

The Effects of Physical Education Course on Mental Health of Students in Bu-Ali Sina University, Hamedan-Iran

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Abstract

Introduction

Mental disorders are a major cause of morbidity and disability in the world and can reduce the success and academic achievement. Experts believe that exercise can be used as a means to achieve favorable mental status. The aim of this study was to investigate the effect of physical education course (1) on mental health of Bu-Ali Sina University students, Hamadan.

Materials and Methods

In this descriptive study, 108 students of Bu-Ali Sina University, were randomly selected as research sample. Data collection tool was the 28-item standard questionnaire of Mental Health of Goldberg (GHQ-28) with 0.89 reliability. To determine the suspected cases of mental disorders, cutoff point 23 has been used. Data were analyzed using descriptive and inferential statistics (pair t-tests) at the significance level less than 0.05.

Results

The findings showed that the average pretest score of students's mental health were (21.86 ± 8.96) and the average post-test scores were (22.55 ± 10.83). 40.7 percent of participants were suspected to have mental disorders before participation in physical education classes (scores above 23) and decreased to 37% after the end of the semester, the dependent t-test results showed no significant difference between students's mental health before and after the general physical education ($p > 0.05$). The post-test results showed that depressive symptoms were significantly increased ($p > 0.05$; 2.81 ± 5.64).

Conclusion

The results showed that participation in general physical education classes had no significant effect on mental health; also the depression of students had increased. Thus, regarding the results of this study, in order to promote students's mental health and increase physical education efficacy and, attention to this problem seems necessary.

Key Words: Depression symptoms, Physical education course, Mental health.

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Introduction

The increase in inactivity among students and decrease in physical activity that occurs with aging caused sedentary lifestyle to be created from the standpoint of physical aspect both during school and after graduation (1). Therefore intervention for physical activity among students in higher education is of particular importance. Sports and leisure programs for the formation of active lifestyle while studying at university and after graduation can be very helpful (2-3). Physical education course is one of the best opportunities to develop students' knowledge and healthy life style. Half hours of general physical education classes are taught practically and the other half is theoretical and it is expected after learning this lesson, students create greater improvement in physical fitness and learning the sport skills, because in such classes, students understand the importance of participating in physical activity programs and are likely to continue physical activities outside of class time, or after the end of the course, throughout life (2). The researches have shown that participating in the exercise and sports program plays a great role to obtain physical fitness and mental health. Physical education is an effective tool to address the psychological needs through which individuals can take advantage to satisfy their own needs and internal desires expression (4).

Meta-analytic studies have shown sport in the short and long term regardless of the type, intensity, duration and type of exercise program significantly reduces anxiety (5). Long-term studies on the effects of exercise on personality traits and mental health and have shown that exercise and physical education is followed by psychological and social

goals is not only as a recreational activity but also as a training – educational tool (6). Researchers in the field of mental health believe that inactivity is one of the factors affecting mental disorders and that people with mental illnesses should be sought among people with low mobility (4, 6). Reduction of physical activity among students is higher than that in previous years; on the other hand, conducted researches in recent years show that mental health problems are at different levels among students. Increase of students's attending counseling centers indicates an increase in mental health, social and academic problems among them (7). So, attention to students's mental health is very important, because they are talented and selected segments of society and nation builders of tomorrow (8). Psychological disorders can create many problems in society, greatly affect their academic performance and disrupt their social and emotional development. Mostly these disorders occur between the ages of 18 and 25 years old, when people come into adulthood. Many people at this stage of life begin their education at a university and so these disorders are associated with studying problems such as difficulty concentrating, inappropriate behavior, lack of social skills, defenseless, impulsiveness and severe anxiety experience. These problems are mostly complex obstacles on the way of study, lecturing and seminar of students (1). The importance of mental health issues has led many researchers to study in this field, including Jahani Hashemi et al., Rafie, Mousavi Poor, Aqa Najafi and overall these studies, more attention to the mental health of students is recommended (9-10). Also findings of Dadkhah, Mozafari and Mohammadi on 426 patients showed that 28% of

medical students of Ardabil University are suspicious of mental disorder (11). Investigating whether sports activities (Public Physical Education) could have an effects on the increase of mental health due to its core mission of providing mental and physical health, regarding the fact that the frequency of mental health problems among the students is rising. So, in order to achieve this objective, we studied the effects of general physical education unit (1) on mental health of students in Bu-Ali Sina University. To answer the question whether participating in physical education classes (1) has any effect on mental heal.

Materials and Methods

The present study was a descriptive study of the quasi-experimental type (pre-test, post-test). The statistical population of this study consisted of all male students entering Bu-Ali Sina University undergraduate before 2012 who had taken the general physical education course in the second semester 2013-2014 (n=238). 144 students were selected randomly based on the table Karjcie and Morgan as the sample. After examining the samples in the pretest (first week of classes), we chose the subjects whose only was exercise of their general physical education classes during the week; after collecting the questionnaires, the study sample was reduced to 108. The instruments used in this research was mental health questionnaire of 28 questions by General Health Questionnaire- 28 (28-GHQ) Goldberg (1979), which has four seven-item components including components of physical symptoms, anxiety and insomnia, social dysfunction and depression symptoms. Likert scale scoring of four values (0, 1, 2, and 3)

was used. In this way, increases in test scores shows that mental health is lower and the score the individual can obtain from this questionnaire is from 0 to 84. In this questionnaire, based on different researches in the country, the cutting point is determined between 23-21 (1). In this case the cut-off point 23 was used. Scores higher than 23 in total test indicates a mental disorder and below 23 was considered a sign of good mental health (1). Several studies on the validity of mental health (28-GHQ) have been performed. In one study, Goldberg and Williams reported the validity of the questionnaire 0.95. Various studies reported the reliability of this questionnaire between 84 to 91% (12). Some other studies reported the growth and the value of this questionnaire validity from 88 to 91% (10). In this study, the reliability using cronbach's alpha was 0.89. In the present study to collect data, with prior coordination with the classroom teachers of Physical Education (1), pre-test questionnaire at the beginning of the first week of classes, and posttest questionnaires in the last week of classes were distributed and collected. Data were analyzed with descriptive statistics to summarize, categorize and describe data and inferential statistics (dependent t-test) to compare mental health scores in pretest and posttest. All statistical analyses were performed using SPSS version 20. In this study, a significance level ($\alpha \leq 0.05$) was considered.

Results

The sample of this study was 108 students having taken general physical education in the second semester 2013-2014. The mean age was 22.83 ± 1.14 years. Pretest mean score of mental health was 21.86 ± 8.96 and post-test mean score was 22.55 ± 10.83 . Also in the categorization of mental health

scores in pretest and posttest, it was determined that 15.7% of the subjects obtained mental health pretest scores lower than 13 and 43.5% between 23-13 and 40.7% higher than 23. Also, in post test scores, it was shown that 16.7% got below 13, 46.3% between 13-23 and 37% higher than 23, as shown in Table.1

Dependent t-test results, as shown in Table.2, suggest that between mental health and components of somatic symptoms, anxiety, social dysfunction, there is no significant difference in pretest and posttest ($p>0.05$) but there is a significant relationship for component of depression symptoms that indicates post -test scores increased ($p>0.05$).

Table 1: Description and classification of mental health scores at pretest and posttest

Classification of mental health scores	Pretest Frequency	Present of frequency	Post test Frequency	Present of frequency
<13	17	15.7	18	16.7
13-23	47	43.5	50	46.3
23>	44	40.7	40	37
Total	108	100	108	100

Table 2: Results of dependent t-tests related to mental health mean before and after completion of Physical Education (1) course

Index Variable	Groups	Number of group	Minimum	Maximum	Mean±SD	df	t-test	P-value
Physical symptoms	pretest	108	0	12	4.94±2.66	107	.542	.589
	Post test	108	0	13	4.76±3.11			
Symptoms of anxiety	pretest	108	0	17	5.56±3.50	107	.920	.360
	Post test	108	0	19	5.16±3.81			
The symptoms of the disorder. Social function	pretest	108	1	15	6.77±2.45	107	.698	.487
	Post test	108	0	16	6.99±2.90			
Symptoms of Depression	pretest	108	0	14	4.59±3.45	107	2.89	.005*
	Post test	108	2	14	5.64±2.81			
Mental Health	pretest	108	3	61	21.86±8.96	107	.603	.548
	Post test	108	6	52	22.55±10.83			

Discussion

The results of the present study showed that mental health scores for 59.2 percent of respondents in the pretest

(first week of physical education classes) are lower than 23 (the cutoff point of mental health questionnaire), which is indicative of their favorable mental health, also 40.8% of

respondents in the first week of physical education classes had mental health scores higher than 23 which indicates that a high percentage of subjects are suspected with mental disorders. These results are consistent with those of Jahani Hashemi et al. (9) whom in their study reported that 28.6% had mental disorders, and also with the results of Dadkhah, Mozafari and Mohammadi whom in their study showed that 28% of students in their study had mental disorders (11). But this research shows a higher percentage of mental disorders which are disturbing statistics regarding mental health problems. Results of Rafie and et al. in 2012 showed that 67.9% (214 subjects) of students of Arak University of Medical Sciences had mental health problems and only 32.1% (101 subjects) have mental health(10); comparison of the mean scores of mental health of Rafie and et al. (25.73 ± 7.47) with a scores of mental health in the present research ($22.55 + 10.83$) shows that the mean scores of the former are more than scores of this study, which is statistically significant ($P= 0.003$). But the percentage of mental health disorders is higher in the study of Rafie et al. (10). Perhaps, this is due to the difference of the population of the two studies as Rafie et al. used the male and female students of Arak University of Medical Sciences. The subjects in this study included only male students of Ali Sina University, Hamedan. Perhaps the difference between these study populations were influential on mean difference of the psychological problems of these studies. Post-test results of the present study showed mental health test scores are lower than 23 for 63% of the subjects in the test which represents an improvement of almost 4 percent of overall mental health of students who participated in general physical education classes. The t-test

results showed no significant differences between the mental health scores before and after participating in physical education classes (1) ($P= 0.548$). Also, results showed no significant differences in the three sub-components of mental health, including physical symptoms, anxiety, social dysfunction and psychological symptoms ($P>0.05$). It is remarkable that the subjects evaluated in the research had score of 4.59 ± 3.54 in component of depression in pretest and after completion of the general physical education test their scores in depression symptoms increased to 2.81 ± 64.5 . Dependent t-test results showed these statistically significant differences. ($P= 0.005$).

This increase in depressive symptoms scores reflects an increase in this component of mental health disorders which indicates a negative result in the mental health symptoms after participating in general physical education class. These results contrast with the results of previous studies which show a decrease in physical activity is associated with depression and people who are depressed are sedentary in physical standpoint and have lower fitness (13). The results of the present study contrasted with Eskandari and Kashef 's study in 2013 in a mental health survey of 370 students coming to the conclusion that participating in sports activities improved all aspects of mental health(4). Perhaps the reason for the inconsistent results with those of the present study to investigate the effectiveness of activities in the field of exercise on mental health issues, it is to be considered. Other studies have evaluated people who had more exercise in terms of time and quality. Also present study was carried out by different research population which can also be another reason why

the study results are inconsistent. Other research done in the field of mental health can be Mostahfezyan et al. who compared the overall health and quality of life of the active and inactive academic staff of the university; their research results showed that participating in sports activities has no effects on mental health, which is consistent with this research result (14). Despite the fact that the exercise is considered as a useful tool against the stress, the findings in this study yielded conflicting results. Several factors can effects on mental health and probably a combination of these factors have caused the results of this study to be inconsistent regarding the effect of physical activity on mental health. due to the low number of hours of meetings and public physical education course and also a lot of time away from the formation of the classes, the delay of classes in the semester holidays and lack of attention to students teachers to this course, there seems to be no positive effect of the psychological aspects in physical activity among students. Another important factor that can affect the results is that the post-test data of this study were collected in the last week of classes in the academic year that has been closer to the finals. Given that the closer we get to the finals, stress of exams and some other issues of concern such as course topics extension and compact classes and examinations, time limit to complete the course of study and pressures may increase students' mental health and depression which could affect the outcome of the study.

Conclusion

Thus, according to the results of this study regarding lack of effects of the general physical education on the mental

health, attention to mental disorders which has been allocated in this research a relatively high percentage is essential. With better planning for students participation in sport activities and also paying more attention to the physical education in universities and increase the number of these units, we can improve mental health. Hereby, we can also increase performance of the training providing students with physical and mental health and enhance the effectiveness of the training. Among the limitations of this study can be personalized teachings by teachers of physical education, no classes for the holidays, and lack of controlling other activities during the period, different students` ages and fields.

Conflict of interests: None.

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