

The Effect of Eight Weeks of Yoga Training on Students' Mental Health at Marvdasht Branch of Islamic Azad University

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Abstract

Introduction: Mental health is one of the important components of health, the ability to balance in life and resist problems. The purpose of this study was to investigate the effect of eight weeks of yoga training on mental health of male and female university students.

Methods: In this quasi-experimental study, 60 students of Islamic Azad University of Marvdasht Branch were selected and divided into two groups: yoga training and control. The yoga training group performed yoga training for eight weeks, three sessions per week, and each session for 90 minutes. The control group only had their daily activities during this period. Before the beginning of the study and at the end of the study period, mental health was measured by the GHQ questionnaire. To analyze the findings, Kolmogorov-Smirnov, paired sample t-test and analysis of covariance were used ($p \leq 0.05$).

Results: Eight weeks of yoga training had a significant effect on the increase in mental health score of male and female students ($p = 0.001$); the level of mental health following eight weeks of yoga training in female students was more favorable than male students ($p = 0.03$). Eight weeks of yoga training have a significant effect on the improvement of physical symptoms ($p = 0.001$), insomnia anxiety ($p = 0.001$), and depression symptoms in male and female students ($p = 0.002$). However, eight weeks of yoga training have no significant effect on the improvement of social dysfunction in male and female students ($p = 0.53$).

Conclusion: It seems that eight weeks of yoga training can improve mental health of students.

Keywords: Yoga, Mental Health, Student

Introduction

Health and well-being carry so similar and common concepts that are often used synonymously; also both signify mental health and are undoubtedly of the most important issues of human life (1). In some scientific sources, health and well-being are presented as a cycle in which the psychological, physical, social, occupational and environmental factors play a key role. Mental health is one of the important components of mental wellbeing as well as the ability to balance in life and resist problems. Psychological problems impose a significant pressure on individuals, so that as predicted, in 2020, depression after heart

disease will have the highest costs in the health system of communities (2). Stressors have an adverse effect on the general health of the society, especially among the student community. With increasing stressors, physical symptoms, anxiety, social dysfunction and depression increase and general health decreases (3). Psychologists have defined stress as expectation of adaptation, coping and adaptation by the organism (4). Understanding the factors related to the physical and mental health of students can help authorities and practitioners in directing the programs of this specific and effective group and make them more aware of

the youth affairs in the country (5). Considering the importance and sensitivity of this important period of life, the students' entrance into the university and joining college students creates a major change in social, familial and personal life, and so the person faces many changes in social and human relationships and faces new expectations and roles. Exposure to such conditions has often been accompanied by stress and concern and affects the performance and efficiency of individuals (5). It seems that lack of familiarity of many students with the university environment at the time of admission, separation and distance from the family, lack of interest in the field of study, incompatibility with other people in the living environment and lack of amenities and economic conditions are among the conditions that can cause mental illness and loss of performance (6) and affect their mental health (7). According to most experts, drug treatments often have adverse side effects, and as a result, exercise can be treated as an alternative therapy in the areas of mental health, to strengthen us or provide us a guarantee in this regard. Research has shown that physical activity improves life indices, including psychological disorders, depression, fatigue, and emotional health, and has a very important role in the vitality and happiness of a person's life (8, 9). With the advent of psychology in the field of physical education and sports science, there are still many questions on how to educate people in different disciplines and to how to use the benefits of exercising in different tasks, which answering any question requires separate research related to each of these subjects (5). On the other hand, physical activity and exercise in the present conditions are accepted as indisputable necessities in different countries of the world, which are carried out in different ways. Also, sport as a social phenomenon in each period of history has characteristics that are affected by the social conditions of that period and distinguish it

from similar activities in the other periods and will also affect it. Among sports, yoga is recognized as one of the most effective sports to overcome various problems, including psychological problems (10, 11). A study by Seyed Hosseini revealed that yoga is effective in reducing oxygen consumption, carbon dioxide removal, reducing heart rate and respiratory rate, increasing skin resistance and muscular blood flow, as well as the formation of alpha and theta brain waves (11). In this regard, Stephen found that yoga training reduced catecholamines, cholesterol, acetylcholine, testosterone levels, improved stress and anxiety and depression, and generally had a positive effect on physiological and psychosomatic functions in the body (12); also de Brian *et al.* showed that the effect of yoga in reducing and treating anxiety is significant (10). Today, scientific education of yoga has various functional aspects in the lives of human societies, which can be seen in the productivity of organizations and the provision of public health, and ultimately this philosophy carries a message of nonviolence and peace (13). Basically, yoga is not a therapy, but in the last two decades, several medical and scientific studies have proven the very useful role of yoga training in treating some diseases. Yoga seems to help improve psychological conditions for controlling and managing stress, reducing anxiety and negative emotions, as well as enhancing positive emotions and mental equilibrium (14). In the same vein, considering the importance and sensitivity of the issue among the university students, the present study aimed to investigate the effect of eight weeks of yoga training on mental health of male and female university students.

Methods

In the current semi-experimental research, 60 students were randomly selected from among students of Islamic Azad University of Marvdasht by equal numbers of 30 male and 30 female students, respectively. Then, after

justifying the goals of the research and having the consent form completed, the subjects were randomly divided into two groups, considering their gender: yoga training group (n=30, 15 male and 15 female) and control group (n=30, 15 male and 15 female). The yoga training group performed yoga-selected exercises for 8 weeks, 3 sessions per week, and 90 minutes of yoga exercises each session. At the beginning and end of the protocol, students' mental health in the experimental and control groups were measured using standardized GHQ questionnaires. In this research, yoga training included 10-minute general warm-up (Pawan asana), asana exercises that included stretching, relaxing so that all the muscles come up to the pain, and contraction of the muscles for 30 minutes (by Timothy McCal), and finally pranayama program (breathing training), which was performed in a flat-backed sitting position and deep respiration with a specific and consistent rhythm and keeping breath for a short time to begin the next phase of the trainings (Attention had to be paid to the severity of the training, the pause in each of the situations, and the accuracy; each asana started at 10 seconds and considering the overloading principle, there was 60 seconds pause until the end of this step). Next, it was time for 20-minute training of meditation, which combined breathing training with proper rhythm, creating isometric contractions of big muscles, stretching and releasing, concentration, and relaxation. 10 minutes of Shawasana (relaxation) and 5 minutes of prayer (recitation of universal prayer and returning to the initial state) was put on the agenda at the end of the training program. One of the goals of yoga and this training protocol was the psychological awareness of physical condition (educating asanahas), the coordination of the levels of mental energy (pranayama), control over receptions and reactions, increasing energy and feeling of cheerfulness. The movements were also designed in symmetrical form on both sides of the body and were performed without any

pressure, rush and hurrying, and according to the capacity of the group. It should be noted that the Standardized GHQ questionnaire was developed by Gelberg and Hiller (1979), which is referred to as a screening instrument based on the self-report method, and used in clinical complexes to track those with mental and psychological problems. Also, the purpose of this instrument is not to distinguish specifically the hierarchy of mental illness, but to determine the distinction between mental illness and mental health (15). The instrument has 28 questions and four sub-scales of physical symptoms, anxiety and insomnia, social reactions, and severe depression. A total score is obtained from the sum of scores, and each sub-scale contains seven statements. Considering the statistical analysis of responses to the items, there are four sub-scales. The sub-scale (A) includes things about people's feelings about their health and their feeling fatigue, and includes somatic symptoms such as physical sensory perceptions that are synchronized with emotional stimuli. The second sub-scale (B) includes those that are related to anxiety and insomnia and the related questions are included in items 8- 14 of the questionnaire. The third subscale (C) measures the ability of individuals to cope with professional demands and daily life issues, and reveals their feelings about coping with common life situations identified by questions 15- 21. The fourth subscale (D) includes statements that are associated with severe depression and suicidal tendencies, and include the last seven items of the questionnaire. Findings of the present study were analyzed using Kolmogorov-Smirnov test, paired sample t- test and analysis of covariance ($p \leq 0.05$).

Results

In Table 1, variables of mental health dimensions by group (yoga training and control) are presented. Descriptive statistics showed that in the control group, the mean score of mental health in the pretest was 33.27

and in the post-test 30.93, which did not show a high change. On the other hand, in the experimental group, the mean score of mental health in the pretest was 40.44 and in the posttest was 16.25, which indicates a mean decrease of 24.19 in the mental health of individuals, that is very high. The results of the intergroup effect test to examine the effects of group and gender on mental health showed that group ($p = 0.001$, partial eta squared = 0.58), and gender ($p = 0.03$, partial eta squared = 0.15) have significant effect on the mental health of the subjects. However, the pre-test effect did not have a significant effect on the mental health test score of the subjects ($p = 0.19$, partial eta squared = 0.06). To assess the overall score of mental health, the results showed that eight weeks of yoga training had a significant effect on the increase in the mental

health scores of male and female students ($p = 0.001$). Also, the mental health level after eight weeks of yoga training in female students was more favorable than that of male students ($p = 0.03$); eight weeks of yoga training has a significant effect on the improvement of physical symptoms of female and female students ($F = 43.73$, $p = 0.001$); eight weeks of yoga training has a significant effect on the improvement of insomnia anxiety in male and female students ($F = 26.53$, $p = 0.001$); eight weeks of yoga training has no significant effect on the improvement of social dysfunction in male and female students ($F = 0.40$, $p = 0.53$); eight weeks of yoga training has a significant effect on the improvement of the symptoms of depression in male and female students ($F = 12.05$, $p = 0.002$).

Table 1. Variables of mental health dimensions by group (yoga training and control)

Variable	Time	Gender	Group					
			Mean	SD	Number	M	SD	Number
Mental health	pre-test	Female	34.75	8.05	8	43.00	8.75	8
		Male	31.57	2.30	7	37.88	8.13	8
		Total	33.27	6.11	15	40.44	8.58	16
	Post-test	Female	25.38	6.95	8	17.50	2.83	8
		male	37.29	5.35	7	15.00	6.33	8
		Total	30.93	8.61	15	16.25	4.91	16

Table 2. Results of the intergroup effect test to examine the effects of group and gender on mental health dimensions

Variable	Factor	Sum of Squares	Mean of Squares	F	P	Partial Eta Squared
Physical symptoms	Group	303.60	303.60	43.73	0.000	0.610
	Pre test	66.29	66.29	9.55	0.004	0.254
	Error	194.39	6.94			
Insomnia anxiety	Group	208.51	208.51	26.53	0.000	0.487
	Pre test	0.28	0.28	0.04	0.851	0.001
	Error	220.06	7.86			
Social Dysfunction	Group	3.13	3.13	0.40	0.533	0.014
	Pre test	0.49	0.49	0.06	0.804	0.002
	Error	219.84	7.85			
Difference in scores of depression symptoms	Group	227.85	227.85	12.05	0.002	0.294
	Error	548.15	18.90			

Discussion

The results of this study showed that eight-weeks of yoga training has a significant effect on students' mental health. These findings are consistent with the findings of Kosari (2009) and Stephen (2017). Yoga training, due to the effect on the endorphin hormone, acts as an agent in emancipating mental stresses and strains and coping with life-threatening crises; yoga training is to training realistic thinking and avoid mentalist thinking (12, 16) Also, yoga and relaxation techniques reduce the activity of the nervous system and the sympathetic system, and alternatively, increase the activity of the parasympathetic system, and as a result of this physiological and neurological activity, heart rate and blood pressure reduce. It naturally increases the level of consciousness and the general spirits of the individuals and gives them further feeling of energy and cheerfulness to do their daily activities and leads to increased mental health (17). For this reason, in the current situation, the development of sports participation among different classes indicates the degree of systematicity and rationality governing society and means the cognitive, emotional and social development of its members. On the other hand, deprivation of the community from individual and social influences and functions of yoga training is certainly irreparable damage that affects not only the current generation, but also succeeding generations. Undoubtedly, the establishment of a healthy and vibrant community depends on the physical and mental health of the members of the community, and is due to the effort of healthy, efficient and caring human forces. Apart from the problems and constraints of the society regarding women's (lack of) participation in social affairs, environmental stresses and the sensitivity of this group to the events around them seem to be among the factors predisposing them to emotional and psychological problems. It is believed that the relationship between gender and health status is different, although it seems that most girls

due to more restrictions in the pre-university phase, after separation from their families and admission to the university are less affected by stressful factors. The findings of this study showed that the level of mental health following eight weeks of yoga training in female students is more favorable than that of male students; these results are inconsistent with the results of Sadeghian (2008) and Tabrizzadeh (2012) (18, 19). In justifying this finding, it can be stated that adaptation to the environment over time, familiarity with other students, and the filling the family gap can reduce some of the pressures and increase the level of mental health during the period of study (20). It also seems that the physical fitness index of athletes in different sport fields can be different and the reason for the significant difference of these indices is due to exercise activities. Since yoga athletes who were surveyed in this study were more involved in aerobic activities and the most energy sources used by them were aerobic systems, thus yoga athletes had a significant superiority to non-athletes in this regard. It should be noted that improvement of mental health in yoga training group was in different components. In this vein, the results showed that eight weeks of yoga training have a significant effect on students' physical symptoms. This finding is consistent with the findings of Rezaei Kajal (2016) and Kelly *et al.* (2015) (20, 21). In 2016, Rezaei Kajal in a research entitled "the effect of yoga training on selected factors of physical fitness in MS patients" indicated that the level of balance, flexibility and endurance of subjects improved after exercise. Yoga training should be accompanied by awareness and mental concentration so as to be effective on the functioning of internal organs and physiological factors of the body (21). If yoga can affect these factors, this effect will be achieved in the high stages of yoga, which is the same as organizing or supra-mental consciousness, and which will be achieved during long periods of training and experience;

thus the person can attain this ability in the long-term to perform gestures. It's also possible to say that yoga training, due to having deep respirations and exercises that trigger the opening of the chest and strengthen the respiratory muscles, as well as establishing overall body fitness, increases the endurance and overall strength of the body after exercise. The findings of this study showed that eight weeks of yoga training have a significant effect on students' insomnia anxiety. This finding is consistent with the results of Hasani Saadi (2016) and Thordardottir *et al.* (2014) (23, 24). It seems that yoga training, due to the psychological effects on individuals especially students, reduces students' intellectual and daily concerns and, as a result, eliminates some of the problems of insomnia, most of which are caused by mental problems and conflicts. In this vein, students can feel better and more relaxed with mental issues and tensions and experience good sleep more easily, so yoga can be considered as an appropriate and effective non-pharmacological method and a supplement to the students. Therefore, it is suggested that students should do this exercise in order to reduce anxiety and improve sleep. Also, the findings of this study showed that eight weeks of yoga training had a significant effect on students' depression symptoms. This finding is in agreement with the findings of Dimitrios *et al.* (2017) (24). In fact, yoga exercise induces endurance activity by making changes such as increasing muscle mass and plasma level, improving ventilation and lung blood supply, increasing heart rate reserve and increasing the concentration of oxidative muscle enzymes and stimulating hematopoietic agents. It also decreases students' mental and physical exhaustion, improves feeling of control, independence and self-esteem in students, improves their mental self-image, improves the ability to concentrate, and reduces fear, and reduces anxiety and depression. Besides, yoga training can make an individual feel independent, reduce peer pressure, increase and upgrade personal self-

image and optimism, reduce stress, and manage negative feelings that all of these factors seem to play a very important role in reducing the depression of students participating in yoga training.

Conclusion

According to the findings of this study, it can be concluded that eight weeks of yoga training can improve mental health of students.

Ethical issues

The study protocols and procedures had previously been approved by the Research Ethics Committee of Islamic Azad University, Marvdasht Branch.

Authors' contributions

Only one author contributed to the writing and revision of this paper.

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