Effect of Training Status on Exercise Addiction Risk and Health among Athletes

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Abstract. The purpose of this study was to determine the effect of training status on risk of exercise addiction and health among athletes. This study involved 242 athletes, aged between 18 to 21 years old. Their training status (frequency, volume, and experience), exercise addiction risk and health status were examined. Results of this study indicated that there was nothing important effects of training frequency and experience on exercise addiction risk but there was a significant effect of Training amounts to the risk of training addiction. The results of this study also showed no significant effect of training status on the health of the athletes. In conclusion, training status does not affect the exercise addiction risk and health of the athletes.

Keywords: Training status, exercise addiction risk, health status, athletes

1 Introduction

Exercise is a good activity for health. It is undeniable that exercise will affect physical and mental health [1]. Exercise will give many benefits to the participants. Exercise also involves Physical activity that reduces the risk of lifestyle-related diseases, improves physical function and improves quality of life [2]. However, the amount of exercise that exceeds the limit will result in adverse health effects such as B. risk of sports addiction [3].

Addiction is the desire to do something that is difficult to control or stopExercise addiction can be conceptualized as a behavioral addiction in which a person develops an unhealthy obsession with exercise or physical activity [3]. Physical activity addiction has been described as a pathological pattern of behavior in which the loss of control over regular physical activity manifests as a compulsive urge to exercise or a symptom of addiction that can affect personal and/or social life. have a negative impact on [4]. Sports addiction can be seen with excessive

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and compulsive movement patterns which eventually create physical and psychological stress [5,6]. Experienced negative results are the first thing in distinguishing between healthy and unhealthy exercise patterns [4]. There are other terminologies used to describe the same phenomenon such as exercise dependence, obligatory exercise, compulsive exercise and excessive exercise [7].

Exercise addiction usually begins with a desire for physical fitness. Core symptoms of exercise addiction are exaggerated exercise volumes, lack of control, withdrawal symptoms and conflicts with family and friends [8]. There is large variability among studies on the prevalence of risk of exercise addiction [4]. Previous studies indicated that the risk of exercise addiction is greater in athletes than non-athletes, with a prevalence rate of up to >40% [9]. Athletes are a group of people who have the passion to exercise because they have goals in sports. Exercise is very important for them to maintain fitness and to meet the demand during competition. More current study among endurance cyclists showed contradicting finding, where they found that exercise addiction risk was not associated with training [10].

Sport participation provides health related benefits [11]. Previous findings indicated that athletes were reported better health related quality of life than nonathletes [12, 13]. Frequency and volume of the sports practice and level of competition can impact the quality of life of an individual [13]. It is unknown whether greater health benefits will be obtained at higher exercise volumes [14]. Further studies should be conducted to determine the influence of training frequency and volume on health related quality of life. Therefore, this study was conducted to determine the effect of training status on exercise addiction risk and health among athletes.

2 Methodology

2.1 Participants

The total number of participants in this study was 242 athletes. The participants aged between 18 to 21 years old. They were from various type of sports. All participants were state athletes underwent training for national level competition. All participants were informed about the purpose and procedures of this study. This study has been approved by the Research Ethics Committee, Universiti Teknologi MARA.

2.2 Questionnaire

The questionnaire consists of four sections. Section A was demographic data (age, gender and sports). Section B was training status. The training status includes frequency and volume of training, and training experience [10]. Section C was exercise addiction risk and Section D was health status (physical and mental health). The online questionnaire was prepared using the Google Form and distributed to the participants via instant message (WhatsApp application).

The risk of sports addiction was measured using the Exercise Addiction Inventory (EAI) [15]. Responses were rated on a 5-point Likert scale. These are "Strongly Disagree", "Disagree", "Neutral", "Agree" and "Strongly Agree".. The method of calculating the total score for risk of exercise addiction was to add all six questions. This total score was very important in

determining whether a person was addicted or not to exercise. An EAI score greater than 24 is considered at risk for exercise addiction. A score of 13-23 should indicate a symptomatic person and a score of 0-12 should indicate an asymptomatic person.

2.3 Statistical Analysis

The statistical analysis used in this study were descriptive and inferential analyses. Descriptive analysis was used to analyse the demographic data, training status, exercise addiction risk and health status. Inferential analysis used in this study was Pearson Correlation Coefficient. It was used to determine on exercise addiction risk and the effect of training status on health. All statistical analyses were conducted using the IBM Statistical Package for the Social Science (SPSS, version 20.0).

3 Results

Two hundred and forty two (n = 242) athletes participated in this study. There were 129 (53.3%) male athletes and 113 (46.7%) female athletes. Mean age of the athletes was 19.07 $\pm$ 1.52 years. These athletes were from team sport and individual sport including volleyball (8.7%), football (8.3%), track and field (7.0%), taekwondo (5.8%), cricket (5.4%), basketball (5.0%), futsal (5.0%), badminton (5.0%), judo (5.0%), netball (4.5%), handball (4.1%), cycling (4.1%), rugby (3.7%), sepak takraw (3.7%), tennis (3.3%), squash (2.9%), swimming (2.9%), bowling (2.5%), silat (2.5%), shooting (2.5%), weight lifting (2.1%), wushu (2.2%), petanque (1.7%), diving (1.2%) and boxing (1.2%).

2.1 Training Status, Exercise Addiction Risk and Health Status

Table 1. Training status, exercise addiction risk and health status of athletes.

Variables	M	SD
Training status		
Frequency (days/week)	4.50	0.50
Volume (hours/week)	12.19	2.31
Experience (years)	7.94	1.30
Exercise addiction risk	26.13	1.54
Health status		
PCS	51.40	5.12
MCS	53.48	3.72

Table 1 showed the training status, exercise addiction risk and health status of athletes. Majority of athletes (52.9%) trained five days a week with mean training frequency was 4.50 $\pm$ 0.50 days per week. Most of them (40.5%) trained 12 hours per week with mean training volume was 12.19 $\pm$ 2.31 hours per week. Most of the athletes (44.2%) have 6 years of experience with mean experience was 7.94 $\pm$ 1.30 years. This study also found that 205 (84.7%) athletes were at risk of exercise addiction. Their mean exercise addiction risk was 26.13 $\pm$ 1.54. However,

they have good health status where their PSC and MSC scores were above 50. Mean PSC score was 51.40 ± 5.12 and mean MSC score was 53.48 ± 3.72.

2.2 Effect of Training Status on Exercise Addiction Risk and Health

Table 2. Effect of training status on exercise addiction risk and health of the athletes.

Variables	Exercise Addiction Risk	Health Status	
		PSC	MSC
Training status			
Frequency (days/week)	0.110	- 0.035	- 0.107
Volume (hours/week)	- 0.210*	- 0.058	- 0.024
Experience (years)	- 0.075	0.007	- 0.021

* $p < 0.05$

Table 2 showed the effect of training status on exercise addiction risk and health of the athletes. Result of the study indicated that there was no significant correlation between training frequency and exercise addiction risk ($r = 0.110$, $p = 0.862$). Meanwhile, a significant negative low correlation was found between training volume and exercise addiction risk ($r = - 0.210$, $p = 0.001$). Result also showed that there was no significant correlation between experience and exercise addiction risk ($r = - 0.075$, $p = 0.244$). Findings of this study indicated that there was no significant correlation between training frequency ($r = - 0.107$, $p = 0.592$), training volume ($r = - 0.058$, $p = 0.367$), and experience ($r = 0.007$, $p = 0.919$) with PSC. There was also no significant correlation between training frequency ($r = - 0.107$, $p = 0.097$), training volume ($r = - 0.024$, $p = 0.713$), and experience ($r = 0.021$, $p = 0.743$) with MSC.

4 Discussion

Finding of this study demonstrated that most of the athletes (84.7I was threatened with sports addiction. In a systematic review, the EAI identified those at high risk for exercise addiction among endurance athletes (14.2%), followed by ball games (10.4%), gym-going (8.2%), and strength sports (6.4%). I discovered that whereas in the general population he has a reported frequency of 3.0%. [17]. Previous studies on elite athletes and competitive athletes Reported significantly higher prevalence of increased risk for exercise addiction [18, 19, 20]. Study among Australian elite athletes shown that 34% of the athletes were classified as having exercise dependence [20]. Results with Italian athletes also shown a similar result, with 18.3% of competitive athletes were at risk for exercise dependence symptoms [19].

Most of the athletes in this study have high EAI scores probably due to the different interpretation of instrumentation's items [4, 18]. They would give maximum score (strongly agree) for most of the items because they were in the midst of preparation for the upcoming competition. They spent more time on training to enhance their performance in order to win the

competition. Furthermore, they were away from their family/partner and could not spent more time with them. These athletes may experience conflict between their training and family/partner. Data obtained using validated instruments need to be followed up with interviews to elaborate and confirm individual negative consequences [4].

This study found that there was no effect of training status on exercise addiction risk. Although there was a significant correlation between training volume and exercise addiction risk, the result showed negative low correlation. The athletes with high volume of training have lower EAI scores. This result aligned with previous study indicated that low link of training volume and EAI scores [23]. Their study suggest that volume of exercise did not emerge as an index of susceptibility to exercise addiction. Study among endurance cyclists shown that risk of exercise addiction was not associated with training status [8]. Exercise excessively does not necessarily relate to exercise addiction [4]. Athletes involved in this study were trained following their training schedule to prepared themselves for competition. The frequency and volume of their training would be higher than nonathletes.

The present study showed that the athletes have good health status. They have good physical and mental health functioning. Previous study indicated that athletes have higher scores on physical function, general health, social functioning, and mental health than nonathletes [11]. However, this study found that there was no effect of training status on health. The training frequency, training volume and experience did not correlate with PSC and MSC scores. There was a trend in our data that showed athletes with higher training frequency and volume have lower PSC and MSC scores. A further investigation was needed to confirm this finding. This result could be influenced by some of the athletes may have injury or have history of injury.

5 Conclusion

The present study demonstrated that majority of the athletes at risk of exercise addiction. On the other hand, the athletes have good health status, both in physical and mental health function. The involvement in sport may have influenced their health status. The current study also revealed that training status does not affect the exercise addiction risk and health of the athletes. Further studies should performed to determine other factors that will affect the exercise addiction risk and health of the athletes.

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