

## Physical Activity Level in Medical Students of the Ziauddin University, Karachi

### ABSTRACT

#### Objective

To evaluate the physical activity level in medical students of Ziauddin university in Karachi.

#### Materials and Methods

This is a cross-sectional study. The data analysis included total 300 medical students, 60 students from each of Ziauddin College of Physical Therapy, Ziauddin College of Medicine, Ziauddin College of Nursing, Ziauddin College of Dentistry and Ziauddin College of Pharmacy of the Ziauddin University, Karachi. International Physical Activity Questionnaire (IPAQ) was used to evaluate physical activity level of the students.

#### Result

Physical therapy students achieved the highest level of physical activity, with 33% performing high level of physical activity compared to medicine (18%), pharmacy (12%), dentistry (28%) and nursing (28%).

#### Conclusion

Medical students found satisfactory results of physical activity level. But the majority of students did not meet the recommended criteria of physical activity. Therefore, medical students improve their own habits because they are well trained and qualified to promote healthy habits.

#### Keywords

IPAQ International Physical Activity Questionnaire, Physical Activity, Sports, Exercise, Vigorous Physical Activity, Moderate Physical Activity, Low Physical Activity.

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## INTRODUCTION

In today's world there are lots of problems that are related to the wellbeing of human race. As the life become luxurious, people stop thinking about physical activities. Physical inactivity is now identified as the fourth leading risk factors for global mortality<sup>1,2</sup>. World Health Organization (WHO) report that 20% – 35% of cardiovascular diseases could be prevented if more people become extra active throughout the life path<sup>3</sup>. According to WHO's worldwide survey in 2008 around 31% of adults aged 15 and over were insufficiently active (men 28% and women 34%). Approximately 3.2 million deaths each year are attributable to insufficient physical activity<sup>4</sup>. In 2009-10, 42% of patients who had a heart attack (MI), bypass surgery (CABG), or an angioplasty (PCI) took part in physical activity programs crossways England, Wales and Northern Ireland, with the aim of reducing cardiac mortality, promoting self-management and improving quality of life<sup>5</sup>. Furthermore, according to WHO one of the Reasons of declining physical activity levels is the increase use of "passive" modes of transport. Also increased urbanization has resulted in numerous environmental factors which can put off participation in physical activity such as violence, traffic, low air quality, pollution, and lack of parks, leisure facilities<sup>1</sup>. The World Health Organization warns that physical activity should not be mistaken for sport. Physical activity is any bodily movement produced by the skeletal muscles that uses energy. It includes exercise, sports activity and other activities such as playing, walking, doing household chores or gardening<sup>6</sup>. Physical activity also reduces the risk of osteoporosis and diabetes mellitus, although a lack of physical activity in the adolescent years may lead to health problems later in life.<sup>7</sup> Physical activity has been classified in three categories vigorous physical activity, moderate intensity and low intensity<sup>8</sup>. The American heart association together with WHO and the American College of Sport Medicine (ACSM) generally recommends 30 minutes of moderate-intensity physical activity 5 days per week or 20 minutes of vigorous- intensity physical activity 3 days per week for all adults<sup>9</sup>. The majority of women (88%) reported that they did not spend any time in heavy manual/gardening and more than half of women (56%) did not spend any time in sports and exercise, with a similar pattern of decreasing participation with increasing age was found with men. Around two thirds (66%) of women reported some kind of non-occupational physical activity for more than one hour per week which started to decline after 35 years of age. Both men and women reported walking and sports and exercise as the non-occupational activities with the highest number of day's participation in one month. On average men participated in non-occupational physical activity for 14 days during the one month compared to 12.2 days for women. The average number of days of physical activity participation declined with age for both men and women<sup>2</sup>. It is assumed that medical students have extensive knowledge about fitness, physical activity and its benefits. Many authors reported that there is a positive relationship between Physical activity and academic results<sup>10-12</sup>. Physical therapists, who are the most important concern practitioners<sup>13</sup>, have a vast potential to promote physical activity. Physical therapists (PTs) are dependable for promoting healthy lifestyles and health protection. PTs may team up with Physical Education teachers, occupational therapists, physicians, nurses to encourage physical activity for all students including those with disabilities and those in special education to promot fitness and healthy lifestyles and also identify hazard factors for unhealthy living and recommend fitness and physical education. But Angyan et al reported that medical students had low physical activity levels as a result of high workload and less free time<sup>14</sup>. The objectives of this study are to evaluate physical activity in medical students of Ziauddin University, Karachi.

## MATERIAL & METHOD

The study was conducted in 2013. A group of 60 students are selected by stratified random sampling from each of the Colleges of Ziauddin University (Physical Therapy, Medicine, Pharmacy, Dentistry and Nursing) was selected. Each Student participated in this study with

their own will and was also given the study outline verbally. The students enrolled in Ziauddin University, Karachi, between the age group of 18 to 30 years both the genders male and female were included in this study. The exclusion criteria of our study are those who were suffering from neurological deficits, musculoskeletal conditions, fractures, recent surgery, and cardiovascular diseases. Students with disorders in which physical activity is contraindicated were also excluded from this choice of study. The data collecting tool of our study is international physical activity questionnaire (IPAQ), it is a standardized and validated tool to assess the physical activity for monitoring and research purpose. The IPAQ short form asks about three specific types of activity that are walking, moderate-intensity and vigorous-intensity activities. The IPAQ has been used for physical activity overview in various countries and in the European Union<sup>15-17</sup>. The minimum time of 10 minutes of physical activity was required. The short version relates to physical activities performed at a high or moderate level, walking and time spend sitting.

### Procedure

Data of our study is collected by personal interview and questionnaire. 60 students were selected from each of Ziauddin College of Physical Therapy, Ziauddin College of Medicine, Ziauddin College of Nursing, Ziauddin College of Dentistry and Ziauddin College of Pharmacy.

### RESULT

Data of 300 students were analyzed in SPSS version<sup>17</sup>. All students who participated in this research were physically fit and they don't have any disease. The group comprise 60.6% (n=182) male students and 39.3% (n=118) female students. All students who are department of pharmacy, nursing and dentistry were males (n= 60) of each college respectively whereas the students from the physical therapy were 33 female and 27 were male students, those from the college of medicine were 41 male and 19 were female students. According to IPAQ scoring protocols, students were assigned to three categories low-intensity, moderate and vigorous levels of physical activity. Students who thought that they have vigorous level of physical activity must meet the following criteria that participated in vigorous level activity (1) a minimum of 3 days per week, not less than 1,500 MET-min/week (MET level was multiplied by minutes of physical activity and by events per week and the result was expressed as MET-min/week). (2) 7 or more days of any combination of walking, moderate-intensity activity, or vigorous-intensity activity, performing a minimum of 3,000 MET-min/weeks. Vigorous physical activity could be fast cycling running, swimming or moving heavy loads. Students assigned to the group with moderate level of physical activity had met the criteria (1) 3 or more days of vigorous activity for at least 20 minutes per day. (2) 5 or more days any combination of walking, moderate-intensity activity or vigorous intensity activity, performing a minimum of at least 600 MET-min/ week. Moderate activity could be brisk walking, dancing or household chores. Students who did not meet the criteria for vigorous and moderate physical activity level were considered low-intensity<sup>18</sup>. Among physical therapy students, only 5% had a low level of physical activity, 62% exhibit a moderate level of physical activity and 33% exhibit a vigorous level of physical activity. Furthermore, a low level of physical activity was observed in 30% of the medicine students, 29% of the pharmacy students, 15% of the dentistry and 18% of the nursing students respectively. The larger part of students was classified as having a moderate level of physical activity (medicine=51%, pharmacy =59%, dentistry=57% and nursing=54%). Furthermore, the largest group of students with a vigorous level of physical activity was observed in the college of physical therapy (33%) compared with the medicine (19%), pharmacy (12%), dentistry (28%) and nursing (28%).

## DISCUSSION

Being physically active every day is enjoyable and safe for most of the people. Health benefits of physical activity include improved fitness, strength and feeling better. Regular exercise is a necessary of a healthy lifestyle. Physical activity is anything that makes you move your body and burn calories such as hiking, climbing stairs or playing sports. The objective of this research was to evaluate the physical activity levels among medical students of Ziauddin University, Karachi. Here the question arises why the medical students? The answer we all know that medical students are our medical professionals in future. They have all essential knowledge about the benefits of regular physical activity and they have an ethical obligation to care of the patient healthy life. Furthermore, they can motivate their patient attitude toward physical activity and can become role models for their patient<sup>19</sup>. Promotion of physical activity and counselling about a healthy lifestyle among patients is one of the physician's tasks. Family doctors (FD) are particularly well placed for health promotion: early enquiry about patients' lifestyles and counseling concerning risk factors<sup>20</sup>. The patient's level of motivation is possibly one of the most important factors influencing counselling and changing lifestyle. The doctor's knowledge can also influence counselling<sup>20,21</sup>. A doctor's behavior is affected by his/her general attitude to the importance of preventive care<sup>21</sup>. And those who regard exercise as a highly important health contributing factor are more likely to counsel for exercise. Physical therapist who are the primary care practitioners, also have extensive knowledge about physical activity. Physical therapists are well prepared and qualified to promote physical activity, although their role is frequently underestimated by other health care professional.<sup>22-24</sup>. Furthermore in 2008 Physical Activity Guidelines for Americans, being bodily active on a regular basis improves your chances of living longer and living healthier, helps to protect you from developing any cardiac issues, relieves symptoms of depression and anxiety and Prevents weight gain, promotes weight loss (when combined with a lower-calorie diet), and helps keep weight off after weight loss<sup>25</sup>. The physical therapist students perform the highest level of physical activity compared with others medical students. Thirty three percent were performing the vigorous activity, 62% to the moderate level of physical activity and only 5% of the low level of physical activity. Therefore, it was not surprising that these students performing highest physical activity. This level of physical activity may result from superior knowledge of the need for regular physical activity because during their clinical posting or internships at hospitals or sports centers, they can prescribe suitable exercises to their patients and also encourage them to do physical activity in leisure time. If exercise and regular physical activity benefit the body, a sedentary daily life does the opposite, having chances of becoming overweight and developing a number of chronic diseases. Adult Americans reported that they get regular physical activity during their free time and about 40 percent of Americans say they get no leisure-time physical activity at all<sup>26</sup>. More recently, studies have found that people who spend more time in sitting, driving in cars and watching television have a greater chance of dying early than who people spend less time on their duffs<sup>27-29</sup>. Researchers show that sitting for hours on end may change peoples' metabolism in ways that promote cardiac problems, obesity, diabetes, and other chronic conditions<sup>28-30</sup>. it is also possible that sitting is a marker for a broader sedentary lifestyle. The future research on physical activity level using the IPAQ would enable comparison with the results of other studies. The number of students was comparatively small. The study was limited to students attending one of the largest medical universities in Karachi. Although further research on medical students of other universities, may unquestionably show lower physical activity levels in medical professionals in contrast to the healthy lifestyle of their patients.

**CONCLUSION**

The level of physical activity among most of the students from the Ziauddin University, Karachi was found satisfactory. This research also shows that there was a group of students who have extensive knowledge about benefits of physical activity but they did not meet the recommended level of physical activity and did not apply their knowledge in everyday life. Physical therapist students demonstrated the highest level of physical activity compared with other students from the same university.

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