



IJABBR- 2014- eISSN: 2322-4827

International Journal of Advanced Biological and Biomedical Research

Journal homepage: www.ijabbr.com



Original Article

Comparing the Mental Health of Female Athlete and Non-Athlete Students in the City of Indica

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ARTICLE INFO

Article history:

Received: 8 May 2014

Revised: 23 May 2014

Accepted: 26 July 2014

ePublished: 30 July 2014

Key words:

Mental health

Physical symptoms

Symptoms of Anxiety

Social Dysfunction

Depression Symptoms

ABSTRACT

Objective: The present study aimed to compare mental health of female athlete and non-athlete students in the city of Indica. The research methodology was a descriptive survey, which initially described the mental health and then compared it among the students. **Methods:** The statistical population of the study included all high school girls in the academic year of 2012-2013 in the city of Indica accounting for 919 subjects. The sampling was done in this study by two methods of census (enumeration) and multi-stage cluster random sampling. Due to the limited number of athletes (85 subjects), all were included in the study sample. Of the non-athletic population, 106 non-athlete subjects were selected using Cochran formula by multi-stage cluster random sampling method. The measurement tool in this study was the Goldberg and Hiller GHQ Standard Questionnaire (1979) consisting of two parts. The first part includes demographic information, including questions about demographic and individual characteristics of study samples such as age, type of illness, etc. The second part consisted of 28 questions to measure four subscales (somatic symptoms, anxiety, social functioning and depression). The reliability (reliability coefficient) of the questionnaire was obtained as 0.85 through Cronbach's alpha coefficient. For data analysis, the descriptive statistics was used in order to summarize the data, and the inferential statistics, including Kolmogorov-Smirnov and Mann-Whitney tests were used to test the hypotheses. **Results:** The results showed significant differences between physical symptoms, anxiety and insomnia, social dysfunction and depression in two groups of female athlete and non- athlete students.

INTRODUCTION

In today's world, the best-selling drugs are those used for psychiatric disorders, hypertension, cardiovascular diseases and gastric ulcer. Stress has a prominent role in recognition the causes of all these diseases. According to a number of scientists, all diseases in humans are somehow associated with stress. Such diseases not only involve mental illnesses or psychosomatic illnesses, but

also include all physical ailments, such as cancer and tuberculosis (Abolghasemi, 2000). In recent years, mental disorders are considered as the major and largest health problems in the communities. Since, today's human suffers from psychological problems and disorders more than anything else. Meanwhile, our country, Iran, is considered as young nations and developing countries. One reasons for this is having large segments of education. The students are exposed to a lot

of stress due to a situation they are in and are extremely vulnerable to psychological traumas.

Thus, mental health is not just the absence of mental illness, but also refers to a level of function that the person would be comfortable with himself and his life style (Lotfabadi, 2006). Certainly, sport and physical activity is one of the effective methods of physical fitness, which lead to strengthen all aspects of human existence, physically and psychologically. Review of numerous reports from 1980 shows that a range of mental disorders has been raising in different age groups and even adolescents. Thus, considering that the girls' activities increase daily in social areas and the overall social successes is due to their effective presence. Also, considering their prominent role in the formation of family system, without a complete mental health status, there will be a potential collapse of family system and formation of a foot-loose generational. Certainly it seems that comparing the mental health of girls is essential and necessary as an important and overall part their health and its necessity for future potential successes. Therefore, the necessity and importance of performing this comparison is to understand the point of distinction between the two studied groups, which namely includes finding the role of exercise in mental health. Thereby, it would be a small step, even primarily, in order to promote the mental health from the status quo to the favorable situation. Bakhtiarpour (2012) in a research entitled as "Mental health assessment of exercise teachers in Hamadan and its association with physical activity" concluded that the prevalence of mental disorders in all the studied teachers accounted for about 12%. The highest and lowest incidence rates were seen in primary and secondary school teachers, respectively. They also concluded that sport (exercise) and physical activity can reduce stress and dysfunction. Sobhani (2011) in a study entitled as "Describing and comparing the mental health of male students in the field of physical education with science and medical sciences students" concluded that physical education students are in a better condition in terms of mental health and its dimensions in comparison to sciences and medical sciences groups. It can be also concluded that the better mental health status in physical education students is due to their functional and practical courses encompassed in this field. Knechtle (2012) in a study entitled as "Effect of exercise and physical activity on mood and psychiatric disorders" showed that endurance exercises improve mood in athletes. In people with mental disorders, physical activities decrease mental disorders, especially in those who are depressed. Wang (2010) in a study entitled as "Effect of exercise and physical activity on individuals' mental health" came to the conclusion that exercise and physical activity is beneficial in the mental health status of young people. Physical activity lowers mental health problems and raises the self-esteem.

2. RESEARCH METHODOLOGY

This study is a descriptive survey that the researcher gathered information using a questionnaire in a field approach. The population of the study included all female high school students in the school year of 2012-2013 in the city of Indica that accounted for 919 students according to the statistics provided by the city Education organization. Sampling methodology used in this study included census method and multi-stage cluster random sampling method. Hence, from four districts of education in the Indica city, which encompassed a number of 919 female high school students, the sampling was conducted that one school was randomly selected from each district, and 3 grades were randomly selected from each school with proportional choosing of considered samples from each grade. A sample size of 191 subjects was selected using Cochran formula by a multi-stage cluster randomized method. Finally, the total number of subjects in this study was 191. Of these, 85 students were athletes and 106 students were non-athletes. In this study, the Goldberg and Hiller GHQ standard questionnaire (1979) was used to collect information, which included 28 items with four subscales. Answering to each of these questions is according to multiple-choice Likert scale. Given that the research tool is standard and has been used in several studies, in order to determine the content validity of the questionnaire, it was made available to professors of physical education and psychology fields, and its validity was confirmed. The reliability of the mental health questionnaire was calculated through using Cronbach's alpha coefficient as 0.85. Descriptive statistics and inferential statistics techniques, such as Kolmogorov-Smirnov and Mann-Whitney tests were used for comparison of mental health of athlete and non-athlete students.

3. Results and Discussion

The results of statistical test showed that there is difference between mental health in female athlete students and non-athlete students; the difference is significant at ($p < 0.05$) level. In this regard, Bakhtiarpour (2012) suggested in his study that physical activity and exercise promotes and gives rise to mental health of individuals, which corresponds with the present study results. Also, the results of Samii (2012) confirm the positive role of sport and physical activity in increased mental health. The results of this research are consistent with the study's results of Sobhani (2011), Knechtle (2012) and Wang (2010). It was found in this research that physical exercises and training can have many advantageous impacts on the behavior and mood, and moreover, physical exercises are associated with reduced stress, tension and depression and increased self-confidence.

Table 1:

Mean mental health in athletes and non-athletes

| Activity | | Descriptive statistics |
|-------------|---------|------------------------|
| Non-athlete | athlete | Number |
| 106 | 85 | Mean |
| 37/43 | 52/33 | SD |
| 5/22 | 9/31 | |

As can be seen in Table (1), the mean of mental health in athlete group is equivalent to 52.33 and the SD is equal to 9.31. In the non- athlete group, the mean mental health is equivalent to 37.43 with a SD of 5.22.

The study results showed that there is a difference between physical dimension of mental health of female athlete students and non-athletes, which is significant at ($p < 0.05$) level. This means with increasing physical fitness achieved through physical activities, the symptoms of pain and physical discomfort will decrease. Jamshidi (2010) revealed in a study that athlete students benefit from higher physical and mental health than other students, which is consistent with the current

research results. In this regard, Hosseini (2007) stated in his survey results that exercise promotes physical fitness, and fitness in its turn improves the mental health, which is consistent with the current research results. Savdera et al. (2007) concluded in their study that participation in physical activity led to increased cardiovascular fitness in subjects, and such an improvement had an important role in the reduction of physical complaints due to low breath, decreased chest pain and back pain.

Table 2:

Results of Mann-Whitney test for mental health variable of female athlete and non-athlete students

| Value | Test statistics |
|--------|--------------------|
| 3571 | U statistic |
| 10831 | W statistic |
| -5/435 | Z statistic |
| 0/00 | Significance level |

According to the results in Table (2), since the significance level is equal to zero, thus it is significant at $\alpha = 0.05$ level. This means that athlete students enjoy from a better mental health than the non-athlete students.

The study results showed that there are differences regarding anxiety and sleep disorders between female athlete students and non-athlete students, and the difference is significant at ($p < 0.05$) level. In other words, the students who participated in physical exercises and sports activities had less anxiety and sleep disorders compared to the non-athlete students. Ali Nejad (2010) concluded through a research that exercise and physical activity significantly reduce the level of anxiety and depression; his study results confirm the results of present research. Also, Hemayat Talab et al. (2004) suggested in their research results that exercise

and physical activity reduces anxiety in individuals that their findings confirm our results. Moameri (2009) in a study entitled as "The role of exercise in mental health" concluded that there is a positive correlation between exercise and mental health, and exercise and sport are associated with reduced symptoms of depression, anxiety and feeling of illness in the general population, which are consistent with the results of this study. Ann came to the conclusion (2007) in her study that physical activity has a potential effect on reducing anxiety and disappointment. Incorporating exercise programs in people daily life leads to their increased life expectancy as well as their improved mental health.

Table 3:

Mann-Whitney test results on physical aspect of mental health of female athlete and non-athlete students

| Value | Test statistics |
|--------|--------------------|
| 3102 | U statistic |
| 10362 | W statistic |
| -6/428 | Z statistic |
| 0/00 | Significance level |

According to the results in Table (3), since the significance level is equal to zero, thus it is significant at $\alpha = 0.05$. This means that the athlete students have more physical health compared to the non-athlete students

The study results showed that there is a difference on social functioning aspect of mental health between female athlete students and non-athlete students, which is significant at ($p < 0.05$) level. In other words, the athlete students have better social functioning compared to the non-athlete students. The findings of this study are consistent with Samii (2012) research results. He stated

in his study that exercise and physical activity increases the individual mobilizations in the community and in form of a team, and helps the individual to become more socialized. The findings of this study are also confirmed by the findings of Hossain *et al.* (2007), Esfahani (2003), Asadi and Ahmadi (2000), Wang (2010) and Gibeska (2002) studies.

Table 4:

Mann-Whitney test results on anxiety and dysfunction aspect of female athlete and non-athlete students

| Value | Test statistics |
|--------|--------------------|
| 3614 | U statistic |
| 10874 | W statistic |
| -5/361 | Z statistic |
| 0/00 | Significance level |

According to the results in Table (4), since the significance level is equal to zero, thus it is significant at $\alpha = 0.05$. This means that the athlete students have more social functioning compared to the non-athlete students.

The study results showed that there is a difference on depression aspect between female athlete students and non-athlete students, which is significant at ($p < 0.05$) level. In other words, the depression rate in athlete students is less than non-athlete students. This finding is consistent with the results of Bakhtiarpour (2012), Goudarzi and Hemayat Talab (2006) and Knechtle (2012) studies on psychological benefits of exercise in reducing depression. A high percentage of people

confirm the fact that the cause of a disease has played an important role as a motivation factor in tendency to exercise and physical activities. Perhaps, they use exercise as a tool to prevent and treat diseases (certainly with their doctors' advice). If we consider depression as a state of intense sadness along with feelings of frustration, disappointment and insufficiency in people, doing exercise will decrease it in athlete individuals.

Table 5:

Mann-Whitney test results on social functioning aspect of female athlete and non-athlete students

| Value | Test statistics |
|--------|--------------------|
| 4354 | U statistic |
| 9710 | W statistic |
| -3/819 | Z statistic |
| 0/00 | Significance level |

According to the results in Table (5), since the significance level is equal to zero, thus it is significant at $\alpha = 0.05$. This means that the non-athlete students are more depressed compared to the athlete students.

Table 6:
Mann-Whitney test results on depression aspect of female athlete and non-athlete students

| Value | Test statistics |
|--------|--------------------|
| 2839 | U statistic |
| 10099 | W statistic |
| -7/110 | Z statistic |
| 0/00 | Significance level |

According to the results in Table (6), since the significance level is equal to zero, thus it is significant at $\alpha = 0.05$. This means that the non-athlete students are more depressed compared to the athlete students.

Conclusion

According to the findings of the present study, we can say various sporting activities have a positive influence on mental health and reducing anxiety, depression, disturbances and increasing social functions and physical health of individuals. Exercise activities, like medicine therapy and psychological treatment can be used to reduce anxiety and depression. Perhaps, the effects of exercise and participation in sports activities in some cases would be better and more effective than other methods of reducing anxiety and depression. Thus, most professionals, psychologists and doctors in this

context recommended doing exercise and participate in sports activities. Since the findings of the present study are in line with the Results of many other researchers, it can be concluded that physical activity and exercise play an important role in mental health of people, including pupils. Therefore, it is recommended that officials and practitioners will provide the grounds for students' attendance in sports places and environments by providing the facilities and encourage them to participate, so that the students can benefit from sports and its advantages to promote their quality of life and mental health.

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