

# Physical Activity; Knowledge, Attitudes, and Practices of Students Living in Semnan University of Medical Sciences Dormitories in Semnan, Iran

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## Abstract

**Introduction:** Physical activity (PA) plays an important role in health promotion as well as disease prevention, especially among young adults. The aim of this study was to determine the knowledge, attitudes, and practices towards PA among medical sciences students living in university dormitories in Semnan, Iran.

**Methods:** In a cross-sectional study, 421 students living in the dormitories of Semnan University of Medical Sciences, Semnan, Iran, were randomly included to the study. Students' knowledge of physical activity (KPA), attitudes of physical activity (APA), and practices of physical activity (PPA) were investigated using a targeted questioner. The obtained data were analyzed using SPSS 22.0 at the significance level of 0.05.

**Results:** Participants included 165 (39.2%) male and 256 (60.85%) female students with the mean age of  $21.05 \pm 2.7$  years. The mean scores of KPA, APA and PPA were  $48.74 \pm 16.01$ ,  $58.91 \pm 9.02$ , and  $232.5 \pm 334.42$  minutes per week, respectively. Students' APA had a significant correlation with age ( $P$  value = 0.007,  $r = 0.70$ ) and there was a significant difference ( $P$  value = 0.008), between recorded APA from the male group ( $57.40 \pm 10.01$ ) compared to the female group ( $59.88 \pm 8.20$ ), whereas no statistically significant correlation was seen between other variables in the study ( $P > 0.05$ ).

**Conclusions:** Most of the students had moderate KPA and APA and also an unfavorable PPA. More attention should be paid in improving the KPA, APA, and PPA of medical sciences students living in university dormitories.

**Keywords:** Physical Activity, Students, Dormitories, Medical Sciences

## 1. Introduction

Physical activity (PA) plays an important role in the prevention of being overweight as well as obesity in adults. Regular exercise, as a health-promoting behavior, can prevent or delay a variety of chronic diseases and premature deaths. Furthermore, regular PA and exercises can have a profoundly positive impact on ones mental health, which are associated with reduced depressive symptoms and anxiety, increased marital satisfaction, and improved quality of life (1-3).

Physical inactivity can double the risk of developing cardiovascular diseases, type 2 diabetes, as well as obesity (4, 5). Today, a majority of the urban population experiences physical or mental illnesses and fatigue. Moreover, the level of physical inactivity is also on the rise in developing and developed countries (3, 6). According to the research findings released by World Health Organiza-

tion, physical inactivity is the fourth leading risk factor for deaths worldwide causing an estimated 2 million deaths annually. According to the statistics reported by this organization, it is estimated that about 1,240,000 deaths and 1,243,000 potential years of life lost are the consequences of physical inactivity in the Eastern Mediterranean regions (4). PA was considered in some studies (7, 8).

Regular exercises (30 minutes a day and 3 times a week) is a proven way to reduce cholesterol and it also raises high-density lipoprotein (HDL) and lowers low-density lipoprotein (LDL), and improves the overall health (6, 9). Several factors contribute to avoid doing physical activities in young adult and also students. Some of these factors include lack of adequate time, lack of motivation, insufficient support and counseling, limited access to PA services, and neglect of the benefits of PA (10).

Previous studies have reported that the feeling of pleasure during exercise, stress, and overall levels of tension re-

lief are the main cause of leaning students towards physical and sport activities. In female students, lack of adequate time is the main factor that avoids them from participating in PA, while in male students, the main barrier to PA is a lower priority compared to other tasks and activities (11, 12).

Physical inactivity is a critical public health issue in the society, particularly among young people and students, which it can lead to many high-risk diseases during middle and old ages (5, 13, 14). In a study done by Ramezankhani et al. although the students had a good knowledge of physical activity, results showed that students had no ideal practice towards physical activity. Hanleh et al. also concluded that 38.9% of the total of young adults had no activity during their free time, especially among females. In another study done by Moeini et al. it was indicated that most of the students living on campus did not have the necessary level of physical activity (6, 15).

Therefore, as findings of previous studies that were conducted in universities, it is necessary to assess the knowledge, attitudes, and the practices of students regarding PA to improve their health. Therefore, the aim of this study was to determine the knowledge, attitudes, and the practices and their relationship with some individual and educational factors among the students living in dormitories of Semnan University of Medical Sciences.

## 2. Methods

This cross-sectional descriptive study was conducted on 421 students living in the dormitories of the University of Medical Sciences in Semnan city, Iran in 2016 (male students of "Andisheh dormitories" and female students of "Bustan" and "Golestan" dormitories). This study was approved by the ethics committee (IR.SEMUMS.REC.1395.88, Date 2016/07/13) of Semnan University of Medical Sciences. A multistage sampling method, including clustering, stratified, and random methods was used. The inclusion criteria were male and female students residing in dormitories of Semnan University of Medical Sciences for more than 2 months as well as willingness to participate in the study. All recruited students provided informed and written consent to the study. All students were asked to fill in the questionnaire. We used a targeted questionnaire, which was defined by Ramazankhani et al. (10) in order to assess the Knowledge of physical activity (KPA), attitudes of physical activity (APA), and practices of physical activity (PPA). The questionnaire consisted of 4 parts, including demographic data, knowledge (6 items), attitudes (16 items), and a checklist for the assessment of the amount of physical activities. For KPA and APA the score range was from 0 to 100 based on the participants' given answer

(lower than 33 defined as "low" and "poor" respectively, between 33 and 66 defined as "Moderate" and higher than 66 defined as "High" and "Good" respectively) and for the PPA, the time of participants' physical activity per week were recorded in minutes (lower than 150 minutes defined as "Unfavorable", between 150 - 300 minutes defined as "Favorable" and higher than 300 minutes defined as "Remarkable"). We also assessed the reliability of the questionnaire through Cronbach's alpha, which the alpha values for knowledge and attitude was 0.85 and 0.79, respectively. The content validity of the questionnaire was confirmed by the judgment of a panel of ten experts in field of sports. The collected data were analyzed by SPSS 22.0 using descriptive statistics and analytical tests (Spearman correlation, independent t-test and analysis of variance). The significance level of 0.05 was considered for data analysis.

## 3. Results

Totally, 421 students participated in the study. One hundred sixty-five (39.2%) students were male and rest (256 (60.85%)) were female. Among them, 256 participants (60.5%) had a bachelor's degree, 18 (4.3%) were master's students, and 148 (35.2%) of them were PhD students. The mean age was  $21.05 \pm 2.7$  years ( $21.09 \pm 2.9$  for males and  $20.98 \pm 2.6$  for females). The mean dormitories residence duration was  $15.1 \pm 13.14$  months ( $16.59 \pm 13.35$  months in females and  $12.79 \pm 12.50$  months in males).

The results obtained from data analysis showed that the participants' mean score of KPA was  $48.74 \pm 16.01$  ( $51.56 \pm 18.14$  in males and  $48.7 \pm 14.4$  in females) with a range of 15.38 to 92.31. Most of the students (66.3%) had a moderate KPA, and rest of them had a low (18.7%) and high-level KPA (15%) (Tables 1 - 3).

**Table 1.** Frequency of Students' KPA Score on Physical Activity<sup>a</sup>

KPA Level	Gender	
	Female (n = 256)	Male (n = 165)
Low (33 >)	46 (58.2)	30 (20)
Moderate (66 - 33)	182 (65.2)	97 (58.8)
High (> 66 - 100)	28 (44.4)	35 (21.2)
Total	48.74 $\pm$ 14.41	51.56 $\pm$ 18.14

Abbreviation: KPA, Knowledge of physical activity.

<sup>a</sup>Values are expressed as No. (%) or mean  $\pm$  SD.

Correlation between the KPA and variables of age, education level, and dormitories residence duration was not significant ( $P > 0.05$ ) and there was not a significant difference ( $P > 0.05$ ) between recorded KPA and gender (Tables 4 and 5).

**Table 2.** Frequency of Students' APA Score on Physical Activity<sup>a</sup>

APA Score	Gender	
	Female (n = 256)	Male (n = 165)
Poor (33 >)	0	0
Moderate (33 - 66)	202 (78.9)	135 (81.8)
Good (> 66 - 100)	54 (21.1)	30 (18.2)
<b>Total</b>	<b>59.88 ± 8.20</b>	<b>57.40 ± 10.01</b>

Abbreviation: APA, Attitude of physical activity.

<sup>a</sup>Values are expressed as No. (%) or mean ± SD.

**Table 3.** Frequency of Students' PA Per Week<sup>a</sup>

Time of Physical Activity, min	Gender	
	Female (n = 256)	Male (n = 165)
Unfavorable (< 150)	136 (53.1)	76 (46.1)
Favorable (150 - 300)	63 (24.6)	40 (24.2)
Remarkable (> 300)	53 (22.3)	49 (29.7)
<b>Total</b>	<b>218.35 ± 345.07</b>	<b>254.46 ± 316.96</b>

<sup>a</sup>Values are expressed as No. (%) or mean ± SD.

The mean score of students' APA was  $58.91 \pm 9.02$  ( $57.40 \pm 10.01$  for males and  $59.88 \pm 8.20$  for females) in range of 34.38 to 93.75. Among the students, 20% of them had a good APA, 80% moderate APA, and no poor APA was reported by the students.

Students' APA had a significant correlation with age ( $P$  value = 0.007,  $r = 0.70$ ) and there was significant difference ( $P$  value = 0.008), between recorded APA from the male group ( $57.40 \pm 10.01$ ) compared to the female group ( $59.88 \pm 8.20$ ) whereas no statistically significant correlation was seen between the other variables in the study ( $P > 0.05$ ) (Tables 4 and 5).

Findings showed that the mean score of students' PA was  $232.5 \pm 334.42$  minutes per week ( $254.46 \pm 316.96$  minutes per week in males and  $218.35 \pm 345.07$  minutes per week in females) in range of 0 to 2,790 minutes per week. The amount of PA was in 50.4% of students unfavorable, 24.5% favorable, and 25.2% remarkable. Therefore, the majority of the subjects reported an unfavorable amount of physical activity. Also, 134 students (31.8%) reported that they did not have any physical activity.

Students' PPA had no significant relationship with age, gender, education level, and dormitories residence duration ( $P > 0.05$ ) Tables 4 and 5.

#### 4. Discussion

The findings of our study revealed that most of the students had a moderate level of KPA, APA, and also an unfavorable amount of PPA. It was also shown that there was only a significant relationship between the APA and student's gender and age. Furthermore, the score of students' KPA was within a moderate level, which may be due to availability of information resources for students. In similar studies performed by Ahmadi Tabatabaei et al. (16) and Tavassoli et al. (17), students' KPA has been reported at a low level, which suggests an inadequate KPA of the students and were contrary to our finding. However, the results of the present study was in line with studies carried out by Ramezankhani et al. (10) and Mozafari et al. (12), in which students' KPA were at a moderate to good level.

In the current study, the mean score of APA was at a moderate level. This value was more in female participants, which had a statistically significant difference between the 2 genders in term of APA. This finding was consistent with studies performed by Mozafari et al. (12) and Sanaee Nasab et al. (18), however, opposite to that shown by Moeini et al. (6), in which most of students reported a good APA, the students authenticated that regular PA results in health and fitness, and can greatly improve their social skills.

Student's PPA per week in male and female students was not significantly different, however, a higher level of PAs among the male students than females was observed. This finding is consistent with Mozafari et al. study (12). This can be concluded that the students participating in professional sports were more in males compared to females, which may be due to the higher availability of services and facilities, and the higher levels of interest in doing exercises and group sports such as soccer and volleyball in the male students. Other possible reasons can be referred to more freedom and more frequently access to sports facilities. Haenle et al. (15) showed that 38.9% of young adults did not perform any form of physical activities in their free time while physical inactivity was seen in 31.8% of the students in the present study. Also, in the study done by Haenle et al. men and women had same levels of physical inactivity, while levels of PA in women were less than men, which is similar to our finding.

In various studies, PA has been reported in 11% to 24% of adults living in different regions (4), while, physical inactivity was observed in 31.8% of subjects, which this difference may be due to including the university students who spend less time exercising due to their involvement in education. This level of PA seems to be low in comparison with the general population who have different jobs, more equipment and facilities, and a higher motivation for exer-

**Table 4.** Relationship Between the Students' KPA, APA and PPA with Age, Education Level and Dormitories Residence Duration

	KPA		APA		PPA	
	r	P Value <sup>a</sup>	r	P Value <sup>a</sup>	r	P Value <sup>a</sup>
Age	-0.024	0.628	0.70	0.007	-0.068	0.162
Education level	0.017	0.731	-0.021	0.675	-0.019	0.703
dormitories residence duration	0.039	0.421	0.08	1.00	-0.005	0.922

Abbreviations: KPA, Knowledge of physical activity; APA, Attitude of physical activity; PPA, Practice of physical activity.

<sup>a</sup>Spearman correlation test.

**Table 5.** Comparing the Students' KPA, APA and PPA Scores by Gender

	Gender		CI	P Value <sup>a</sup>
	Male	Female		
KPA score	51.56 ± 18.4	48.74 ± 14.41	-6.12 - 0.47	0.09
APA score	57.40 ± 10.01	59.88 ± 8.20	0.64 - 4.31	0.008
PPA score	254.46 ± 316.96	218.35 ± 345.07	-101.72 - 29.50	0.280

Abbreviations: KPA, Knowledge of physical activity; APA, Attitude of physical activity; PPA, Practice of physical activity.

<sup>a</sup>Independent T-test.

cising. Additionally, in the current study, the amount of PA below 2.5 hours per week was seen in 31% to 51%, while has been pointed to 41% in the global average (4).

Overall, it can be concluded that the students' level of KPA and APA were significantly low in this study. Furthermore, due to the vital role of regular PA in human health, it is required to identify the barriers to exercise, and also strategies that promote exercise training and cultural habits in the society, especially among the university students, as medical and paramedical students will have the responsibility of community care and health promotion in the society in the future. Hence, further studies are required to determine the level of physical activities and providing motivational strategies to exercise in students. It seems that the following methods can improve students' overall amount of physical activities: the inclusion of regular exercise programs as required course units in curriculums, organization of various sports competitions and courses in dormitories, offering instructions and information through educational classes, and providing appropriate facilities with occasion locations for doing physical activities, especially for female students living in dormitories.

#### 4.1. Limitations

Given that, PA is influenced by availability of exercise services, facilities and physical environment, and appropriate conditions for regular exercise are different in various universities, thus, caution needs to be taken when in-

terpreting and generalizing our findings to other universities.

#### 4.2. Conclusions

The results of the current study indicated that most of the students had moderate KPA and APA and also unfavorable PPA. Due to the fact that medical students would be the future health authorities of the country, more attention should be paid to improve the KPA, APA, and PPA of medical sciences students living in university dormitories.

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