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Contents

An Investigation of the Relationship between Mental Skills and Sport Injuries in Soccer Players of Tehran Teams in Iran Premier League

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Abstract

Accidental or intentional injury is usually observed in most sports and games. There are many reasons for these injuries and the psychological aspect has been considered as one of the effective factors. Numerous empirical studies suggest that specific psychological factors influence the frequency and severity of sport injuries. The aim of the present study was to examine the relationship between psychological skills including fundamental psychological skills, psycho-somatic skills, cognitive skills and incidence of injuries in soccer players of Tehran premier league. 108 players from four teams of Tehran premier league participated in the study. Research data were collected by injury report form and Ottawa Mental Skills Assessment Tool-3. Descriptive statistics and Pearson correlation coefficient at significance level of 95% were used to analyze the data. Results indicated that 89.5% of players experienced at least one injury during one season and 90.7% of these injuries resulted in 1-3 days of missing matches or training. The findings also indicated a negative and significant relationship between the level of psychological skills and incidence of injury in soccer players of premier league. The relationships of fundamental psychological skills, psycho-somatic skills, cognitive skills and totally psychological skills and incidence of injuries in soccer players were respectively as follows: r= -0.265 and *P*=0.006, r= -0.609 and *P*=0.0001, r= -0.693 and *P*=0.0001, r= -0.697 and *P*=0.0001. The findings of the present study showed that a high level of psychological skills helps premier league players to handle stressful situations in sports and to confront harmful psychological factors such as stress and anxiety through enhancing self-confidence and other psychological skills and probably to decrease injury incidence. Thus officials, coaches, physicians and sport psychologists are recommended to plan to educate essential psychological skills so that the incidence of injuries can decrease in soccer players through increased level of psychological skills and consequently necessary actions can be taken to prevent these injuries.

Keyword:
Men, Premier League, Psychological Skills, Soccer Player, Sport Injury.

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A Comparison of the Severity of Knee Osteoarthritis and Its Outcomes in the Veteran Endurance Runners and Non-Athletes

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Abstract

The aim of this study was to compare the severity of knee osteoarthritis and pain, movement difficulties and quality of life related to knee osteoarthritis in the veteran endurance runners and non-athletes. 26 men were purposefully selected and divided into two groups (every group = 13 subjects). A clinical orthopedic doctor recognized the injury and the confirmed the clinical symptoms through clinical diagnostic criteria of the American College of Radiology and clinical assessment was performed by pain index and Lequesne's function for knee osteoarthritis. Then, the world-known Knee and Osteoarthritis Outcome Score (KOOS) questionnaire was used to measure the variables. The independent t test was used for the analysis of data ($\alpha \leq 0.05$). There was no significant difference between the two groups despite the higher mean of severity of knee osteoarthritis with 5.5% (P= 0.86), the severity of knee pain with 4.69% (P=0.40), the rate of difficulty in daily activities with 3.52% (P= 0.83), the rate of difficulty in sport – recreational activities with 10.35% (P=0.97) and the quality of life with 3.82% (P=0.48) in veteran endurance runners compared with non-athletes. It is concluded that endurance running and running at championship level do not increase dramatically the risk of knee osteoarthritis and its related problems in the veteran endurance runners compared with non-athletes, that is to say endurance running at championship level cannot be a risk factor for knee osteoarthritis.

Keywords:
Endurance Runners, Knee Osteoarthritis, Knee Pain, Non-Athletes, Veteran Runners.

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The Effect of Trunk Massage on Heart Rate of Female Rowers in Serial Activities

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Abstract

The aim of this research was to examine the effect of trunk massage on female rowers' heart rate in serial activities. For this purpose, 10 female rowers available from Kurdistan team (19.2±1.2 years old) participated in study. Subjects paddled a 200-m distance on the lake in three series with maximal speed in two sessions. During the 15-min. rest intervals between the series, recovery with massage in one session and recovery without massage in the other session was used. In the training sessions, heart rate was counted and recorded by polar watch immediately before and after each performance in the series. Descriptive statistics, one-way ANOVA with repeated measures and paired t test were used to analyze the data using SPSS16 ($P \leq 0.05$). Results showed that recovery with massage significantly reduced heart rate before the performance in the second ($P=0.000$) and third ($P=0.012$) series compared with the first one. Also, recovery with massage significantly reduced heart rate after the performance in the third series compared to the second one ($P=0.014$). According to these findings, in the serial activities in the form of 200m rowing, unlike the heart rate before the performance, the effect of massage on heart rate will gradually increase if the duration and recipe of massage is similar in the series.

Keywords:

Dragon, Heart Rate, Massage, Recovery, Rowing.

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The Effect of Functional Fatigue on Dynamic Balance in Female Students with Different Plantar Arches

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Abstract

The aim of this study was to investigate the effect of training fatigue on dynamic balance in female students (15-18 years old) with different plantar arch. To measure the subjects' plantar arch, the navicular drop test was used. Then, 75 students who were selected randomly and purposefully were assigned to three groups (each group = 25 subjects): 1- Group with normal plantar arch 2- Group with flat plantar arch 3- Group with cavus plantar arch. SEBT pretest, functional fatigue protocol (20 minutes activity in 7 stations) and SEBT posttest were performed. To determine the fatigue, Borg's Rate of Perceived Exertion (RPE) scale was used before the first station started, at the end of the third station and immediately after the end of the seventh station. The data were analyzed by dependent t test, one-way ANOVA and Scheffe post hoc test at significance level of 0.05. The results showed a significant difference between pretest and posttest scores of dynamic balance in all three groups (P=0.004). Scheffe post hoc test showed a significant difference in the mean difference of pretest and posttest balance scores between the group of normal plantar arch and the group of flat plantar arch and also the group of cavus plantar arch (P<0.05). Given the significant reduction in the balance of those subjects with abnormal arch, the correction of plantar arch and implementation of appropriate training courses is recommended to improve physical fitness**.**

Keywords:

Cavus Foot, Dynamic Balance, Flat Foot, Functional Fatigue, Normal Foot, Static Balance.

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The Effect of a Period of Resistance and Balance Training on the Balance of Cerebral Palsy Children: A Case Study

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Abstract

The aim of this study was to evaluate the effect of two months of resistance and balance training on the balance of children with diplegic cerebral palsy. The study was conducted on three boys with cerebral palsy with a mean age of 6.5 years. In this study, single subject research method with A-B plan was used so that after locating the baseline, the intervention began and subjects received strength and balance training in 24 sessions of individual intervention. All three participants were followed by track test for two consecutive weeks one month after the end of the intervention. Balance was measured by Berg test. Based on the variables of descriptive statistics and visual analysis of the data chart, the intervention was effective for all three participants in balance (100% PND for all three participants), and the balance after the intervention phase improved in comparison with the baseline. But a month after the intervention phase, the process was relatively stable. The results showed that resistance and balance training can improve balance in individuals with cerebral palsy.

Keywords:

Balance, Balance Training, Case Study, Children with Cerebral Palsy, Resistance Training.

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The Comparison of Peak Vertical Ground Reaction Force and Electromyography of Leg Muscles During Single Leg Drop Landing between Men with Genu Varum Deformity and Normal Knee from Different Heights

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Abstract

The aim of this study was to compare the activity of medial gastrocnemius and soleus and the peak vertical ground reaction force during single leg drop landing from different heights between men with genu varum deformity and normal knee. 22 healthy male students of physical education and sport sciences (10 subjects with genu varum deformity and 12 with normal knee) participated in this research. Genu varum deformity was measured by a caliper and a goniometer. Subjects performed single leg landing from three heights of 0.2, 0.4, 0.6 m on a force platform. The landing was divided into two stages: 100 milliseconds before the initial contact of the leg with the ground and 100 milliseconds after the contact of the leg with the ground (the stage of force absorption). The data were analyzed by Matlab software version R2009a, SPSS21 and two-way analysis of variance test ($P \leq 0.05$). No significant difference was found in the peak vertical ground reaction force during metatarsal contact in the three heights between the groups ($P>0.05$). However, there was a significant difference in the peak vertical ground reaction force during calcaneus contact between the two groups ($P<0.05$). There was no significant difference in the activity of medial gastrocnemius and soleus before landing between the groups ($P>0.05$). There was a significant difference in the activity of medial gastrocnemius in the stage of force absorption between the two groups ($P<0.05$) while soleus showed no significant difference ($P>0.05$). In addition, each of the three variables were significantly different in different heights ($P<0.05$). Increased peak vertical ground reaction force and decreased activity of leg muscles (especially medial gastrocnemius) for a long time in those with genu varum may cause injury and osteoarthritis.

Keywords:

Electromyography, Genu Varum, Leg Muscles, Reaction Force, Single Leg Drop Landing.

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The Effect of Three Methods of Pilates, Yoga and Active Common Exercise on Range of Motion of Upper Limb and Body Image in Women with Breast Cancer after Mastectomy

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Abstract

The motor, sensory and lymphatic impairment in the upper limb and reduced body image are some of the problems after mastectomy. The effect of rehabilitation programs on these problems is contradictory. The aim of this research was to show the effect of three methods of yoga, Pilates and active common exercise on the range of motion of upper limb and body image in the females suffering from breast cancer after mastectomy. In this quasi- experimental study, 38 females suffering from breast cancer (28-45 years old and mean weight 66±22.08 kg) were randomly divided into three groups of yoga, Pilates and active common exercise. The yoga group had 15 sessions including 5 asana yoga moves for 2 weeks during their hospitalization. The Pilates group had Pilates mat moves and the active common group performed 5 moves in the upper limb. The range of motion, circumference and body image were measured before and after the designed exercises. One-way analysis of variance and dependent t test were used to analyze the data at significance level of 0.05. The results showed a significant increase in the flexion, extension, internal and external rotation of shoulder, flexion and extension of elbow, flexion, extension, supination deviation and pronation deviation of the wrist and body image in Pilates and yoga groups and a significant decrease in the circumference of arm and forearm. In the active common exercise group, flexion, extension, internal and external rotation of shoulder, flexion and extension of elbow, flexion of wrist and body image showed a significant increase. The results showed that yoga and Pilates exercises had a higher effect on reducing side effects of mastectomy such as increased range of motion of upper limb and body image and decreased edema. It is suggested that these exercises should be used as effective methods to rehabilitate the patients after mastectomy.

Keywords:

Body Image, Mastectomy, Pilates Exercise, Range of Motion, Yoga Exercise.

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بسم الله الرحمن الرحیم

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