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Original Article

Comparing Mental Health of Female Athlete and Non-Athlete Students of Shahid Sadoughi University of Medical Sciences

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Abstract

Introduction: During the recent decades, many scholars focused on the physical activities as an influencing factor on psychological and mental status. Concerning the importance of university students' mental health, this paper investigates the effects of physical activities on promoting their mental health.

Materials and Methods: In this descriptive analytical study, 200 female students of Shahid Sadoughi University of Medical Sciences were selected as the participants. The case group consists of female athlete students and the control group includes female non-athlete students. The instrument used in this study was GHQ-28, along with some more demographic questions. The collected data was analyzed by SPSS 16, using Frequency, Standard deviation, T-test and Chi-Square.

Results: data has shown that the average scores for general health differ significantly between athlete and non-athlete female students P<.05.The highest average scores were for depression among female athlete students and social dysfunction among female non-athlete students. The lowest average score was for anxiety among both groups. The average score of general health among female non-athlete students was higher than the cut-off point of 23.It was found that the higher the father's education was, the lower the general health's scores were.

Conclusion: The results showed that athlete students' mental health is better than that of non-athlete ones.

Keywords: Mental health, Athletes, Female, Students

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Introduction

In recent years, topics around psychology and psychotherapy attracted great attentions. That is because of the fact that nowadays human being is facing mental problems and disorders more than anything else. At the present time, in the world, particularly in developing countries, about 150 million people are suffering from some kinds of mental disorders. This figure somehow is related to the increase in population, change of lifestyles, family problems, and financial problems [1]. According to the World Health Organization, mental health is defined as the complete physical-psychological and social health (something more than illness and weakness). Mental health is an aspect of the general concept of health and refers to all the methods and procedures applied to prevent mental diseases[2].

Some psychologists believe that factors such as the ability to adjust with the environment, flexibility, fair and logical judgment facing mental deprivations and pressures, are the criteria for mental health[3]. It must be noticed that those who have no mental disorders are not necessarily considered as healthy people, like those who are not apparently ill but are not considered as healthy ones[4].

Mental pressure refers to the condition in which some attraction and burden is imposed to someone. In other words, mental pressure means analyzing one's capability to do tasks which need mental concentration as well as investigating the weakening of one's inner

power which gradually leads to exhaustion [5]. In recent years, the Canadian Community of Mental Health define this concept in three aspects: attitudes towards oneself, attitudes towards others, and attitudes towards the life [6].

Rapid growth of technology during the last three decades of 20th century has ensured millions of people that such changes, which are the characteristics of our period, are increasingly agonizing and this speed not only suffers people's psyche, but also wastes their physical energy in the process of adjustment to the continuing changes. Whenever there is no peace to trace the lost physical resources while there is repeated exposure to these mental pressures, the process of tailspin begins, and consequently one will become vulnerable to mental-physical diseases. Therefore, that person will see himself/herself surrounded by unjustifiable anxiety, inability, depression, dissatisfaction, and aimlessness, then the interpersonal relations will be damaged [7].

One way to prevent and cure mental disorders introduced by psychologists is the effects of physical activities on mental health, because industrialization of societies and consequently decrease of physical activities and exercises, revealed the importance of these activities more than previous years, and drawn more attention towards the physical activities, particularly its role in psychological issues [1].

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Concerning the relation of exercise and mental health, it was previously believed that physical activities are useful for physical health. Today, this point is clear that exercise is for mental health as well as physical health[8], because human beings are physical-psychological creatures. Educational psychologists believe that body and mind mutually affect each other and physical education, as an innate social and pedagogical need, deals with a great part of education and have a great role in physical and psychological evolution of people[9]. According to this facts and concerning the importance of exercise in physical and psychological health, this paper attempted to investigate the effects of physical activities on the general health of athlete students and compare them with non-athlete students, therefore if athlete students have less problems in terms of their mental status, we may conclude that by paying more attention to physical activities of students, their mental health will improve.

Materials and Methods

This research is a descriptive analytical study whose sample population was selected from female undergraduate and postgraduate students of Yazd University of Medical Sciences in 2012. The students were studying at Health school, paramedical department, nursing and midwifery school. 220 students participated in this study among which there were 110 athlete and 110 non-athlete female students who were selected randomly. 106 female athlete students completely filled the questionnaire. Those were considered as athletes who were members of sport teams or exercised regularly during the last year. On the other hand, only 94 female non-athlete students responded the questionnaire. Questionnaires were distributed among students, then they were given some explanation about the study and ensured that responses are kept confidential, and it was noticed that there is no need to mention their name.

To collect data, a questionnaire which had two parts was used. The first part asked about demographic characteristics and the second part evaluated general health, using 28-General Health Questionnaire (GHQ) , prepared by Goldberg-Hiller, which is a standard instrument and one of the well-known instruments of screening used in 70 countries including Iran [7, 10, 11]. The questionnaire includes four subscales of somatic symptoms, anxiety, social dysfunction, and depression. It was scored using a four level Likert scale, ranged from 0 to 3. Therefore the total scores ranged from 0 to 84 and the cutoff point was 23. Scores higher than 23 mean mental health is in danger. Concerning scores of the four subscales, ranging from 0 to 28, the cutoff point was 14, higher than which were considered as the indicators of mental disorders.

Collected data was codified and analyzed by SPSS 16, using frequency tables and descriptive statistics such as percentage, mean, standard deviation and other analytical operations. Students themselves filled the questionnaires.

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Results

158 out of 200 students (79%) who completed the questionnaire were not married. 188 participants (94%) were undergraduate students. Fathers of 90 students (45%) were self-employed and mothers of 175 students (78%) were housewives. Fathers of athlete students were mostly self-employed (48 ones and 45%), and then 32 of them (30%) were staffs. in the case of non-athlete students, 42 students' fathers (45%) were self-employed and 29 (35%) were retired. The fathers of 39 athlete students (37%) were university graduated and 29 (27%) were at high school diploma level. However, for non-athlete students, 27 fathers (29%) had high school diplomas, and 24 (26%) had only primary education. According to the T-test operated, the mean score of the general health for female athlete students was significantly different from the mean score of female non-athlete students (P<.05). The lowest score for both groups was for anxiety, which was (3.50 $\pm$ 3.47) in athlete group, and (6.34 $\pm$ 3.80) in non-athlete group. The highest score for both groups was for depression that was, 6.50 $\pm$ 3.32 in athlete group and 7.69 $\pm$ 3.84 in non-athlete group. The mean score of the general health for female non-athlete students was higher than the cutoff point 23 (Table 1).

Table 1: Mean and standard deviation of general health and its subcategories among athlete and non-athlete female students

Students General Health and its subcategories	Athlete		Non-Athlete		T	Significance
	Mean	Standard deviation	Mean	Standard deviation		
General health	19.80	10.19	24.96	13.22	-2.995	.003
Somatic symptoms	5.20	3.26	6.52	4.06	-2.509	.01
Social dysfunction	5.45	3.79	6.34	3.80	-1.625	.10
Depression	6.50	3.32	7.69	3.84	-2.332	.02
Anxiety	3.05	3.47	6.17	4.37	-1.995	.04

There was a significant difference between the mean scores of general health of unmarried female athlete and non-athlete students. It was also the case for undergraduate female athlete and non-athlete students (P<.05). Comparing female athlete and non-athlete students whose fathers were retired, significant difference was noticed. The same was true about those students whose fathers had university degrees (P<.05).

It was found that the higher the fathers' education was, the lower the general health's scores were (Table 2). The highest general

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health score was obtained by non-athlete students whose fathers were illiterate (41.00 + 19.42). Although, there were no significant correlation between the mean of general health scores and fathers' job except for retired ones, the mean score of general health of non-athlete students whose fathers were unemployed was higher than cutoff point score of 23.

Table 2: The mean and standard deviation of General Health scores among female athlete and non-athlete students based on their demographic characteristics

Students	**Athlete**		**Non-athlete**		**T**	**Significance**
Demographic characteristics	Mean	Standard deviation	Mean	Standard deviation		
			Marital status			
Unmarried	19.79	10.41	26.02	13.67	-3.109	**.002**
Married	19.82	9.67	20.12	9.87	-.094	**.092**
			Education			
Undergraduate	19.66	10.28	25.09	12.88	-3.081	**.002**
Postgraduate	20.71	10.22	29.66	19.55	-.983	**.35**
			Fathers' job			
unemployed	22.00	0	38.00	31.29	-.457	**.67**
Staff	19.21	10.37	25.63	14.89	-1.810	**.07**
Self-employed	21.56	10.44	23.42	10.55	-.787	**.43**
retired	17.39	9.54	24.75	11.47	-2.455	**.01**
			Fathers' education			
illiterate	20.50	8.22	41.00	19.42	-1.965	**.08**
Primary school	20.86	12.86	20.08	8.50	.229	**.82**
Secondary school	24.00	8.12	20.91	10.50	.843	**.40**
High school diploma	18.24	8.94	27.12	12.40	-2.885	**.23**
University education	18.82	10.66	25.73	14.53	-2.152	**.03**

Discussion

Results indicated that those students who did exercises are generally healthier in terms of mental health than those who seldom exercised. Physical activities may lead to mental health in several ways. These activities increase self-assurance which leads to self

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confidence. It is obvious that increasing self confidence makes some positive changes in one's interpersonal relations and social network. Such changes are of benefit to one's mental health [2]. Other related studies also revealed similar findings [2, 5, 12-16]. Also, some other researchers have shown that after physical activities, anxiety, depression and self-esteem change in positive ways [16-18].

The lowest average score was for the anxiety in both groups. However, in similar studies [2, 5, 19-21], the lowest average score was for depression.

The fact that depression level is higher than other researches needs more study. Probably, being in the desert area and lack of welfare and recreation facilities to spend their free times affected the students' depression level. The average scores for Somatic symptoms were significantly different between the groups, which was in accordance with previous studies. Concerning social dysfunction, no significant difference was observed. However some studies found significant difference between athlete and non-athlete groups in terms of social dysfunction [21].

It seems that in this study, there are stronger factors, comparing to physical activities, which affect social dysfunction and make the groups somehow similar in this aspect.

The impacts of the regular exercise were confirmed in different studies. The study by Paluska showed that aerobic exercises significantly reduced depression symptoms and improved anxiety [22].

Comparing average scores of depression, the athlete group obtained lower score compared to non-athlete group, which confirmed the results of previous studies[13, 21]. Some studies have confirmed that the exercise could decrease depression level by increasing the level of norepinephrine and nephrotonin during activities [23]. Concerning anxiety, the average scores of the groups were significantly different, similar to other researches[13, 24]. However, the contrary results in some other studies[21] may be resulted from different instruments and questionnaires used. The findings indicated that there was a significant difference between unmarried athlete and non-athlete students in terms of their average scores for general health. In other study on university students, it was found that there was a greater difference between the average scores of mental health, obtained by married and unmarried students [16], which might represent the higher motivation and more opportunities available for unmarried students. The reason behind the difference of average scores of general health between undergraduate and graduate students can be the difference in their free times. There was a significant correlation between the female athlete and non-athlete students whose fathers had university degrees. It seems that the higher the father's education and awareness was, the more interested their children were in the exercises. It was also seen that poorest general health belonged to female non-athlete students whose fathers were illiterate.

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Generally, the findings have shown the impacts of regular physical activities on the general health of university students, although such studies cannot establish or confirm a cause-and-effect relationship between variables. It is noteworthy that the general health among athlete students was better than Yazd native people's general health [25] as well as non-athlete students. However non-athlete students obtained lower scores for general health compare to native people's [25].

Conclusion

According to the obtained results, the general health of female non-athlete students was in danger. This can be studied more, as the researchers can investigate students' higher depression level shown in this paper. Finally it is worth to say that the university managers and officials should pay more attention to programs aimed at promulgating the culture of doing exercise and highlighting the role of physical education office of the university in this case. Moreover, the high depression level of students may reduce by recreating physical activities.

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