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**ORIGINAL ARTICLE**

# Comparison of Physical Activity Among Private and Public Undergraduates Medical Students

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## ABSTRACT

Medical students and other health care professionals have substantial knowledge of the benefits of regular physical activity. Furthermore, as they have an ethical obligation to prescribe suitable exercises, they can influence their patients' attitude toward physical activity and can become role models for their patients. Study design is cross-sectional. The questionnaire of research was distributed among 200 private medical students and 200 public medical students from different medical. Non Probability Convenience Sampling Technique was adopted to select the study population. International Physical Activity Questionnaire (IPAQ) (10) was developed which consists of different questions about their routine physical activities. Data was recorded anonymously, and we respected the confidentiality of the respondents. In our basic study there were a total of 400 medical. The study subjects included 26 % males and 74 % females in private sector and 19 % males and 81 % females in public sector. 29.5 % population belonged to 1st professional year and 70.5 % senior years in private sector whereas in public sector 69.5 % population belonged to 1st professional years and 30.5 % in senior years. The mean age of students is 21.9. And results obtained were not significant statistically and there was a lack in physical activity of both sectors almost on a par. The corresponding comparison of knowledge, attitude and practices of medical students between private and public sectors suggests that adequate knowledge about physical activity is not sufficient. There were a large number of medical students of both sectors who, despite being aware of benefits of physical activity, did not meet the recommended level of physical activity the reason as to why the results obtained were not significant statistically.

**Keywords:** medical,physical,undergraduates,activity

## INTRODUCTION

Physical activity according to WHO is defined as any bodily movement produced by skeletal muscles that results in energy expenditure including activities undertaken while working, carrying out household chores, in the form of exercise, sports or other activities. (1)

Discerning its benefits, regular and adequate levels of physical activity improve muscular and cardiorespiratory fitness, bone health, reduces the risk of hypertension, coronary heart disease, stroke, diabetes, various types of cancers (including breast and colon), depression and these are crucially fundamental to energy balance and weight control.

WHO imperatively recommends that adults aged 18-64yrs should do at least 150mins of moderate intensity physical activity throughout the week or do at least 75mins of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate-and vigorous-intensity activity. (1)

Although student behavior is regarded as a transient aspect of college life, bad habits developed at this level typically carry over into adulthood.

College is an essential stage in a human's body since behaviors are more likely to shift during this time. As a result, college and university environments present a significant opportunity for nutrition and health instruction.

Sakamaki et alstudy .'s on Chinese college students found that only a small percentage of them (7%) used the idea of a healthy diet while choosing meals. But the majority (51%) expressed a willingness to find out more about a healthy diet. (2)

Our study aims to compare the physical behaviors of medical students from the private and public sectors with reference to a healthy lifestyle. Additionally, the stress and time constraints that people experience during college life makes it challenging for them to acquire good habits. The main hindrance to unhealthy eating and activity behaviors in a poll of university students' habits and actual hurdles to leading healthier lives was a lack of time (36%). (4)

A medical student of today is a future physician/surgeon making it critically important for them to have a progressive healthy lifestyle for not only his/her own health and also to preach this vital element to their whole community.

Additionally, the stress and time constraints that many experience during college life makes it challenging for them to acquire good habits. The main hindrance to unhealthy eating and activity behaviors in a poll of college students' habits and perceived hurdles to leading healthy lifestyles was "insufficient time" (36%). (9)

## METHEDOLOGY

A cross-sectional sampling technique was utilized in the design of this study. The study was conducted at the 2 private and 2 public medical colleges of Lahore, Punjab. 400 questionnaires were distributed among which 200 were private medical students and 200 public medical students from different medical colleges, to compare the varying levels of physical activity among the students. Nonprobability convenience sampling technique was adopted to select the study population.

International Physical Activity Questionnaire (IPAQ) (10) was developed which consists of different questions about their routine physical activities. Questions related to weather a student engaged in activities such as sports, crafts, walking and if so for how long.

The study was conducted over 3 months, from May to July 2019. Data was collected anonymously for the confidentiality of the respondents and to remove bias when analysing the results.

## RESULTS

The study subjects included 26 % males and 74 % females in private sector and 19 % males and 81% females in public sector. In our study 29.5 % of the population belonged to 1st professional year and 70.5 % senior years in private sector whereas in public sector 69.5 % population belonged to 1st professional year and 30.5 % in senior years. The mean age of students is 21.9.

29.5 % students of private sector preferred junk food while 70.5 % preferred homemade, while in public sector only 15.5 % preferred junk food and 84.5 % preferred homemade as shown in the table 2 below.

Table 1: n = 400

| Variable | Private n(%) | Government n(%) |
|---|---|---|
| Academic Year | | |
| 1-2yr | 59(29.5 %) | 139(69.5 %) |
| 3-5yr | 141(70.5 %) | 61(30.5 %) |
| Gender | | |
| Male | 52(26.0 %) | 38(19.0 %) |
| Female | 148(74.0 %) | 162(81.0 %) |
| Food preference | | |
| Outside | 59(29.5 %) | 31(15.5 %) |
| home | 141(70.5 %) | 169(84.5 %) |

**Reults for time to get up and go to bed:** On weekdays, in private medical college 78.5 % population woke up earlier than 7a.m while 21.5 % woke up later than 7am. In government medical college 85 % of population woke up earlier than 7 am and 15 % woke up later than 7 am. On weekends, 55.5 % of private medical students woke up earlier than 9 am and 44.5 % students woke up later than 9 am. On the other hand, 62 % government medical college students woke up earlier than 9 am. And 38 % woke up later than 9 am.

On weekdays 10 % private sector students go to bed earlier than 10pm while 90 % go to bed later than 10pm. Similarly, in public sector 10.5 % students go to bed earlier than 10pm while 89.5 % later than 10pm.On weekends 15 % private sector students go to bed earlier than 10pm and 85 % later than 10pm. On the other hand, 12 % public sector students go to bed earlier than 10pm and 88 % later than 10pm as shown in table 3.

Table 3

| Variable | Private n(%) | Government n(%) |
|---|---|---|
| On weekday (time to get up) | | |
| Earlier than 7AM | 157(78.5 %) | 170(85.0 %) |
| Later than 7AM | 43(21.5 %) | 30(15.0 %) |
| On weekday (time to go to bed) | | |
| Earlier than 10PM | 20(10.0 %) | 21(10.5 %) |
| Later than 10PM | 180(90.0 %) | 79(89.5 %) |
| On weekend (time to get up) | | |
| Earlier than 9AM | 111(55.5 %) | 124(62.0 %) |
| Later than 9AM | 89(44.5 %) | 76(38.0 %) |
| On weekend (time to go to bed) | | |
| Earlier than 10PM | 30(15.0 %) | 24(12.0 %) |
| Later than 10PM | 170(85.0 %) | 176(88.0 %) |

**Mode of transport:** For less than 1 mile, 26.55 private students used car, 67.5 % walked and 6 % used public transport. While 23.5 % public sector students used car, 72.5 % walked and 4 % used public transport.

For more than 1 mile, 74.5 % private sector students used car, 11 % walked and 14.5 % used public transport. While 68.5 % public sector students used car, 9 % walked and 23 % used public transport as shown in table 4.

Table 4

| Variable | Private n(%) | Government n(%) |
|---|---|---|
| Mode of transport (less than 1 mile) | | |
| Car | 53(26.5 %) | 47(23.5 %) |
| Walk<br>Public transport | 135(67.5 %) | 145(72.5 %) |
| | 12(6.0 %) | 8(4.0 %) |
| Mode of transport (1-2 mile) | | |
| Car | 149(74.5 %) | 136(68.0 %) |
| Walk<br>Public transport | 22(11.0 %) | 18(9.0 %) |
| | 29(14.5 %) | 46(23.0 %) |

**Use of tv/smart phones or laptops:** n weekdays before 6pm 66 % of private sector students used TV/smart phone/laptop for less than 2 hours and 34 % used for more than 2 hours. Whereas 68.5 % public sector students used for less than 2 hours and 31.5 % used for more than 2 hours. After 6 pm 38.5 % private sector students used for less than 2 hours and 61.5 % used for more than 2 hours. Whereas 56.5% public sector students used for less than 2 hours and 43.5 % used for more than 2 hours.

On weekends before 6pm 34.5 % private sector students used TV/smart phone/laptop for less than 2 hours and 65.5 % used for more than 2 hours. While 39.5 % of public sector students used them for less than 2 hours and 60.5 % used them for more than 2 hours. After 6pm 23.5 % of private sector students used them for less than 2 hours and 76.5 % used them for more than 2 hours. On the other hand, 22 % of public sector students used them for less than 2 hours and 78 % used them for more than 2 hours as shown in table 5.

**Climbing up stairs:** On weekdays 75.5 % private sector students used stairs for climbing less than 5 times a day and 24.5 % used stairs for more than 5 times a day, while 69 % used stairs less than 5 times a day and 31 % used stairs more than 5 times a day.

On weekends 71.5 % private sector students used stairs for climbing less than 5 times a day and 28.5 % used stairs more than 5 times a day. In public sector 75.5 % students used stairs less than 5 times a day and 24.5 % students used stairs more than 5 times a day as shown in table 6.

Table 6:

| Variable | Private n (%) | Government n (%) |
|---|---|---|
| Climb up stairs on weekday | | |
| Less than 5 times | 123(75.5 %) | 138(69.0 %) |
| More than 5 times | 49(24.5 %) | 62(31.0 %) |
| Climb up stairs on weekend | | |
| Less than 5 times | 143(71.5 %) | 151(75.5 %) |
| More than 5 times | 57(28.5 %) | 49(24.5 %) |

**Activities in and around home:** In private sector 89 % students indulge in food preparation for less than 3 hours and 11 % for more than 3 hours, while 91 % public sector students indulge for less than 3 hours and 9 % indulge for more than 3 hours.

In private sector 85.5 % students do shopping and browsing for less than 3 hours and 14.5 % do for more than 3 hours, while in public sector 93 % do for less than 3 hours and 7 % do for more than 3 hours.

In private sector 89.5 % medical students used to clean the house for less than 3hours and 10.5 % for more than 3 hours, while in public sector 91.55 do for less than 3 hours and 8.5 % do for more than 3 hours as shown in table 7.

**Brisk avtivities in last 12 months:** Table 8 describes the comparison of brisk activities of public and private sector students in last 12 months. The results included shows that in both private and public sector the ratio for swimming is the same.

55 % private sector students walk for pleasure for less than 3 hours per day and 45% for more than 3 hours a day, while 52.5% students of public sector do walk for less than 3 hours and 47.5 % do for more than 3 hours per day.

92 % private sector students do arts and crafts for less than 3 hours and 8% do for more than 3 hours while 96.5 % of public sector students do them for less than 3 hours and 3.5 % do them for more than 3 hours.

88.55 of private medical students do aerobic exercises for less than 3 hours and 11.5 % do aerobics for more than 3 hours while 91 % of public sector students do aerobics for less than 3 hours and 9 % do for more than 3 hours.

Table 8

| Variable | Private n (%) | Government n (%) | P value |
|---|---|---|---|
| Swimming leisurely | | | |
| Never did | 192(96.0 %) | 193(96.5 %) | 0.91 |
| Did | 8(4.0 %) | 7(3.5 %) | |
| Walking for pleasure | | | |
| Less than 3 hours | 110(55.0 %) | 105(52.5 %) | 0.70 |
| More than 3 hours | 90(45.0 %) | 95(47.5 %) | |
| Arts and craft<br>Less than 3 hours<br>More than 3 hours | 184(92.0 %)<br>16(8.0 %) | 193(96.5 %)<br>7(3.5 %) | 0.084 |
| Aerobic exercises | | | |
| Less than 3 hours<br>More than 3 hours | 177(88.5 %) | 182(91.0 %) | 0.51 |
| | 23(11.5 %) | 18(9.0 %) | |
| Exercise with weight<br>Less than 3 hours<br>More than 3 hours | 175(87.5 %)<br>25(12.5 %) | 176(88.0 %)<br>24(12.0 %) | 0.91 |
| Conditioning exercises<br>Less than 3 hours<br>More than 3 hours | 183(91.5 %)<br>17(8.5 %) | 186(93.0 %)<br>14(7.0 %) | 0.11 |

87.5 % private sector students do exercise with weights for less than 3 hours and 12.5 % do for more than 3 hours while 88 %

of public sector students do them for less than 3 hours and 12 % do them for more than 3 hours.

## DISCUSSION

Physical activity is an essential part of a healthy lifestyle; therefore, all medical students should prefer the recommended physical activity in order to maintain a healthy lifestyle. According to WHO recommendation, the physical activity for adults aged 18- 64yrs should be at least 150mins of moderate intensity physical activity throughout the week or at least 75mins of vigorous-intensity physical activity throughout the week, or an equivalent combination of moderate-and vigorous-intensity activity. (1)

This study evaluated the eating patterns and lifestyles of medical students from the private and public sectors, which represents a sizable population of potential healthcare professionals. Previous studies have shown that 77 percent of medical students in the United Arab Emirates are physically inactive and that 24% of them are overweight or obese. (7) Another study on medical students at Aga Khan University found that 33% of them had a history of CHD, 28% exercised frequently, 9% were overweight, and 8% smoked. (8)

Lack of effective time management may be related to the result that a significant number of university students regard their lifestyles to be moderately or severely stressful. This high degree of felt stress may be related to other poor lifestyle choices, such as sleep deprivation. This theory is strongly supported by students from a nearby university who demonstrated significant felt stress levels among medical students. (5)As increasingly non-medical students see lack of information as a barrier to better behaviors, short, well-organized courses on nutrition can also be offered as an addition to their core curricula.

This cross-sectional study compared two groups with similar demographics (private medical vs. public medical students). The variations in physical activity levels were one of the limitations. Although the sample size was sufficient, it turned out that this difference was not statistically significant. This difference is still insignificant, therefore it shouldn't significantly affect the comparison results. The scoring method for knowledge, attitude, and practice was self-developed, which was another drawback. (4)

The fact that half of medical students and more than 40% of nonmedical students cited "Poor time management" as the biggest obstacle to adopting a healthier lifestyle suggests that students may not be managing their time properly. This emphasizes the significance of creating interventions that target enhancing students' time management abilities. There was no discernible variation between the two categories' dietary and lifestyle patterns. Given that medical students scored higher on awareness of health concerns and their implications, it is reasonable to assume that there are some obstacles preventing them from using their knowledge. Lack of time and lack of resources were the two main obstacles that participants in this survey cited.

## RESULT

In our study there were a total of 400 medical students and questionnaires were distributed equally in both sectors i.e., 200 each. The study subjects included 26 % males and 74 % females in private sector and 19 % males and 81 % females in public sector. In our study 29.5 % population belonged to 1st professional year and 70.5 % senior years in private sector whereas in public sector 69.5 % population belonged to 1st professional years and 30.5 % in senior years. The mean age of students is 21.9. And results obtained were not significant statistically and there was a lack in physical activity of both sectors almost on a par.

## CONCLUSION

The corresponding comparison of knowledge, attitude, and practices of medical students between private and public sectors suggests that adequate knowledge about physical activity is not sufficient. There were many medical students of both sectors who, despite being aware of benefits of physical activity, did not meet the recommended level of physical activity the reason as to why the results obtained were not significant statistically.

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