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Study of knowledge, attitude and practices of physical activity amongst second year undergraduate medical students in a Government Medical College: A cross-sectional study

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Abstract

Background: Physical activity plays an important role in maintaining overall health and well-being. Nonetheless, undergraduate medical students' levels of physical activity may be impacted by the demanding nature of medical education. Medical students' good habits of regular physical activity may inspire future patients to lead healthy lifestyles. Thus, this study aimed to assess the knowledge, attitude, and practices of physical activity amongst second year undergraduate medical students to determine possible areas for healthy lifestyle promotion and intervention.

Methods: This cross-sectional questionnaire-based study evaluated knowledge about the importance of physical activity, attitudes towards exercise, and actual physical activity practices of second year undergraduate medical students. The data were collected through a google form and expressed in percentage.

Results: The study included 187 out of 200 second year undergraduate medical students, with (67.4%) of them being male and (32.6%) female. The results indicated that (85%) of the participants had good knowledge of the benefits of physical activity, majority had a positive attitude towards exercise, but only (44.9%) met the recommended physical activity guidelines. Additionally, regarding the principal barriers stopping students from engaging in physical activity, the most common responses were academic workload (45.5%) and lack of time (27.8%).

Conclusion: Although many undergraduate medical students are knowledgeable on the benefits of physical activity and have positive attitudes towards it, there is a noticeable gap between knowledge and practices. According to these results, medical students require targeted interventions that address the unique barriers they encounter during their rigorous academic journey in order to encourage physical exercise. Encouraging regular physical activity can benefit aspiring medical professionals' long-term health and general well-being.

Keywords: Cross Sectional Study, Medical Students, Physical Activity, Undergraduate.

Introduction

Physical activity refers to any bodily movement produced by skeletal muscles that requires energy expenditure. It included broad variety of pursuits, from regular hobbies like walking and gardening to organised fitness regimens and sports. It is vital to engage in regular physical activity to preserve general health and wellbeing.[1] A sedentary lifestyle is characterised by little to no physical activity. Usually, it entails having minimal movement or activity during the day and spending a lot of time sitting or lying down. Many people who lead sedentary lifestyles work at desk jobs, watch television, use electronics, or use long-distance transportation that requires little physical exertion. Sedentary lifestyles can have detrimental effects on one's health by raising the risk of a number of chronic illnesses, including obesity, heart disease, type 2 diabetes, and musculoskeletal problems. Thus regular physical activity should be a part of everyday routines to promote general health, and extended sitting or inactivity should be minimized.[2]

Regular exercise has been shown to aid in the management and prevention of non-communicable diseases (NCDs). In addition to maintaining a healthy body weight and preventing hypertension, it can enhance overall wellbeing, mental health, and quality of life. [1] Still, according to recent statistics from throughout the world, 81% of adolescents and 1 in 4 adults do not do enough exercise. Additionally, when economies grow, countries experience rising rates of inactivity, which can reach 70%. These factors include altered travel habits, a rise in the use of technology for both work and play, cultural norms, and a rise in sedentary behaviour. [1]

The path of obtaining a medical degree is difficult and hard, sometimes marked by extensive study sessions, elevated stress levels, and little time for leisure activities. Frequent exercise has been linked to better mood as well as a reduction in anxiety and depressive symptoms, all of which are common in medical students.[3,4] Furthermore, studies have demonstrated that physical activity might increase cognitive processing and memory retention, which may improve academic achievement.[5,6] The benefits are attributed to many mechanisms, such as enhanced cerebral blood flow, production of neurotrophic factor, and decreased oxidative stress.[7] Studies have shown that this population's inability to regularly exercise is largely due to issues including time limits, the burden of their studies, and a lack of enthusiasm.[8,9]

Thus, the purpose of studying physical activity among medical students is to understand its impact on their overall health, general well-being, and academic performance. This research can provide insights into the importance of maintaining an active lifestyle during medical education and highlight potential strategies to promote physical activity among medical students, leading to better health outcomes and enhanced productivity in their studies.

Materials and methods

An observational, descriptive, cross-sectional questionnaire-based study was conducted at the

Department of Pharmacology in a government medical college for a period of one month, from October 1st, 2023, to October 31st, 2023.The study was initiated after the approval of the study protocol by the Institutional Ethics Committee. This study was carried out among second-year undergraduate medical students in a government medical college, and those who gave consent were included in the study. Participation in the study was voluntary.

A questionnaire was prepared based on the objectives of the study and in accordance with guidelines of physical activity. [1] The questionnaire consisted of four sections; in which the relevant demographic data of study participant is recorded in section (A). Section(B), (C), (D) includes 5 Questions of knowledge, 4 Questions of attitude,7 Questions of practice respectively. The questionnaire items comprised of closed ended multiple choice questions and 'YES' 'NO' type questions.

The questionnaire was validated from subject experts. A pilot study was done to check the questionnaire validity. The questionnaire was administered to the study participants via Google Form. Link of the Google form was shared to the participants via WhatsApp. Multiple responses from a single participant were disabled. Microsoft Excel 2010 was used to import the responses that were taken out of Google Forms. Descriptive statistics such as percentage were calculated.

Results and observations

Out of total 200 second year undergraduate medical students present in the institute 187 students completed the questionnaire and the response rate was 93.5%. Among the participants, (67.4%) were male and (32.6%) were female.

Participants knowledge about physical activity

The majority of students in this study responded that any bodily movement that requires energy expenditure is defined as physical activity (79.7%) (Fig. 1).

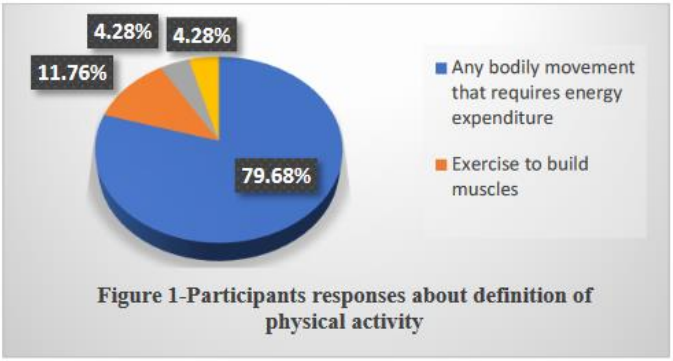

Figure 1-Participants responses about definition of physical activity

(71.7%) Students defined aerobic activity is the body's large muscles move in a rhythmic manner for a sustained period of time and the examples of aerobic activity is brisk walking, running, bicycling (61.5%) followed by yoga, meditation (21.45%) and gym, weight lifting (17.1%). (49.7%) Participants responded that the duration of moderate-intensity aerobic activity recommended per week for adults by health organisations is 60-150 minutes followed by 150-300 minutes (44.9%) and >300minutes (5.3%) (Fig.2).

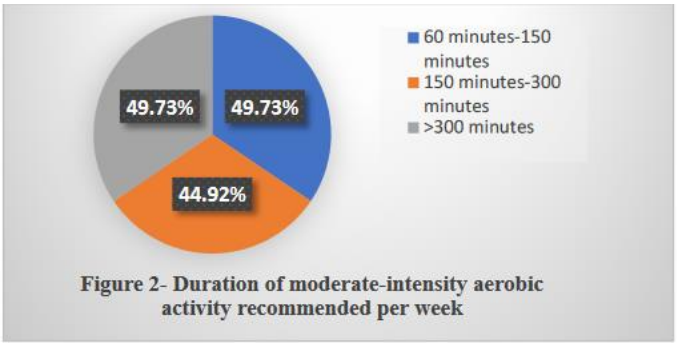

Figure 2- Duration of moderate-intensity aerobic activity recommended per week

Majority (85%) of the students responded that the health benefits of regular physical activity are all including lower risk of cardiovascular disease mortality, improved quality of life, physical activity lead to stress relief and relaxation, high intense physical activity is essential for fitness (Fig. 3)

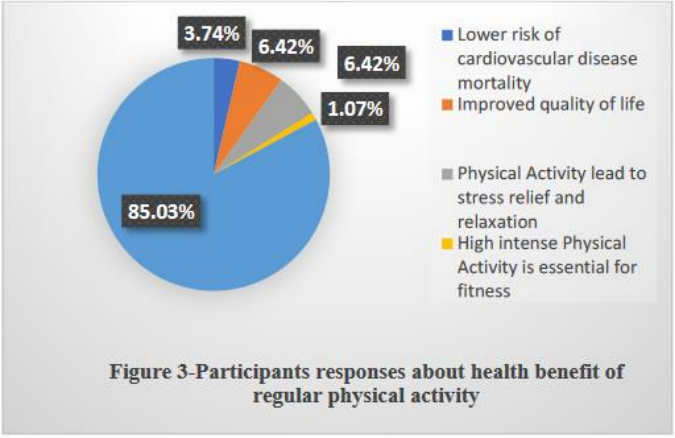

Figure 3-Participants responses about health benefit of regular physical activity

Participants attitude towards physical activity

Regarding their general health, 58.3% of students in this study reported that physical activity is very important. In contrast, around 31.2%, 6.4%, 2.6%, and 1.6% of students reported that physical activity is extremely important, somewhat important, slightly important, and not important, respectively. (54.5%) of participants responded that their primary motivation for physical activity is increasing their physical fitness. Other factors that may slightly encourage physical activity include lowering stress and anxiety (36.1%), getting recommendations from medical professionals (5.9%), and interacting with friends (2.6%). (Fig. 4).

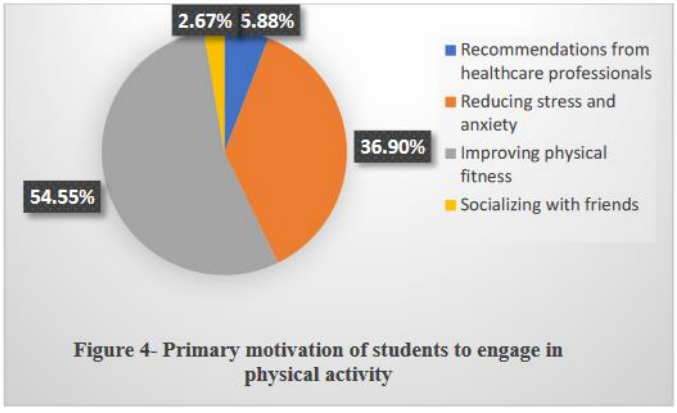

Figure 4- Primary motivation of students to engage in physical activity

Majority (92%) of the medical students believes that they should prioritize physical activity despite their busy schedules. (45.5%) Medical students are moderately confident in their ability to incorporate physical activity in their daily routine followed by (31.6%) students are very confident, (13.4%) students are somewhat confident, (7%) students are extremely confident and (2.6%) students are not at all confident in their ability to incorporate physical activity in their daily routine.

Participants practices towards physical activity.

In this study (34.2%) medical students usually prefer to do walking or jogging for maintaining physical activity followed by (33.2%) students prefer to do gym workout, (19.8%) prefers sports [e.g. basketball, soccer], (8.6%) prefers dancing, (3.7%) students would like to do some other physical activity and very few (0.5%) prefer to do cycling (Fig.5).

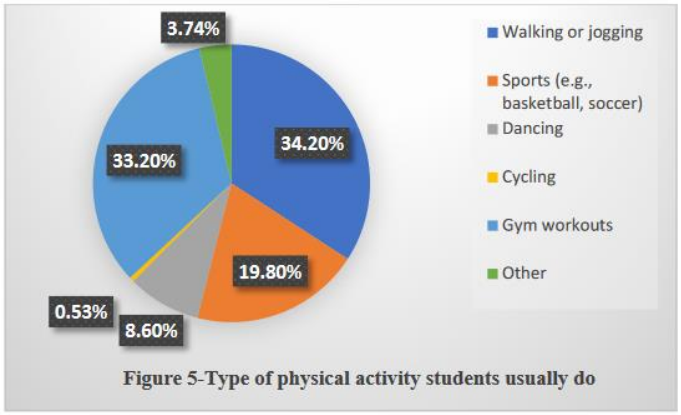

Figure 5-Type of physical activity students usually do

About 31.6% reported that they took part in different organized sports or fitness classes, while 68.4% reported that they didn't take part in any of these activities. In terms of duration, students engage in physical activity for more than one hour (24.1%), less than one hour (20.9%), more than thirty minutes (25.7%), and less than thirty minutes (29.4%). For short-distance travel, 67.9% of students prefer to walk, 18.7% prefer to use a motorcycle, 8.6% prefer to use a bicycle, and the remaining 4.8% prefer to use public transport (Fig.6).

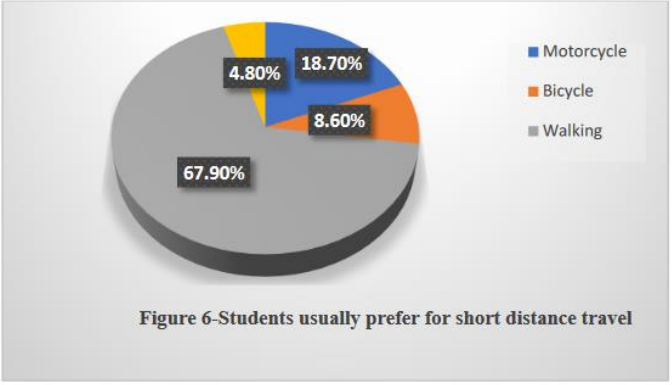

Figure 6-Students usually prefer for short distance travel

Additionally, the majority of students (78.1%) prefer to take the stairs while 21.9% prefer to utilise the elevator when ascending. In place of motorized transportation, 39.6% of students utilize active transportation methods (such as walking and cycling) occasionally, 34.2% use them sometimes, 16.6% use them frequently, and 9.6% use them rarely or never. The primary barrier for why students don't engage in physical activity more frequently, according to 45.5% of them, is their academic workload. Other reasons cited by respondents include lack of time (27.8%), motivation (15.5%), facilities (3.74%), physical health issues (4.28%), and other (3.21%) (Fig.7).

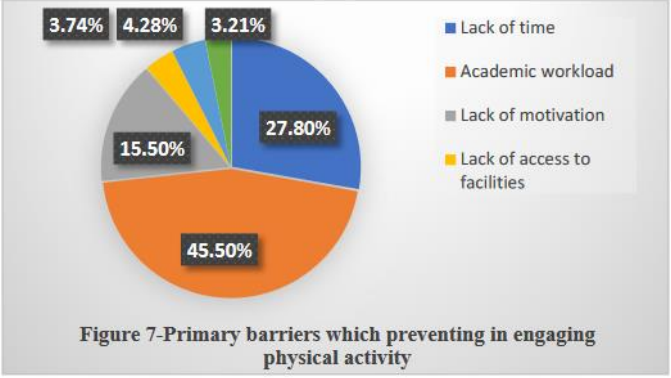

Figure 7-Primary barriers which preventing in engaging physical activity

Discussion

An observational, descriptive, cross-sectional questionnaire-based study, was carried out in the Department of Pharmacology in a government medical college. The purpose of this study is to assess knowledge, attitude and practices of physical activity amongst second year undergraduate medical students. Participants who understood the study well, demonstrated the right knowledge toward this study. The participants exhibit a positive perspective regarding the importance of physical activity (PA) for their overall health and well-being. They are aware of the fact that physical activity improves their physical health and boosts their ability to endure daily tasks.

The majority of participants in this study (79.7%) defined physical activity as any bodily movement that requires energy expenditure. This definition of physical activity is consistent with the definition provided by researchers in the Centers for Disease

Control's Behavioral Epidemiology and Evaluation Branch in Atlanta.[10] In this study, the findings revealed that (85%) of participants have good knowledge about the health benefits of physical activity, which is higher than the study carried out at Taibah University in Saudi Arabia(56%).[11] Furthermore, (49.7%) and (44.9%) of participants in this survey indicated that people should engage in 60-150 minutes and 150-300 minutes of moderate-intensity aerobic activity per week, respectively. These recommendations fall short of the Centers for Disease Control and Prevention's (CDC) recommendations.[12]

In this study there have been favorable attitudes towards physical activity. Similar results were also obtained in the Saudi Arabia where the attitude of the participants toward the physical activity was favorable.[11] Students are motivated to participate in regular physical activity because, according to 54.5% and 36.9% of them, it improves general physical fitness and lowers stress and anxiety. Compared to the study carried out in Egypt, this outcome is lower.[13]

Regarding the principal barriers stopping students from engaging in physical activity, the most common responses were academic workload (45.5%) and lack of

time (27.8%). This response is lower than the responses to the study conducted in Fiji.[14]

In this study, 29.4%, 25.7%, 24.1%, and 20.9% of students do regular physical activity for <30 mins, >30 mins,>1hr and <1 hr respectively, as compared to the study conducted in Fiji, which showed 57.6% of respondents spent <15 mins for daily physical activity. In this study 34.2% of students reported that walking is their usual form of physical activity, while 67.9% reported that they prefer to walk for short distances. This result is lower when compared with the US study.[15]

Conclusion

Physical activity is one of the most important measures of health. Even though students fulfilled the WHO's recommendations for physical activity and had adequate knowledge about it, physical activity was not attained to the intended level.

Even with these results, there are still a lot of barriers to physical activity. By removing these barriers, taking into account the suggestions of the students, promoting awareness, and encouraging regular physical activity can benefit aspiring medical professionals' long-term health and general well-being.

Limitations

One possible limitation of the KAP study on physical activity among medical students is the possibility of self-reporting bias, whereby students may have overstated their level of physical activity or knowledge.

Although the response rate was comparatively high and the study was the first to evaluate knowledge, attitude, and practices in a government medical college, the results are consolidated. However, as only second-year undergraduate medical students were included in the study, the results cannot be extrapolated to the general population due to the relatively small sample size.

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