABP) is used by anti-doping authorities to monitor certain biological parameters which may be affected by doping. The biological profile of an individual athlete is built up over time with each blood or urine test, with mathematical models used to define upper and lower limits of normality for that particular individual. ABP findings may lead to targeted testing or further investigation of the athlete, and to the pursuit of an Anti-Doping Rule Violation, usually under Code article 2.2 (Use or attempted of a prohibited substance/method). There are currently 3 modules in the ABP: The Hematological Model tracks parameters which may be altered with the use of blood doping or Erythropoesis Stimulating Agents (ESA'sThe Steroidal Model, which currently uses both urine and blood parameters, is used to monitor markers of anabolic androgenic agents, and can also be used to identifying tampering of specimens.The Endocrine Module was added in 2023, and is used to detect markers of Human Growth Hormone (hGH) and possibly of IGF-1 usage. An overview of the ABP and its three modules will be presented.

SYM5-102

Future Challenges in Malaysian Anti-Doping

Abd Aziz R[1*]
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Abstract
The scourge of doping has always hung over elite high-performance sport like a spectre that would not go away. It has always confounded efforts to rid of it completely. It has permeated the very fabric of sport to such an extent that initiatives to circumvent the practice of prevailing methods and usage of banned substances, and the emergence of new ones are often thwarted or rendered quite ineffective when largely focusing on punitive measures. New initiatives seeking to influence positive attitudes and safe behaviour need to be brought to bear at a much earlier juncture in an athlete's development, preferably prior to puberty, when psycho-social factors at that stage of life might introduce difficulties in shaping positive attitudes and useful practices involved in life in general. This is especially so when we factor in the reality that the core issue of integrity is the one that governs and influences action in an athlete's life in high performance sport pursuing sustainable excellence for training benefits and success in competition. More tellingly, integrity in life itself as well...as nebulous and difficult to harness that may seem to be, any well-conceived, planned and executed initiative might garner useful dividends, especially in a pursuit that seeks to minimise process losses and maximise minuscule gains for optimum results. This benefits the nation as a whole, as sport contributes significantly in achieving its aims for a progressive society that successfully promotes health, fitness, well-being and recreation while preventing crime and its attendant issues. The inability to harness its myriad values and multi-layered benefits as a result of individual and collective failure by way of diminished integrity would be disasterous, as issues in public health and safety compromise the moral fabric of national sport that might spiral uncontrolled if left unchecked.

SYM5-103

Behind the Scenes: What You Think You Know.

Abidin A[1*]
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Abstract
When most of us, sports enthusiats, the sport community of the Malaysian local sporting scenario, watch any sporting games, either in person at the venues or as part of a global television audience, what do we see? Fearless high pole jumpers soaring through the sky, and also medal-winners standing proudly on a podium as an anthem play. This is the moment of truth of the sporting culture. What you might not see is the behind-the-scenes work of the anti-doping team that is helping to ensure the delivery of a robust anti-doping program during the games. Low profile we may be, but that work is helping to level the national playing field for all our athletes so they can focus on thrilling the nation with their showcase of athleticism, discipline and determination. To fulfil ADAMAS mission successfully, it is good for all of us to know, behind-the scenes a wide range of dedicated anti-doping functions are in place and specialized anti-doping expertise as part of our team. Through this behind-the scenes presentation, it will help us to have more confidence in ADAMAS's anti-doping program and to note that there is international oversight. Anti-doping is rapidly evolving, and it shows how versatile the global anti-doping community is, constantly striving for improvement, ready to adapt and meet challenges head on and raise the game for every one of us.

OFP5-101

Knowledge, Attitudes and Practices Towards Doping Among Athletes of The National Football Academy

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Abstract
Introduction: Sports activities not only shape physical and mental fitness, but it is also able to create positive relationships among people, indirectly sports are also able to develop integrated social bonds among athletes especially in Malaysia where athletes are multi-racial. Objective: The aim of this study was to measure the level of knowledge, attitudes and practices of drug use in sports among National Football Academy athletes. Method: This study was conducted in the form of questionnaires among athletes of the National Football Development Program under 18-year-old. Participation in this study was voluntary and no incentives or coercion were imposed. A total of 133 athletes were involved in this study and all of them were male footballers who had experience participating in many domestic and also foreign football competitions. Resul: The knowledge level of football athletes in this study was at a moderate level with a minimum average score of 67.01%. Meanwhile, the findings of studies related to athletes' attitudes towards the use of prohibited substances showed an average minimum score of M=2.41, which explains that athletes have a negative attitude or reject the use of prohibited substances in sports. In addition, overall, the athletes involved in the study showed a good level of practice regarding the use of 'doping' in sports where the score was min (M = 5.68). Conclusion: athletes at this young age must be equipped with knowledge related to the dangers of using prohibited substances in sports. Education and courses related to prohibited substances must be emphasized to ensure athletes have extensive knowledge regarding the dangers of using prohibited substances.

OFP5-102

Cultivating clean sport environment with athlete support personnel (ASP): An international multicounty study on doping knowledge, attitude, and practice

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Abstract

Background and problem statements: Athlete support personnel (ASP) are the supportive persons working with athletes participating in or preparing for sports competitions. Young athletes rely greatly on them. With the increasing number of doping cases reported among young athletes, the involvement of ASP in preventing and eliminating doping is crucial. Aims of the study: This study investigated the knowledge, attitude, and practice of doping in sports among Southeast Asian ASP. Design of the study: An anonymized self-administered questionnaire was distributed to ASP working with youth athletes from Southeast Asian countries between January and September 2023. Mann-Whitney U test and Kruskal Wallis test were performed to test the association of demographic variables with knowledge and attitude scores. Major Findings: Overall, 503 respondents were recruited for this study. Most of the respondents were male (68.6%), non-healthcare professionals (88.3%), and retired elite athletes (63.8%) with an average of seven years' experience working with athletes. They were found to have poor knowledge of doping in sports with a median score of 16 per 30. The median Performance Enhancement Attitude Scale (PEAS) score was 17 with an IQR of 11, indicating a negative attitude towards doping. Most of them provide information to athletes regarding medication and supplements use in sports, but only 11.3% of them updated regularly on the topics of doping in sports. Meanwhile, the knowledge score was significantly different between the genders ($p<0.01$), and the attitude score was associated with knowledge of drugs in sports ($p<0.05$). Conclusion: This study highlighted the need for further educational intervention to improve their knowledge and stance against doping in sports.

OFP5-103

Awareness on Anti-Doping Based on National Sports Policy and Sports Bodies Constitution Towards Pure Sportsmanship

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Abstract
Anti-doping is an essential effort in safeguarding the sanctity of sports and a true sportsmanship during competition. This paper will explain the National Sports Policy [NSP] (2009), Sports Development Act [SDA] (1997) and legal constitutions of the sports bodies (SB) on how to intensify its awareness campaign and educational programmes on the risk of using prohibited substances in sports. The objective of this paper aims to present the direction and awareness of pure sportsmanship by SB, through constitutional compliance with anti-doping based on NSP (2009). The study employs mixed method approach to determine the interpretation of collected data, NSP (2009), SDA (1997) and SB constitutions. Statistical results for SB registered (N=15265) with the Sports Commissioner Office (SCO) are; national (n=279), state (n=1890), district (n=2306), and club level (n=10790). While the total number of anti-doping education programs organized from 2020 to 2023; through ADAMAS (77), National Sports Council (NSC) and National Sports Institute (NSI) (140) and external agencies (35). The recommendations are to help SB to comply with the World Anti- Doping Code (WADC) based on the constitution, control of governing bodies such as Olympic Council of Malaysia (OCM), constitutional amendments during the Annual General Meeting (AGM), education through ADAMAS. SB to regulate the development of sports from the sports for all to the sports for elite level through ADAMAS. Upgrading ADAMAS as a unit to be an agency and establish the 'ADAMAS Act' based on the NSP (2009).

Theme: Training Strategies in Sports and Military

SYM6-101

High Intensity Training: HIIT vs HIFT

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Abstract
This presentation delves into the comparative analysis of two prominent high-intensity training methodologies, namely High-Intensity Interval Training (HIIT) and High-Intensity Functional Training (HIFT). The historical roots of HIIT trace back to the 1970s, primarily focusing on aerobic exercises like running and cycling. On the other hand, HIFT, popularised by CrossFit® in the early 2000s, centers around functional, multi-joint movements combining aerobic and muscle-strengthening exercises. HIIT compared to moderate continuous exercise is shown to produce superior improvements in VO 2 max, although similar changes with other health related outcomes. While not as extensively researched as HIIT, HIFT appears to offer a diverse array of benefits, including increased muscle recruitment, cardiovascular endurance, strength, and flexibility. Studies on HIFT reveal substantial improvements in VO 2 max, body composition, bone mineral content, and higher enjoyment compared to more traditional exercise alternatives. Moreover, HIFT demonstrates positive outcomes in emotional functioning for cancer survivors and beneficial metabolic effects for individuals with type 2 diabetes. In job-related and tactical scenarios, HIFT has the potential for providing more applicable training for military, law enforcement, and firefighters, aligning with real-world demands. Risk of injury from HIFT appears to be low, especially when compared to running and other fitness activities. As the presentation concludes, it emphasises the necessity for individualised training selection based on goals, considering factors like sport, job requirements, and health. While HIIT boasts extensive research, the comparative effectiveness of HIFT warrants further investigation, revealing its potential to optimise a broader spectrum of fitness components and foster greater training adherence.

SYM6-102

Recovery Strategy

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Abstract
In the world of high-performance sports, athletes relentlessly push their physical limits to achieve excellence. High-intensity training is an essential component of athletes' training routine, effective in improving aerobic capacity and neuromuscular aspect of performance. However, this form of high stress-induced fatigue type of training can also lead to a higher risk of injury and overtraining if not adequately managed. Optimal recovery may provide numerous benefits during high intensity training and implementing the right recovery strategies with enhance the recovery rate of the athlete. Recovery is regarded as a multifaceted restorative intervention relative to time and can be further characterized by different modalities such as regeneration and psychological recovery strategies. Regeneration refers to the physiological aspect of recovery in physical fatigue while psychological in the aspect of recovery involves mental fatigue induced by training or competition. There are studies on different types of post-high intensity training recovery strategies designed to address the different types of fatigue athletes experience. These strategies encompass the importance of quality sleep, hydrotherapy techniques, tailored nutrition plans, massage therapy, and the use of compression garments for regeneration recovery and recovery-stress related questionnaires for psychological recovery. There are other less popular but easy-to-access recovery options such as static stretch, foam roll, earthing, breathing and relaxation techniques to restore the physiological and psychological processes of an athlete. Therefore, a comprehensive approach and understanding of the recovery strategy implementation is needed to optimise the recovery post high intensity training in an athlete.

SYM6-103

Psychophysiology: Maneuvering performance During Training

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Abstract
Breakfast, which is typically consumed within 2-3 hours after waking up, is consider the most important meal of the day. With carbohydrate (CHO) percentage range between 50-60%, breakfast could replenish energy after a long period of overnight fasting. Few studies have shown the detrimental effect of omitting breakfast on exercise, however, whether the effect is due to placebo or nocebo effect is still unanswered. Considering the prevalence of omitting breakfast among trainees, which is commonly due to logistic reasons, examining breakfast consumption versus omission on resistance exercise performance is of particular interest. The question of psychological contribution that could influence exercise performance can be determined by providing different meal viscosity which could render different sensations of hunger and fullness. Semi-solid breakfast (SOL) was given except, without 0.1 g/kg body weight of xanthan gum was added in liquid breakfast trial (LIQ) as comparison. Both meals were about similar caloric content. Interestingly, back squat total repetition preceding SOL was greater than LIQ trial and this corresponded with subject in SOL reported less hunger and enhanced fullness compared to LIQ throughout experiment session. In conclusion, results from these experiments demonstrate that the perception of breakfast consumption, rather than carbohydrate/ energy per se, enhances resistance exercise performance. The ergogenic role of pre-exercise carbohydrate only appears to have an influence on higher resistance exercise volume, when perhaps the psychological effect on perception of having breakfast ingestions may cross. This suggests breakfast may act as a placebo to enhance resistance exercise performance by alleviating hunger.

OFP6-101

The Effects of Inspiratory Muscle Training and Core Muscle Training on Respiratory and Locomotor Muscles Oxygenation and Swimming Performance: A Preliminary Investigation

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Abstract
Background: This study compared the effectiveness of inspiratory muscle (IMT) and core muscle training (CMT) on respiratory and locomotor muscle oxygenation and 200 m swimming performance. Methods: Ten well-trained young swimmers were randomly assigned to either core muscle training (CMT, n=5) or inspiratory muscle training (IMT, n=5) for a 6-week intervention. Whilst IMT completed inspiratory resistive threshold training by mean of a Powerbreathe device, CMT involved core exercises only, three times per week, in addition to their usual training. Maximal inspiratory pressure (MIP), maximal expiratory pressure (MEP), respiratory muscle endurance (RME), levels of oxygen saturation at intercostal muscle (IT) and vastus lateralis (VL) muscle, as well as a 200-m front crawl swimming performance were measured before and after intervention. Dependent and Independent t-test were used to determine differences in all dependent variables. Results: Only IMT resulted in improvements in MIP ($P<0.05$), RME ($P<0.05$), and swimming performance ($P<0.05$) following a 6-week training. These changes corresponded with significant increases in tissue saturation index (TSI) of IT ($P<0.05$) and VL ($P<0.05$) muscles after swimming. Conclusions: Inclusion of 6-week IMT to usual training is effective in improving respiratory and locomotor muscle oxygenation and swimming performance, despite the absence of significant difference between groups.

OFP6-102

The Effect of The Small Side Games Training Model on The Ability of Passing Accuracy In Terms of Eye and Foot Coordination In Adolescent Athletes

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Abstract

The purpose of this study is to determine the effect of small side games training on improving passing accuracy in terms of eye and foot coordination. The research design used was a 2x2 factorial experiment. The research sample was 36 students aged 15-17 years at Football School (SSB) Bina Mandiri. The instruments of this study are the passing test and the soccer wall volleyball test. This study showed the results: 1) the influence of small side games 5v5 and 4v4+2 training models on passing accuracy ability with a significance of < value of 0.05, which is 0,042. 2) There is no difference in the effect of high and low ankle coordination ability on passing accuracy ability with a significant value of > 0.05 which is 0,485. 3) There is no interaction between the 5v5 and 4v4+2 small side games training models with ankle coordination on passing accuracy ability with a significant value of > 0.05, which is 0,485. From this study it can be concluded that: 1) there is a significant influence of the small side games training model on the ability of passing accuracy, 2) there is no significant difference from the effect of high ankle coordination and low ankle coordination on passing accuracy, 3) there is no interaction between the small side games training model and ankle coordination on passing accuracy.

OFP6-103

Exploring the Psychological Wellbeing of Military Personnel in Malaysia: From Sport Psychology Perspective

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Abstract

Scientific research has identified common grounds between the athletic and military environment. Quite identical to the training regime and experiences of competitive athletes in developing physically and psychologically in preparation for tournaments, military personnel with multitasking occupation experienced significant physical and mental stressors and weather a number of unique challenges that are related to their services. The objective of this current study was to explore and obtain a deeper understanding on the psychological wellbeing of military personnels in Malaysian setting. The Psychological Wellbeing Evaluation (PWE), which consisted of the Malaysian Mood Scale (MASMS), Malaysian Emotion Regulation Questionnaire (M-ERQ) and Malaysian Perceived Stress Scale (M-PSS), was administered to the participants (n=328). The MASMS, M-ERQ and M-PSS are Malay-language translated and validated assessment tools of the Brunel Mood Scale, Emotion Regulation Questionnaire, and Perceived Stress Scale. Multivariate analysis was conducted to explore the association of the psychological construct of mood, emotion regulation and stress among the participants. Tables of mood states normative data and profile sheets for military group were generated. It was identified that the PWE provided a reliable assessment tool in evaluating and monitoring the psychological wellbeing of Malaysian military personnels. Through identifying efficient methods of conducting relevant research in monitoring the psychological wellbeing of military personnel and exploring the potential of integrating sports psychology approaches in the military ecosystem towards developing & maintaining optimal psychological fitness throughout their career and afterwards, they can be productive factors that can impact an individual's resiliency and readiness to perform military tasks.

Theme: Physiology and Nutrition for Performance

SYM7-101

Potential Benefits of Carbohydrate Mouth Rinsing on Endurance Exercise Performance

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Abstract

The practice of carbohydrate mouth rinsing involves flushing a carbohydrate solution around the oral cavity for a short period of time and followed with expulsing the solution has been widely shown to have a positive effect on endurance exercise performance. The ergogenic benefits of carbohydrate mouth rinse on exercise performance have been widely documented with reports of improvement in endurance running and cycling exercises. Despite the positive performance changes associated with CHO mouth rinse, some other studies failed to report enhancement in exercise performance. Thus, the overall conclusion relating to exercise performance with carbohydrate mouth rinsing requires further discussion. The underlying mechanism relating to enhanced endurance exercise performance with CHO ingestion had been speculated due to non-metabolic factors. It has been postulated that the mechanics linked to enhanced exercise performance with CHO mouth rinse involve receptors in the oral cavity modulating central pathways related to motivation. It is believed that the central effect of CHO on exercise performance could function via activation of receptors linked to the brain. This is being supported by the report of a fMRI evaluation which showed that CHO mouth rinse activated supraspinal pathways of the brain linked with motivation and reward during exercise. This presentation will discuss the efficacy of carbohydrate mouth rinsing on exercise performance with emphasis on its application to athletes who train and compete in a heat stress environment.

SYM7-102

Non-traditional Supplement: Myth and facts

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Abstract
Nontraditional supplements refer to herbals, botanicals, and other biologic and nutrient supplements. Herbal products are extracted from seeds, gums, roots, leaves, bark, berries and flowers. They contain phytochemicals (carotenoids and polyphenols) such as phenolic acids, flavonoids, saponins and lignans. The biological properties mediated by their antioxidant characteristic and redox properties contribute to free radical neutralization, oxygen scavenging and reduce oxidative stress which have been shown to improve sports performance and recovery. Studies have proved that herbal supplements such as ginseng, alkaloids, ginger and curcumin provide health benefits. However, the studies on the effects of herbal supplements on human performance were inconclusive due to differences in study design, dosage, timing, training status and exercise mode. Besides ginseng, ginger and curcumin, among the herbal that have been studied to enhance performance were *Morinda citrifolia*, and *Eurycoma longifolia* Jack. However, herbal supplementations may contain doping substances or contaminated by agents prohibited by sports. Therefore, the usage of herbal supplements should consider their safety, side effects and based on facts and not myths.

SYM7-103

Nutrition Periodization for Peak Performance In Indonesian Athletes

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Abstract
Athletes require proper preparation to perform at their best during training and competition. The training periodization undertaken by athletes necessitates nutritional regulation that aligns with each phase. Athletes can attain peak performance during training and competition through nutrition periodization. Nutrition periodization is vital for peak performance in Indonesian athletes. It involves planning and adjusting an athlete's diet systematically to meet their nutritional goals during different phases of their training and competition schedule. Elite Indonesian athletes benefit from athlete periodization, which helps them achieve their best performance while training and competing. Nutritional training for elite Indonesian athletes is conducted to prepare them for various international events like the Sea Games, Asian Games, and Olympic qualifications, ensuring that Indonesian athletes perform at their best during training and competition.
Proper preparation is crucial for athletes to perform at their best during training and competition. Athletes follow a training periodization that requires careful nutritional regulation aligned with each phase. Different training phases have unique characteristics and require appropriate and adequate dietary intake. Nutrition periodization is crucial for peak performance in Indonesian athletes. It involves systematically planning and adjusting an athlete's diet to meet their nutritional goals during different phases of their training and competition schedule. Elite Indonesian athletes benefit from athlete periodization, which helps them achieve their best performance while training and competing. Nutritional training is conducted for elite Indonesian athletes to prepare them for various international events such as the Sea Games, Asian Games, World Championship, and Olympic qualifications, ensuring they perform at their best during training and competition.

OFP7-101

The Accuracy Performance Following Dehydrated Exercise Among Recreational Football Players

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Abstract
The impact of dehydration on the accuracy of recreational football players in sports science is a major concern. Dehydration is a common issue during athletic activities and can greatly affect the performance of athletes. The goal of this study is to investigate the effects of dehydration on the accuracy performance of direct free kicks following dehydrated induced exercise condition. 20 recreational football players participated in this study. Participants performed Direct Free Kicks Shooting Accuracy Test (FKAT) in well hydration condition minimum 7 days prior to test day. On the test day, participants present in the gym and urine specific gravity (USG) were performed to confirm they start in well hydration. Then they performed running exercises on the treadmill (70-80% of maximum heart rate) until ~2% of body weight loss. Following the dehydration phase, participants underwent FKAT at the football field. Participants were given 10 kicks trial to goal post and the score was calculated as accuracy performance. The result showed that participants performed poorly in accuracy tasks in dehydrated condition. Therefore, this study showed that accuracy performance in free football kicks is effected during dehydrated condition.

OFP7-102

The effects of carbohydrate and salt mouth rinse on voluntary activation during a muscle contraction

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Abstract
Background and problem statements: mouth rinse (MR) containing carbohydrate (CHO) solution can enhance exercise performance while reducing neuromuscular fatigue. This is mediated through stimulation of CHO oral receptors, which activate the brain areas associated with reward, motivation, and motor control. While salt MR which is often used to desensitise the oral cavity to pain, could also activate cortical areas of the brain, however its role in attenuating central fatigue is less known. Aims of study: to compare the effect of CHO and salt MRs on neurophysiological measures such as voluntary activation (VA) alongside a maximum voluntary contraction (MVC). Design of study: nineteen fasted participants completed three trials of 30-minute cycling exercise. Using a randomised cross-over study, in each trial, the participants rinsed either 6.4% maltodextrin, 6.4% NaCl solution or a Placebo (PLA) where all solutions were tasted matched with aspartame for 10s immediately prior to and every 10 min during the cycling exercise. The MVC and VA were measured pre and post cycling. Major Findings: analysis of variance showed significant interaction and time effects for MVC (CHO:65.81±3.95Nm; salt:65.36±3.71Nm; PLA:64.28±3.08Nm; $P<0.001$) and for VA (CHO:78.87±2.14; salt:79.31±2.65; PLA:75.85±1.8; $P<0.05$). CHO and salt better preserved MVC and VA compared to PLA. These observations indicate central involvements, suggesting both MRs activated their respective oral receptors which subsequently better-preserved post-exercise neurophysiological and force production. Conclusion: The findings of this study suggest that salt MR has a comparable neurophysiological effect on CHO MR. Hence, it's suggested that the distinct pathway activated by CHO and salt MR could attenuate fatigue.

OFP7-103

Prominent Effects of Moringa oleifera on Improving Health: An Overview

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Abstract

Diet and nutrition play essential roles in improving and maintaining good health throughout life. A plant-based diet and supplementation have become popular over the last few decades as people are more concerned about their health. This review focuses on Moringa oleifera, a plant that belongs to the Moringaceae family, considered one of the healthiest and most nutritious foods. It has an impressive range of bioactive compounds such as phenolics, vitamins, minerals, and other essential phytochemicals. In addition to its nutritional values, Moringa oleifera involves many disease preventions and health-promoting medications. Various parts of this plant, such as leaves, roots, flowers, and seeds, are employed to treat different aliments as they have immense therapeutic properties such as anti-inflammatory, antihypertensive, antioxidant, antibiotic, anticancer, hypoglycemic, hepatoprotective, and cardioprotective. This review is a comprehensive summary of the phytochemical and pharmacological activities of the plant. It also explores the use of moringa across disciplines for its medicinal values, along with the ability of the plant to improve human health.

OFP7-104

Assessing Hydration Levels in Female Athletes at the National Defence University of Malaysia: A Pre-training Investigation

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Abstract
Assessing Hydration Levels in Female Athletes at the National Defence University of Malaysia: A Pre-training Investigation Proper hydration is essential for optimal athletic performance. Dehydration can negatively impact physical performance and increase the risk of injuries. Understanding the hydration status of athletes before training can help tailor hydration strategies to optimize their performance and well-being. A total of thirty (n = 30, height: 1.61 ± 6.4m; weight: 56.3 ± 8.5 kg) female athletes (age 21.6 ± 1.1 years) participating in various sports were volunteered to participate in the study. Hydration status was evaluated using a combination of methods, including urine color, Urine Specific Gravity (USG), and Thirst scale prior to regular training sessions. Urine samples were collected, and hydration status was determined by using the urine color chart with a 1 to 8 scale. Handheld refractometer was used to assess the urine specific gravity (USG) and pre-training thirst were recorded by using Thirst Scale seven-point (1-7) Likert Scale. The results showed that the USG level was 1.028 ± 0.2 which was considered as significantly dehydrated. A similar trend was observed in the urine color which is in the cutoff between fair and dehydrated (5.8 ± 0.2), and the Thirst Scale indicates that the participants were also in the border between thirsty and neutral (5.3 ± 1.6). The findings revealed that a significant proportion of female athletes exhibited dehydration levels before their training sessions. These results underscore the importance of pre-training hydration assessment and education on proper hydration strategies for athletes. nsufficient hydration can lead to decrease exercise performance, increased risk of heat-related illnesses, and other health concerns.

OFP7-105

The Antioxidant and Anti-Inflammatory Properties of Honey Have the Potential to Reduce Oxidative Stress and Inflammation After Physical Activity/Exercise: A Systematic Review

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Abstract

The Antioxidant and Anti-Inflammatory Properties of Honey Have the Potential to Reduce Oxidative Stress and Inflammation After Physical Activity/Exercise: A Systematic Review This research aims to analyze and highlight the potential of honey in reducing oxidative stress and inflammation after physical activity/exercise. This research uses a systematic review method by searching various journal databases such as Scopus, Web of Science, Pubmed and Embase. The inclusion criteria in this study were articles published in the last 5 years and articles discussing honey, oxidative stress, inflammation, physical activity, and exercise. The exclusion criteria in this study were articles published in disreputable journals. Titles, abstracts, and full texts of articles were screened then verified and stored in Mendeley software. A total of 7,124 articles from the Scopus, Web of Science Pubmed and Embase databases were identified. A total of 8 articles that met the inclusion criteria were selected and analyzed for this systematic review. Honey has antioxidant properties which can reduce oxidative stress. Furthermore, the anti-inflammatory properties of honey can reduce uncontrolled inflammation due to physical activity/exercise. In this case, honey works by inhibiting inflammation through NF-kB signaling and reducing inflammation by suppressing the secretion of pro-inflammatory cytokines such as TNF-a and inflammatory markers such as CRP. Reducing inflammation can reduce the intensity of muscle pain. We recommend that honey can be used in individuals to reduce oxidative stress and inflammation after physical activity/exercise.

YRA-001

Nutrition knowledge among Malaysian adolescent badminton players: A cross-sectional study.

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Abstract
Nutrition knowledge (NK) is a key determinant of an adolescent athlete's dietary intake for optimising growth and sports performance. To date, there is a lack of a culturally adapted and valid sports NK questionnaire for the use of Malaysian adolescent athletes as well as the scarcity of data on the NK among Malaysian adolescent badminton players. Thus, this study aimed to: (1) validate the Malay and English versions of an adapted sports NK questionnaire, (2) assess the NK among Malaysian adolescent badminton players, and (3) investigate the relationship between the NK and various demographic information. This study was conducted in two stages. First, the Malay (NUKAA-M) and English (NUKAA-E) versions of the Nutrition Knowledge for Adolescent Athletes (NUKAA) questionnaire underwent content validation, face validation, internal consistency assessment, and construct validation. The final versions of both questionnaires were combined to derive the bilingual (NUKAA-B) version of the NUKAA questionnaire. Second, 141 Malaysian adolescent badminton players (ages 13-17 years) completed a two-part questionnaire comprised of a set of bilingual demographic questions and the NUKAA-B questionnaire. The results revealed that the 58-item NUKAA-M (Kuder-Richardson score = .879) and NUKAA-E (Kuder-Richardson score = .877) questionnaires are valid and reliable to assess NK. Besides that, the adolescent badminton players had medium levels of NK (45.2 ± 13.3 points) with no significant differences between genders. A moderate positive correlation (Spearman's rho = .31, $p < .01$) was discovered between the players' NK and their ages. In conclusion, the players may benefit from a nutrition education intervention.

YRA-002

Effects of The Elevation Training Mask on Strength Performance and Body Composition Analyze Athletic Youth Athlete

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Abstract
Using the Elevation Training Mask can strengthen the diaphragm so that the lungs work harder. The lungs will take a deep breath when the body moves. In fact, oxygen is very necessary to keep the body's organs and tissues functioning properly while BOD POD ® is highly accurate and can detect even small changes in body fat and lean body mass (e.g. muscle, bones and organs). Experimental group using the Running Interval Training (RIT) method which uses the Elevation Training Mask is superior to the control group using the Running Interval Training (RIT) method without using the Elevation Training Mask. 17.19% superior to the control group, namely 13.74%, the difference in increase between the two groups was 3.45%, thus the Running Interval Training (RIT) Method which uses the Elecvation Training Mask has an effect on increasing the VO_2Max of Athletic Athletes on the STKIP Muhammadiyah Kuningan. Body composition is one of the best indicators of overall health. The feedback receive from your BOD POD ® assessment can be used to measure the success of nutrition or exercise program, monitor obesity, major disease risk factors, such as stroke and diabetes, help you lose or gain body fat safely and improve your athletic training program, while the average of the twenty athletes whose body composition was analyzed was 16.9, Meaning they were at the Moderate Lean level, meaning the Fat% numbers were at a very good level.

YRA-003

Building LEGO® towards exploring and developing psychological qualities in elite sports

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Abstract
To achieve the fundamental goals of optimizing performance and wellbeing during different phases of periodisation in sport, performance psychology practitioners introduce and implement various approaches, models, techniques, theories, and frameworks. In the process of identifying functional approaches from other prospective fields, the first author came across the LEGO Serious Play methodology, created by Roos and Victor (1999), that was applied in the context of leadership, management, and organizations in business setting. Despite the plethora of publications on LEGO Serious Play, it was observed that the method is not being fully explored and embedded in elite sports setting. The aim of this study is to identify the potential experience of integrating the concepts of LEGO Serious Play (Roos & Victor, 2018) with S.H.I.F.T. performance framework (Lew, 2021) and Manage Diamond (Lew & Turner, 2021) among Malaysian high-performance athletes (n=10), who are preparing towards major competitive events. The core phases of this LEGO process consist of Learn, Explore, Grow, and Optimize. Through the interpretative phenomenological analysis methodology that was administered in previous LEGO Serious Play's publications of Wheeler & Passmore (2020) and Quinn & Passmore (2022), every participant's personalized insight and perception were recorded, and the qualitative analysis revealed strong recurrent themes related to awareness, relationship, psychological safety, adversity management, communication, and resiliency. It was identified that LEGO process is a creative and beneficial addition to applied sport psychology practice in elite sports setting, specifically in exploring influential factors, understanding the psychological demands, and developing productive mental qualities towards achieving optimal performance.

YRA-004

Curcumin: A compound in turmeric that has the potential to reduce Nuclear Factor-Kappa Beta (NF-kB), Tumor Necrosis Factor-Alpha (TNF-a) levels, and pain intensity after high-intensity exercise

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Abstract
The purpose of this study was to analyze and prove the effect of curcumin on NF-kB, TNF-a levels, and pain intensity after high-intensity exercise. This experimental research used a pre and post control group design. The research subjects were selected using a purposive sampling technique and then the subjects were divided into 2 groups, namely group (K1) with placebo administration and group (K2) with a dose of 400 mg curcumin. A total of 20 healthy men aged between 20-30 years participated in this study. On the first day, all subjects collected data on the characteristics of the research subjects, then warmed up, then the subjects performed high-intensity exercises in the form of squad exercises and leg presses with an intensity of 80-90% of maximum ability. Exercises are performed in 4 sets of each form of exercise and rest between sets for approximately 1 minute. On the second day, after 24 hours, all subjects were measured for pain intensity and pre-test blood samples were taken, then intervention was given based on their respective groups. On the third day, after 24 hours, all subjects measured pain intensity and took post-test blood samples. The results of this study reported that the group given curcumin after high-intensity exercise was able to significantly reduce levels of NF-kB, TNF-a, and pain intensity (*$p<0.05$) compared to the placebo group. Giving curcumin at a dose of 400 mg after high-intensity exercise was able to reduce levels of NF-kB, TNF-a, and pain intensity after high-intensity exercise

YRA-005

Placebo Effect of Carbohydrate on Force Production

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Abstract
Introduction: Typically, carbohydrate placebo (CHO-PLA) is often used as a control in experimental studies which examine its effect, where it has been shown to improve strength performance. However, its direct effect on force production is less known. Hence, this study aimed to investigate the direct effect of a CHO-PLA on strength performance during knee extension (KEX). Methods. Participants were randomly allocated into misinformed (MIS; n=15) or uninformed (CON; n=15) groups. They completed two sets of KEX (5 reps) at baseline and pre-test, followed by a repetition-to-failure (RTF) test before reassessment of KEX at post-test. Results: At pre-test, only the MIS group showed a 5% increase in KEX peak torque (PT) from baseline ($p < 0.05$). However, at post-test following the RTF, PT decreased significantly in both groups. Besides, the RTF and total work done (TWD) shows a higher trend (23%) among the MIS compared to CON. RTF was highly correlated with TWD ($r = 0.8$). Discussion: When misinformed, KEX was improved by a non-caloric CHO-PLA when participants believed they had ingested a CHO-containing solution. It is likely that the improved strength performance of the quadriceps is non-metabolic and is likely an outcome of the “placebo effect”. Additionally, this “placebo effect” was also seen in the RTF and TWD for MIS. However, once RTF is achieved, both group behaves similarly which suggests that the “placebo effect” is short-lived. In short, CHO-PLA improves force production when afresh, hence it could be used as a nutritional strategy to improve strength performance.

POSTER PRESENTATION

POP-001

Measuring Psychological Wellbeing for Young Girl Athletes

How PN[1]

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Abstract

Abstract. The importance of psychological wellbeing for elite athletes has increased its attention. Despite the attention on elite athletes is higher, we could not neglect the young athlete psychological wellbeing, as limited attention and evi-dence base intervention for the young athletes compared elite athletes. Psychological wellbeing was showed im-proved in past research that linked physical activity and sports participation included to reduce the risk of depression and suicidality. In this study we could measure and explore several dimensions in psychological wellbeing for the young girl athletes who are involved in competitive filed within their aged group. Adopted the theoretical model of psychological well-being that encompasses 6 distinct dimensions of well-ness (Autonomy, Environmental Mastery, Personal Growth, Positive Relations with others, Purpose in Lie, Self-Acceptance) for this study. This helps to draw our attention toward the young girl athletes on their psychological well-being and to facilitate the sport psychology practitioner to develop appropriate intervention plan for the young girl athletes'. The intervention could promote self-care, personal health, personal growth and stress management techniques to provide every young athlete with good psychological health and wellbeing in their competitive journey in sports.

POP-002

Relationship between Physical Fitness and Cognitive Functions in Older Adults in Klang Valley

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Abstract

Cognitive function composes of diverse mental capabilities, encompassing tasks like information processing which plays a pivotal role in promoting healthy aging. During aging both physical activity and physical fitness are known to decline along with cognitive function, however, these have not been clearly established among Klang Valley older adults. Objectives: To determine (i) correlation between physical fitness and physical activity with cognitive function, and (ii) association between physical activity and physical fitness among older adults. Methods: Ninety-three participants (n=93; 72.1±4.7 years old, BMI 24.7±4. 1kg.m-2) were recruited and assessed using the “Mini-mental State Examination” and “Physical Activity Scale for Elderly” questionnaires, followed by the Fullerton’s Fitness Test. Results: There were no significant associations between the physical fitness and physical activity with cognitive function. As expected, there were associations between the physical activity scale and physical fitness components ($r = 0.54$, $p = 0.004$). Discussion: Older adults who are engaged in regular physical activity often show high level of physical fitness compared to those who are inactive. Older adults living in urban city like Klang Valley, who are physically active and fit are able to maintain their cognitive functions. By being physically active reflects higher awareness level among city dwellers of the detrimental effects of being physically inactive. Conclusion: Physical activity scale is closely related with fitness components thus can be used interchangeably. The lack of association between physical fitness and physical activity with cognitive level suggests older adults in Klang Valley maintain their physical activity. Future study should focus on a larger sample size spanning a wider age spectrum of older adults.

POP-003

Effectiveness of improves balance and reducing falls by practice Tai Ji Quan

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Abstract

In order to investigate the effects of Tai Ji Quan exercise on older adults' fall risk factors, this paper used 43 voluntarily recruited older adults (≤60 years old) as subjects. The purpose of the experiment was to compare the physical activity function, balance, and risk of falls between the experimental and control groups. The subjects, 22 older individuals in the experimental group and 21 in the control group were surveyed and had medical examinations. The experimental and control groups underwent tests on one-legged standing, get-up-and-walk, dual-task walking, the Berg Balance Scale, and the Falls Efficacy Scale before and after the experiment. The results of the comparison of the experimental group's pre- and post-tests of standing time with closed eyes, pre- and post-tests of standing-walking, revealed a highly significant difference of $P<0.01$, while the control group's $P>0.05$ showed no significant difference in terms of physical activity ability; After 12 weeks of Tai Ji Quan intervention, the experimental group's Berg Balance Scale test, closed-eye results before and after test comparison showed $P<0.01$, with a highly significant difference, while the control group's test results showed $P>0.05$.Twelve weeks of Tai Ji Quan exercise improved the elderly's capacity for physical activity as well as their ability to maintain balance, postural control, and dual-task walking. Of these, the elderly's static balance and lower limb muscle strength showed the most improvement. Senior fall risk can be successfully decreased and prevented with adherence to Tai Ji Quan practice.

POP-004

A Comparative Analysis of 4-Week High-Intensity Circuit Training on Body Composition Among Collegiate and Middle-Aged Women

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Abstract
Despite the widespread utilization of high-intensity circuit training (HICT) in health and fitness contexts, existing research inadequately addresses its impact on body composition, particularly contrasting young adults, and middle-aged women. This study sought to demystify the immediate impacts of a 4-week body weight HICT protocol on the body composition of two distinctly aged demographic groups: collegiate and middle-aged women. A cohort of 40 women, stratified into collegiate (N=20; Age: 21.35±0.109) and adult groups (N=20; Age: 36.85±0.405) and a progressively intensified 4-week HICT protocol was employed, with body composition parameters, namely weight, body fat percentage, fat-free mass, waist-to-hip ratio, and BMI, being assessed both pre and post-intervention. The analytical outcomes unveiled no significant interaction between time and group, and no noteworthy main effects for time or group across all examined variables. Therefore, HICT did not induce perceivable alterations in any of the measured variables over the 4 weeks or between the groups. Notwithstanding the absence of significant changes and differences, changes from 0.1% – 1% were observed in all variables across the duration in both groups. This accentuates the need for further probing, potentially incorporating extended intervention durations or alternative program designs, to unearth and optimize potential effects on body composition across varied age demographics.

POP-005

Global trends and hotspots of exercise interventions for mild cognitive impairment: A global bibliometric analysis

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Abstract

Exercise interventions for mild cognitive impairment (MCI) have been extensively studied. However, there is no bibliometric study on exercise interventions for MCI. This study aimed to identify the collaborative networks, research hotspots, evolution trends, and future directions. Relevant documents were retrieved from the Web of Science Core Collection database. VOSviewer was used to analyze the co-authorship of the author, countries and institutions, and the keywords co-occurrence. CiteSpace was used to detect burst keywords' evolution trends. The analysis showed an overall increasing trend in annual publications. The most influential subject categories, authors, journals, country, and institutions were “geriatrics gerontology,” “Doi, Takehiko and Shimada, Hiroyuki,” “Journal of Alzheimer’s Disease,” USA, and “Veterans Health Administration”, respectively. The research hotspots are “effectiveness,” “neural mechanism” and “correlation” of exercise interventions for MCI. The topic evolved from “influencing factors and effectiveness” to “neural mechanisms” to “intervention quality.” The finding revealed that this area is in a rapid development phase, whereby research hotpots are focused and the evolution of the topic is clear. The highly productive authors and institutions have made outstanding contributions and the subject categories present an interdisciplinary trend. However, there is weak cooperation between countries and institutions, and a substantial research gap exists between developed and developing countries. Future research may highlight the quality of exercise interventions.

POP-006

An overview of China Mobile Fitness App Development

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Abstract

Due to the hectic schedules of modern life, rigorous academic demands, and extended periods of inactivity, many college students don't receive adequate physical activity, which deteriorates their physical health and increases their risk of developing a number of physical and mental illnesses. Using fitness applications as interventions could be a useful tactic to encourage physical activity. It seeks to facilitate increased physical activity among college students and position it as an important instrument for enhancing both their mental and physical well-being. Thoroughly explores the significance that fitness applications play in sporting activities, evaluates the direction of future development, and summaries the concepts, features, and state of the art in mobile fitness research through a survey of the literature. The mobile fitness application primarily focuses on sports daily monitoring, fitness social, and fitness fat reduction and shaping. The study focuses on news media communication, economics, use impacts, development possibilities, and the creation and design of fitness applications. However, there are other issues include improper positioning, excessive requirements for wearing position, low accuracy of collected data, and leaking of user location information. Mobile fitness apps are becoming more and more popular in the global fitness industry. They can be an excellent tool for college students to get more exercise and improve their general well-being. They can also help users reduce their sedentary time and increase their overall physical activities. Overall, fitness apps can help users make positive lifestyle changes.

POP-007

Enhancing Risk Management and Prevention Strategies in the Post-Pandemic Sporting Landscape: A Study of Covid-19's Impact on Sporting Events, Legacies, and Athletes' Careers

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Abstract
In December 2019, COVID-19 broke out around the world, causing tens of millions of infections and millions of deaths worldwide. The sports industry has also inevitably been affected. For example, the ITTF announced the cancellation of the tour originally scheduled for April 2020; at the beginning of 2021, the NBA postponed its schedule because many teams had less than 8 players due to the impact of the epidemic; the losses from the postponement of the Tokyo Olympics were as high as 60 One hundred million U.S. dollars. Now the sports industry is changing and is at a time of digital transformation. The return of sports after the global interruption of sports is important for event organizations and athletes. These are unprecedented opportunities and challenges. Risk management and prevention are therefore very important for both event organizations and individual athletes. Risks include not only natural emergencies but also unforeseen situations at the social and public. Therefore, in the post-epidemic era, based on the digital transformation and hosting transformation of sports events during the COVID-19 period, event risk management and prevention methods can be better upgraded, helping to promote the development of events and their legacy, and more effectively Serve event participants. Event management and prevention are important factors affecting the development of the sports industry. Therefore, analyzing the risk management of sports for events held during the 2020-2022 COVID-19 epidemic is of great significance for improving the risk management and prevention strategies of sports in the post-epidemic era.

POP-008

Exploring Factors, Designing Effective Physical Fitness Program to influence Physical Behavior of Inactive School Children in Pakistan.

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Abstract
This research aims to investigate the effects of a fitness program on physical activity behavior (PAB) of physically inactive children aged (9-12) in Pakistani schools. Grounded in Self Determination Theory aspects, the current study will explore the factors influencing physical activity behaviors of school children in cross sectional study 1. Additionally, study 2 will adopt experimental research design (i.e. Functional Training Program (FTP), Aerobic Plus Resistance Training, (APRT), Plyometric Training Program (PTP), to design the most effective fitness program intervention (ARFPT) for inactive school children and will be validated by pre-post analysis. The data will be analyzed using SPSS statistical software. Pre- and post-intervention results will be compared to provide key insights for education leaders, school managers, physical instructors, physical scientists, policymakers, and parents. The study is novel for its contribution by exploring factors which influence physical behavior of inactive school children, as well as most effective intervention fitness program to transform their inactive behaviors in school setting.

POP-009

Chinese news reportage of sport issues\' influence on sport-related anxiety and solutions for reducing mental disorder and physiological hormone disturbance

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Abstract

It is important to note that sport-related anxiety is considered to be an unpleasant response generally associated with the stress of participating in sport. Being influenced by Hallin and Mancini's framework of Comparative Media System, the development of Chinese media system is more similar as Polarized Pluralist Model and possible to develop into Democratic Corporatist Model that is to protect press freedom under the intervention of state. Strong state intervention leads to the fact that, too much news reportage of sport issues defines the failure of individual athletes or national team as humiliation, it will lead to youth sport talents being suffered from mental disorder and physiological hormone disturbance. This study is intended to explore how Chinese news reportage of sport issues being influenced by Comparative Media System influences on Chinese athletes' mental and physical state and further to find out solutions for minimizing its negative influence and reducing sport-related anxiety.

POP-010

Association Between Comorbidity Burden and Functional on Stroke Survivors: A Retrospective Analysis

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Abstract

Stroke survivors experience comorbidity burdens that may influence functional capabilities. Few studies have described how comorbidity burden influences functional capabilities in stroke, especially in motor recovery and motor function. We aim to study the relationship between comorbidity burden and functional outcomes among stroke survivors aged ≥ 18 years with a first-ever stroke. This paper investigates the relationship between comorbidity burden and functional outcomes among stroke survivors, which include motor recovery and motor function. Using existing medical records data, we will conduct multivariable logistic regression to determine the independent effect of the CCI score on each outcome (MAS and BBS score), controlling for age, sex, vascular risk factors, subtype, stroke severity, et cetera. Our research is currently in the data collection phase. The results from this retrospective analysis will serve as a foundation for future investigations, including a longitudinal study exploring the trajectory of functional impairment and the impact of interventions for stroke survivors with varied comorbidity profiles. Notably, the knowledge derived bears the potential to significantly impact healthcare policy and funding decisions, with a specific context to Malaysia's Social Security Organization, PERKESO. An improved understanding of the prolonged recovery course and impairments derived from the extended follow-up study may facilitate the refinement of return-to-work (RTW) strategies and policies, ensuring stroke survivors, particularly those with significant comorbidities, receive appropriate vocational support and benefits contingent on their recovery timelines.

POP-011

Doping in Sports_ Awareness and Knowledge Among Doctors and Pharmacists

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Abstract

Anti-doping program protects the health and the rights of athletes, while preserving the integrity of sport. There were unfortunately well-known athletes banned from competitive sports due to anti-doping rule violation. Aim of Study: To examine the awareness and knowledge of doping among healthcare professionals specifically doctor and pharmacist populations in Penang. Methods: Online questionnaire was randomly distributed to doctor and pharmacist populations in Penang. Results: Only 40 responses received (60% men; 40% women). Among the respondents, 75% are doctors whereas 25% are pharmacists. Only 55% of the respondents knew about the existence of the World Anti-Doping Agency (WADA). About the knowledge of prohibited items list under WADA which come into effect on 1 January 2023: 57.5% agreed oral prednisolone is prohibited substance list; 17.5% thought caffeine is prohibited substance. Only 27.5% agreed that diuretics is prohibited substances. Otherwise, all respondents answer correctly that Cocaine, Methylenedioxymethamphetamine (MDMA), Diamorphine (Heroin) and Tetrahydrocannabinols are substances of abuse. For the question of 'Possible sources used by sportsmen to obtain prohibited substance', besides obtaining information from internet, coaches, doctors and pharmacists, 95% of them agreed 'Supplier'; 85% of them agreed 'Teammates' can also be the reliable resources. 65% of them said that healthcare professionals play a role in doping prevention and wish to enhance knowledge about anti-doping in future. Conclusion: The awareness of WADA and the knowledge of which substances are prohibited in sports are still lacking among doctors and pharmacists. Most of them are keen to enhance their knowledge about doping in sports.

POP-012

Effects of Video-Based Exercise Intervention on Overweight and Obese Children with and Without Parents Participation

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Abstract

Video centric exercises have gained significant attention among children in promoting active lifestyles and improving overall well-being. This method exploits children's fascination with screen-based entertainment by combining physical movement with interactive digital content. Therefore, this can be targeted on obese children to lose weight and be physical active. However, video-based application without parental supervision may lead to addiction. Having parents involved offers an opportunity for parent-child interaction.

POP-0013

The development strategy of Amateur Table Tennis Match in China Based on the SWOT-AHP Model： A Case Study in

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Abstract

Given the importance of amateur sports matches in health promotion and city culture construction. It is essential to systematically analyze the mode of running city amateur match and propose development strategies. This study aimed to investigate the sustainable development strategies for city amateur matches in China. This study using a hybrid model of SWOT and AHP using the Shanghai City Amateur Table Tennis Matches (ATTM) as a research case. This study showed that 20 factors of the SWOT analysis were included and the SWOT group weights are Strengths (5.1703), Opportunities (5.3732), Weaknesses (5.2882), and Threats (5.2386), respectively. The strategic vector coordinates (θ, ρ) are (72.42, 0.6105). ATTM adopts the S-O development strategy and leverages its advantages and opportunities to promote further development. The findings indicate that ATTM with advanced organization operation mode has good internal strengths and external opportunities. In the future, the S-O development strategy should be adopted.

POP-014

Psychological Factors and Mental Skills In Triathlon: An Investigation Of Resilience, Self-Efficacy, And Goal Setting

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Abstract
This study focuses primarily on resilience, self-efficacy, and goal planning as it explores the critical impact that psychological elements and mental abilities play in the context of triathlon success. Triathlons require a special mix of physical stamina and mental toughness, therefore it's important to understand how psychological factors affect competitors' success. Athletes' psychological traits have a significant part in their athletic success and may regulate and mitigate the impact of the technical, tactical, and physical skills they display. Numerous authors have emphasised the need for extra attention to be paid to these psychological traits given how much they might affect an athlete's behaviour during training or competition. Although triathlons are a fast expanding sport on a global scale, little is known about the psychological strategies used by competitors. The methodology used to foresee all out-presentation time and individual swim, bicycle, and run execution times utilized physiological estimations (adiposity, height, and weight), execution history, and sport brain science parts (self-efficacy, motivation, sport confidence, resilience, and goal setting). At the point when factors are assessed from various Human Development spaces, performance can be predicted more correctly, according to the findings using correlation, regression, and path analysis. The results highlight the significance of these psychological traits in improving athletes' capacity to overcome obstacles, have confidence in their talents, and strategically plan their efforts.

POP-015:

Differences In Fatigue Index of Badminton Athletes After Being Given Sodium Bicarbonate Drinks

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Abstract
This study aims to determine the difference in the fatigue index of badminton athletes after being given sodium bicarbonate drinks. This research design is pre and post-control group design. Badminton athletes, with a total of 36 people, were divided into two groups randomly (Pla=18, Sb=18). The Pla group was given an oral drink of 500 ml of mineral water, while the Sb group was given sodium bicarbonate dissolved in 500 ml of mineral water at a dose of 0.4 grams/Kg Bw. Sixty minutes later, the subjects ran on the treadmill until they reached 95% DNM. 30 minutes after running, subjects performed the RAST test to measure the fatigue index. The results stated that the fatigue index of the Pla group was significantly different from the Sb group (p=0.003) with a mean ΔFatigue index (Pla = -3.658±1.87; Sb = -1.791±1.65). The conclusion is that giving sodium bicarbonate drinks reduces badminton athletes' fatigue index.

POP-016

The Development of the Android Application "DIET PRO" as a Means for a Healthy and Fit Community Diet Program

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Abstract
This research identifies the changing lifestyles and health issues in Indonesian society, in line with global technological advancements, particularly in the context of increasing excess weight and obesity. This necessitates the need for a solution; this materializes in the form of an Android-based diet application called "DIET PRO." The study employs the customer development method, focusing on customer discovery and involves 30 respondents in Jakarta. The objective is to design an application that can assist the public in overcoming obstacles and challenges when pursuing a diet program, ultimately promoting a healthier and fitter lifestyle.

POP-017

Formulation of a recovery drink for professional footballers

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Abstract
After intense physical activity, footballers directly enter the recovery phase. This phase is an essential step in the preparation of the next training session and for this reason, the nutrients lost during the effort must be restored. The reconstitution of water and mineral reserves, reduced by the effect of sweating is an essential part of this process. Thus, recovery drinks rich in electrolytes, carbohydrates and proteins must be consumed. This study was conducted to formulate a recovery drink using local fruits that will quickly fill the nutrients lost during intensive physical activity. Local fruits were selected based on their availability, their frequency of consumption and their high carbohydrate content. From these fruits, three formulas (F1, F2, and F3) with different ingredient proportions were made. A sensory analysis was performed to retain the best formula. In terms of color and texture, all drinks had the same score of 2. Concerning the odor, recorded scores were 3, 3, 2 respectively for F1, F2 and F3. Formulas F2 and F3 obtained the highest score of taste (3) compared to F1 (2). F3 had the highest general appreciation score of 4 points. This formula was then retained as a recovery drink for footballers and revealed to cover more than 40% of energy lost during intense physical activity.

POP-018

Effects of a school gardening and moderate to vigorous intensity physical activity on fruit and vegetable intake and physical activity in Chinese school children

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Abstract
Introduction: School-based combining gardening, cooking (SGC) and moderate-to-vigorous intensity physical activity (MVPA) interventions may improve children's healthy eating and contribute to preventing overweight in children. This pilot study was designed to evaluate the school-based combined intervention in children aged 8-12 years old in a primary school in Changsha and to improve their preference for vegetable and fruit intake (FVI). Methods: Eighty children were recruited from two Year 3 and two Year 4 classes, with one class in each of Year 3 and Year 4 selected to participate as the intervention group, and the results were analysed in comparison with the other two classes as the control group. The children's MVPA was measured through the use of a Huawei 6 sports bracelet and their FVI, as well as their attitudes and preferences towards eating vegetables and fruits, were measured through a questionnaire. In addition, a 40-minute nutritional health awareness session was conducted once a week for both classes, and three qualitative interviews were conducted with children in the intervention group to understand the changes in the intervention outcomes of the intervention group after the trial were analysed. Results: Findings showed that the trial was able to reduce screen time behaviour (P=0.032), could increase MVPA (P=0.001), had an impact on fresh FI (P=0.043) and VI(P=0.001). Conclusion: The school-based combined intervention showed an increase in children's MVPA and was effective in improving their FVI. This suggests potential for national scale.

POP-019

Applying the CIPP Model to Assess the Progress of Achievement in the East Java Petanque Sports

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Abstract
This study aimed to analyze the implementation process of the East Java petanque sports achievement development program using a quantitative approach. The research involved 5 coaches and 35 athletes from Pengkab and Pengkot FOPI in East Java. A questionnaire containing the CIPP was used to gather data on the coach's background, coaching program, performance, and training system. The data was collected using a Likert scale and analyzed using descriptive analysis. The results showed that that the results of the CCIP evaluation analysis on the dimensions of context support for program implementation were in the “support” category with a percentage of 73,75%, the human resources input dimension was in the “adequate” category with percentage of 69%, Input of the program is in the “done” category with a percentage of 63,57%, Input for athletes selection and infrastructure is in the “always done” category with a percentage of 82,1%, Process training dimensions are in the “always done”category with percentage of 78,57%, and the dimensions of training product are in the “very as expected” category with a percentage of 75,63%. In conclusion, the context dimension has received good support from the government. The input dimension consist of adequate quality of coaches and athletes’ resources, very adequate training facilities and infrastructure. The components of overall training process are always well done. Product components show that they are as expected, but need to be improved.

POP-020

Effects of combined aerobic-cognitive exercise on attention and brain-derived neurotrophic factor (BDNF) serum in male e-sports athletes.

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Abstract

Attention performance is crucial in esports, impacting playing performance, decision-making, and reaction time. This study comprises two parts. The first compares attention performance between 8 professional and 8 amateur esports players from the MOBA genre, using attentional blink, visual search, and reaction light tests. In the attentional blink test, professionals showed faster reaction times, with accuracy differences only in the lagged 3 condition. In the visual search test, professionals exhibited shorter reaction times in various conditions, with accuracy differences in the absent visual search condition. No reaction time difference was observed in the reaction light test. These findings highlight varying attention abilities in players of different skill levels, prompting the development of training protocols to enhance amateur esports players attention performance to professional levels. Further investigation in Study 2 will delve into the impact of cognitive and physical exercises on attention and serum BDNF. In summary, attention is pivotal in esports, influencing diverse aspects of gameplay. The study underscores differences in attention abilities between professional and amateur players, emphasizing the need for tailored training to elevate amateurs performance. Study 2 will explore this avenue further.

POP-021

Patella dislocation during anterior drawer test

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Abstract
Anterior Drawer Test (ADT) is performed to test the integrity of the anterior cruciate ligament (ACL). The examination should not cause patella dislocation even if the patient has a complete ACL tear. We report a rare case of a complete ACL tear with concurrent patella instability of a 17 y/o female netballer with the initial history of right knee instability and pain for 4 months. In Feb 2022, during netball training, she landed from jumping in awkward position with pop sound heard. Post injury, she c/o swelling and pain, unable to weight bear for 1 week. She complaint of instability and pain since then. During examination, upon performing ADT, positive test grade 3 was noted with the patella dislocate laterally. She was in severe pain. Attempted reduction on the spot, successful. Upon further history, 1 month after the initial injury, she had a history of right patella dislocation which reduced spontaneously. We want to highlight the possibility of patella dislocation during anterior drawer test for patient with ACL tear and patella instability. We also want to highlight the importance of identifying and treating medial patellofemoral ligament tear to avoid ACL instability post ACL reconstruction. Failure to address this can be one of the reasons for ACL graft failure.

POP-022

Cross sectional study of cardiovascular fitness among secondary school students of SMK Taman Ehsan: Utilizing the modified harvard step test and post exercise heart rate recovery

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Abstract

The well-being of secondary school students is significantly influenced by physical fitness. This study seeks to utilize the modified harvard step test to provide a foundational understanding of the fitness levels among students. This study aims to assess the baseline cardiovascular fitness levels of secondary school students in SMK Taman Ehsan and its association with gender. The research aims to establish an accurate baseline that can inform future interventions and contribute to the development of tailored physical education programs aimed at enhancing the overall well-being of students. A cross-sectional study involving 140 students of age 15 to 17 year-old from SMK Taman Ehsan was conducted. Participants were selected using cluster sampling method to perform modified harvard step tests, with post-exercise recovery heart rates recorded as quantitative data on cardiovascular fitness, which were then categorized into 5 fitness levels based on SEGAK. The association between the gender and cardiovascular fitness level were determined by using SPSS 23. Out of 140 respondents, 105 (75%) respondents achieved cardiovascular fitness levels of good and above, with 55 (39.3%) of them had good fitness level; 42 (30.0%) of them had very good fitness level and 8 (5.7%) of them had excellent fitness level. Analysis of Fisher Exact Test showed that there was no association between the gender and cardiovascular fitness level (p-value =0.100). Despite the majority of the secondary school students in SMK Taman Ehsan had a good fitness level, only 5.7% of them achieved an excellent fitness level. No association was found between different gender and cardiovascular fitness level.