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Lifestyle, Quality of Life and Physical Activity Barriers among Female Students of Kerman University of Medical Sciences, Iran

Mohammad Pourranjbar, Ph.D. [1], Abdul Hamid Zeytoonli, Ph.D. [2]

1- Assistant Professor, Department of Physical Education, School of Medicine and physiology Research Center, Kerman University of Medical Sciences, Kerman, Iran

2- Assistant Professor, Department of Sport Management, Payame Noor University (PNU), Tehran, Iran (Corresponding author; E-mail: h.zitonly@gmail.com)

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Abstract

Background: Physical activity level among women is unsatisfactory worldwide due to the increasing use of computer games, internet and some social barriers. This study aimed to investigate the lifestyle, quality of life and physical activity barriers among female students of Kerman University of Medical Sciences, Iran.

Methods: According to Morgan's table, 374 students were selected as research sample in 2017. They were provided with three questionnaires including 68 items (5-point Likert scale) to assess their physical activity barrier, quality of life and lifestyle (LSQ). Data were analyzed through SPSS 20 and using One-Sample t-test, ANOVA, Tukey and Spearman tests.

Results: All students were aware of the positive effects of physical activity on the quality of life, but their average level of participation in physical activity per week was lower than the average rate. There was a significant relationship between physical activity and quality of life ($p< 0.005$). Personal issues, development of internet and technology, advertisements, social issues, lack of facilities for physical activity, as well as financial and economic issues were respectively the most important barriers of participation in physical activities among studied students.

Conclusions: Elimination of physical activity barriers and designing health education programs in order to promote regular physical activity and increase physical self-esteem of participants are recommended. Providing more facilities and safe environments would have positive effects in improving health and quality of lifestyle in female students.

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Introduction

One of the most important determinants of health which is promotion of quality of life and physical activity is considered as a vital part of health and quality of life. Health promoting behaviors are an international approach and a major challenge for researchers (1). The most important determinants of lifestyle are proper nutrition, physical activity and exercise, self-care, spiritual well-being, social interactions and stress management.

These behaviors are some of the main determinants of health which are recognized as the underlying causes of the absence of many diseases and promotion of health. In other words, prevention of diseases is directly related to these behaviors (2). According to World Health Organization (WHO), more than 80% of the world adolescent population has insufficient physical activity. The shortage of physical activity is partly due to inactivity during leisure time and sedentary behavior at work and at home. Likewise, an increase in the use of "passive" modes of transportation also contributes to insufficient physical activity (3). The World Health Organization (WHO) has issued in 2011 recommendations for physical activity levels to promote/maintain health among adults. WHO has recommended aerobic physical activity of structured or unstructured character at moderate-intensity for 150 min, 75 min of vigorous-intensity aerobic physical activity or an equivalent combination of moderate-intensity and vigorous-intensity activity throughout the week as a means of health enhancement (4).

Nowadays, urbanization, industrialization and modern technologies development such as computer games, Internet and virtual social networks have caused increasing prevalence of physical inactivity and have changed human lifestyle and health issues (5), and almost half of the adults are at risk for coronary artery disease (CAD) because of insufficient level of physical activity (6). It has been proved that regular physical activity helps prevention and treatment of non-communicable diseases (NCDs), hypertension, overweight and obesity (7). Moreover, it can improve mental health, quality of life and also well-being (3). In addition, physical activity has been accepted as a multidimensional tool with a wide impact on the health of individuals, healthy social relationships (8), promotion of physical and psychological health, mood, expansion of social interactions (9) and positive effects on promoting quality of life (10), increasing life expectancy (11), positive social relationships (12), feeling good (13), gaining health, vitality and happiness (14) and decreasing menopausal symptoms as well as improving healthy aging (15). There is a positive relationship between physical activity scores and quality of life (QoL) levels (16). Physical activity improves general health and quality of life (17) and participation in physical activity and sport exercise has positive effects on quality of life, better self-perceived health and quality of sleep (18). Significant positive correlations were found between physical activity level and overall trait of emotional intelligence subscales of emotionality and well-being, self-control and sociability (19). Moreover, considering the importance of physical activity, the significance of regular physical activity has been well documented (20). There is an extensive evidence of relationship of physical activity with reduction of cardiovascular diseases such as hypertension (21) and improving mental health scales such as anxiety, somatic distress, social dysfunction (22), health related quality of life (23) depressive symptoms (24) and mortality rate (25).

Due to the increasing prevalence of physical inactivity, physical activity has become center of attention in recent years (6). Azizi et al (2011) found that 82 percent of Tehran University students had been highly aware of positive effects of physical activity on the body and mental health, but only a small percentage of them took part in sport activities and reported hinders for student participations as follows: being busy, dealing with other issues, laziness, and impatience (26). Mahdizadeh et al (2013) found that organizational and

managerial factors are the most important and psychological factors are the least important obstacles in physical activity development (14). Araghi et al (2014) concluded that the university students had been aware of impact of sport activities on the mental and physical health, but had not paid attention to participation in physical activity. Lack of facilities, lack of specialist and economic problems were identified as the main obstacles (27). Sit et al (2008) found that lack of time and lack of support are the most important barriers to participation in physical activity (28). Samara et al (2015) found that students were aware of the benefits of physical activity for health and well-being. Lack of facilities and lack of encouragement have been reported as important obstacles to the participation of Saudi Arabian women in sports activities (29). Ali Mohammadi et al (2018) found that the economic, media, structural, cultural and social barriers such as social networks are the most important barriers to the participation of women with physical disabilities in physical activity (30).

Despite the widely recognized benefits of physical activity, there is a diversity among global studies in terms of recommendations for the rate of physical activity (31-33) and its barriers in female college students has been sparse, especially with respect to the possible correlations with the type of residence and the rate of technology use. Considering that physical activity is an important aspect of daily life, the aim of this study was to investigate lifestyle, quality of life and physical activity barriers among female university students in Kerman University of Medical Sciences, Iran.

Materials & methods

This analytical descriptive research was conducted on female university students in Kerman University of Medical Sciences, Iran. According to Morgan's table, 374 female students from among approximately 3,000 students were randomly selected as research sample in 2017. They were provided with three questionnaires (58 items with 5-point Likert scale) to assess their physical activity level, quality of life (34) and lifestyle (LSQ) (35). Physical activity level was assessed by using International Physical Activity Questionnaire (36). Quality of Life (QoL) was assessed by using the brief version of the quality of life questionnaire including 26 items (34). Content validity of the questionnaire was confirmed by 8 experts of physical education field. In order to determine the reliability of the final version of this questionnaire, it was distributed among 50 female university students, and reliability of the questionnaire was obtained by the use of test- retest and Cronbach's alpha. The factors of the scale had a good internal consistency (range of Cronbach's alpha = 0.77 to 0.85 and test-retest correlation coefficients were 0.71 to 0.79). In this study, data analysis was performed through SPSS20 software package. The Kolmogorov- Smirnov test was used for determining normal distributions of variables, One-Sample t-test, ANOVA and Tukey test were used to compare the difference in physical activity and lifestyle levels based on the students' type of residence, and Spearman correlation test was used to determine the relationship between the physical activity and quality of life.

Results

According to the obtained results, 96.5 percent of students participating in the research were single and 3.5 percent were married. Mean age of students was 22.4 years. In term of residency, 18.4 percent of students lived at home with their family members, 64.9 percent were in dormitories and 16.7 percent lived at rental houses. The results showed that 17.3 percent of students had no participation in physical activity, 35.9% participated in physical activity just one session per week, 30.5% just two sessions per week and 16.3% participated three or more times per week.

Table 1. Life style status of female students' participated in the study

Life style status	N	Min	Max	M	SD	t	P
Awareness of the benefits of PA	374	3	5	4.43	0.63	43.76	0.000
Participation in PA	372	1	3	2.17	0.75	8.94	0.001
Weight and Nutrition	371	1	5	2.70	0.66	-5.30	0.013
Psychological aspects and attitude	368	2	5	3.06	0.72	22.81	0.000
Stress and tension	372	1	5	2.63	0.67	6.38	0.005
interpersonal and social relationships	370	2	5	3.34	0.63	25.71	0.000
Using Internet and social networks	372	1	4	2.43	0. 66	-30.74	0.000
sleep and rest	374	1	4	2.61	0.68	-29.41	0.001
Disease prevention and individual health	370	2	5	3.63	0.53	8.31	0.000
Social health	373	2	5	3.24	0.74	19.51	0.000
smoking, alcohol and drugs consumption	366	2	5	3.78	0.71	18.65	0.000

N : Sample size, M: Mean, SD: Standard deviation, PA: physical activity

As it is shown in table 1, the results of the life style status indicate that all students were aware of the positive benefits of physical activity, but their participation in physical activity, manage the weight and nutrition, stress, using internet, sleep and rest were lower than the average rate.

Table 2. The relationship between physical activity and quality of lifestyle

PA level	Quality of lifestyle	Physical Health	Psychological Health	Social Relationships	Environment
High	**Correlation Coefficient**	0.317**	0.235**	0.479**	0.275**
	P value	0.000	0.003	0.000	0.005
	N	374	374	374	374
Moderate	**Correlation Coefficient**	0.266*	0.213*	0.287*	0.195*
	P value	0.035	0.043	0.017	0.025
	N	374	374	374	374
Low	**Correlation Coefficient**	0.185	0.178	0.207*	0.153
	P value	0.512	0.680	0.036	0.710
	N	374	374	374	374

*:P<0.005 and **:p<0.001 (Spearman correlation test)

As it is seen in table 2, both severe and moderate activities had significant relationships with physical and psychological health, social relationships and environment (p< 0.005 and p<0.001, respectively), while, low activity had a significant relationship just with social relationships (p<0.005).

Table 3. Results of analysis of variance for the effect of type of residence on physical activity level

		Sum of Squares	df	Mean Square	F	Sig.
Physical activities	**Between Groups**	7.221	2	3.610	11.007	0.000
	Within Groups	121.688	371	0.328		
	Total	128.909	373			

Table 4. Results of Tukey's post hoc test for residence and physical activity level

Dependent Variable			Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Physical activities	**Home**	Dormitory	0.105-	0.304	0.271-	0.062
		Rental	0.252	0.010	0.049	0.455
	Dormitory	Rental	0.357	0.000	0.178	0.535

As it is shown in table 3, place of residence had a significant effect on physical activity level (F = 11.007; P <0.001). The results of the Tukey test indicate that the level of participation of students in physical activities at dormitories and houses are more than that in the students living in rental houses (table 4).

Table 5. The Results of analysis of variance for the effect of place of residence on lifestyle

		Sum of Squares	df	Mean Square	F	Sig.
Weight control and Nutrition	**Between Groups**	34.705	2	17.352	49.860	0.000
	Within Groups	129.116	371	0.348		
	Total	163.821	373			
Psychological and attitude Management	**Between Groups**	4.511	2	2.256	4.308	0.014
	Within Groups	194.251	371	0.524		
	Total	198.762	373			
Managing stress and tension	**Between Groups**	6.171	2	3.085	7.028	0.001
	Within Groups	162.877	371	0.439		
	Total	169.048	373			
Managing interpersonal and social relationships	**Between Groups**	3.011	2	1.506	3.951	0.020
	Within Groups	141.363	371	0.381		
	Total	144.374	373			
Managing the use of the Internet and social networks	**Between Groups**	8.675	2	4.338	10.173	0.000
	Within Groups	158.194	371	0.426		
	Total	166.869	373			
Managing sleep and rest	**Between Groups**	15.861	2	7.930	18.377	0.000
	Within Groups	160.097	371	0.432		
	Total	175.957	373			
Disease Prevention and Individual Health	**Between Groups**	5.734	2	2.867	10.346	0.000
	Within Groups	102.811	371	0.277		
	Total	108.545	373			
Social Health Management	**Between Groups**	12.926	2	6.463	12.332	0.000
	Within Groups	194.443	371	0.524		
	Total	207.369	373			
Avoiding drugs and Alcohol	**Between Groups**	20.886	2	10.443	22.757	0.000
	Within Groups	170.248	371	0.459		
	Total	191.134	373			

Table 6. The results of Tukey's post hoc test for the role of the place of residence in lifestyle

Dependent Variable			Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Weight control and Nutrition	**Home**	Dormitory	0.515	0.0001	0.335	0.695
		Rental	0.869	0.0001	0.635	1.103
	Dormitory	Rental	0.354	0.0001	0.154	0.553
Psychological and attitude Management	**Home**	Dormitory	0.204	0.073	-0.013	0.422
		Rental	0.033-	0.986	-0.289	0.223
	Dormitory	Rental	0.237-	0.035	-0.461	-0.012
Managing stress and tension	**Home**	Dormitory	0.163	0.116	-0.030	0.356
		Rental	0.374	0.001	0.139	0.609
	Dormitory	Rental	0.211	0.044	0.004	0.418
Managing interpersonal and social relationships	**Home**	Dormitory	0.102	0.376	-0.078	0.282
		Rental	0.125-	0.375	-0.343	0.094
	Dormitory	Rental	0.227-	0.016	-0.419	-0.034
Managing the use of Internet and social networks	**Home**	Dormitory	0.332	0.0001	0.145	0.518
		Rental	0.375	0.001	0.139	0.611
	Dormitory	Rental	0.043	0.949	-0.173	0.260
Managing sleep and rest	**Home**	Dormitory	0.423	0.0001	0.229	0.618
		Rental	0.539	0.0001	0.294	0.784
	Dormitory	Rental	0.116	0.487	-0.101	0.332
Disease Prevention and Individual Health	**Home**	Dormitory	0.296	0.0001	0.143	0.449
		Rental	0.212	0.022	0.025	0.398
	Dormitory	Rental	0.084-	0.451	-0.249	0.080
Social Health Management	**Home**	Dormitory	0.439-	0.0001	-0.657	-0.221
		Rental	0.218-	0.080	-0.454	0.018
	Dormitory	Rental	0.221	0.035	0.012	0.430
Avoiding drugs and Alcohol	**Home**	Dormitory	0.138	0.169	-0.038	0.313
		Rental	0.651	0.0001	0.386	0.915
	Dormitory	Rental	0.513	0.0001	0.258	0.768

*: significant ($p < 0.05$)

Table 7. The priority of barriers of physical activity based on Friedman's test

Barriers	M	M Rank	df	P
Personal barriers	3/70	1	5	0/001
Internet and technology use	3/56	2		
Advertisements	3/48	3		
Social barriers	3/41	4		
Facilities and physical environment-related barriers	3/34	5		
Financial and economic barriers	3/23	6		

According to the findings of this study, important barriers of participating in physical activities among female university students were respectively lack of time and lack of extra energy due to the load of study (personal barriers), students' preference for using internet and social networks, because of their lower cost and easier access compared to the physical activity facilities and popularity of the use of mobile and internet (technologic barriers), lack of proper planning for the management of time, and budget (management barriers), lack of efficient policies in university and social media to encourage students (social barriers), absence of sport places and facilities for women in their residential areas (environment barriers), lack of financial independence, and high cost of clubs/gym (financial barriers).

Discussion

The findings of this study showed that all students were aware of the positive benefits of physical activity on quality of lifestyle and mental health, but their participation, frequency and devotion in sports and physical activity per week was lower than the average rate. Overall, 17.3 percent of students did not have physical activities and 35.9% of the students participated in physical activities just one session per week. In Najafipour et al (2016) study on Kerman adult population, low physical activity was a widespread phenomenon and 42.1% of adult population had low physical activity, physical activity decreased after the age of 15 and higher education had no positive association with physical activity (6). In a study carried out by Bergman et al on 1470 Swedish males and females, the prevalence of low physical activity has been reported to be 37.1% (5). In another study by Hallal et al. on 3128 individuals over 20 years of age in Brazil, the prevalence of low physical activity was 41.1% (5). In another study in Tehran, the prevalence of low physical activity was estimated as 69.8% (5).

We found out that place of residence has a significant effect on the levels of physical activities. The results of Tukey test indicated that the level of participation of students in physical activities at dormitory and home are more than those living in rental houses. Also, there is a significant relationship between sever and moderate levels of activity with physical, psychological and social health. Most studies show a positive effect of sport activity on subjective well-being in terms of happiness and life satisfaction (14, 17). Güner Çiçek et al found a positive relationship between physical activity and quality of life. This relationship varied according to the gender and PA level. In their study, students of physical education had a higher

level of PA and QoL scores (16). There is an extensive evidence of relationship of physical activity with reduction of cardiovascular diseases such as hypertension (21) and improving mental health scales such as anxiety, somatic distress, social dysfunction (22), health related quality of life (23) depressive symptoms (24) and mortality rate (25).

However, in our study, important barriers of participating in physical activities among female university students were respectively lack of time and lack of extra energy due to the load of study (personal barriers), students' preference for using internet and social networks, because of their lower cost and easier access compared to the physical activity facilities and popularity of the use of mobile and internet (technologic barriers), lack of proper planning for the management of time, and budget (management barriers), lack of efficient policies in university and social media for encouraging students (social barriers), absence of sport places and facilities for women in their residential areas (environment barriers), lack of financial independence, and high cost of clubs/gym (financial barriers). In previous studies, different barriers for participation in physical activity have been reported. Some of them are being busy, dealing with other issues, laziness, and impatience in Azizi et al study (26), lack of facilities, lack of specialist coaches and economic problems in Araghi et al study (27), lack of time and physical environmental barriers in Dashti et al (31), lack of time and support from family or friends in Sit et al study (28) and lack of facilities and lack of encouragement in Samara et al study (29).

Conclusion

In conclusion, the findings of this study showed that, although medical sciences students are aware of positive effects of physical activity, their participation in physical activity was lower than the average level. The participation level in students living at dormitory and home was more than those in rental houses. Elimination of physical activity barriers and performing health education programs along with providing more facilities and safe environments would have a positive effect on improving health and quality of lifestyle in female students. It is suggested that The Ministry of Sports and Youth, The Ministry of Health and Medical Education and other executive organizations involved in sports show close cooperation in implementing public sport programs to facilitate participation of general public in physical activities through development of attractive recreational sport venues and facilities with low cost and easy access at residential areas, dormitories of universities, parks, mosques, schools and commercial places.

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