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Is Health-Related Physical Activity Associated with Gender in Young University Students of Lahore

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Author`s Contribution

[1,5] Conception and design, Collection and assembly of data, [2-4]Analysis and interpretation of the data, Critical revision of the article for important intellectual content, Statistical expertise [1-5] Final approval and guarantor of the article.

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A B S T R A C T

Background: Physical activity is a crucial indicator of the overall health of an individual in any age group. It is important to study the young population, such as university students because of the abrupt changes that this group experiences, particularly in terms of behavior and lifestyle as they experience a transition from the tightly controlled environment of high school to independent routines in universities. This study aims to find out the trends towards physical activity in young university boys and girls.

Objective: To find out the association between the level of physical activity and gender among university students in Lahore.

Methodology: A sample of 301 university students was taken with ages ranging from 19 to 25 years of age. Excluding any systemic or traumatic cause of loss to routine physical activity, 164 male and 137 female students were included through convenience sampling technique in this cross-sectional study. Data was collected from the University of South Asia and Pakistan Society of the Rehabilitation for Disables in Lahore, Pakistan over a span of 6 months. The participants fulfilling the inclusion criteria were asked about their physical activity in the last 7 days using the International Physical Activity Questionnaire.

Results: The mean age of male participants was 22.36 +1.97 years and the mean age of female participants was 20.77±1.82 years. 64(39.0%) males and 36(26.3%) females were engaged in low levels of physical activity, 52(31.7%) males, and 68(49.6%) females in moderate levels of physical activity while 48(29.3%) males and 33(24.1%) females were involved in vigorous physical activity. The association between gender and Physical activity is significant (P value 0.005).

Conclusion: Male and female students have different levels of physical activity. The majority of males fall in low levels versus females in a moderate levels of physical activity. The level of health-related physical activity is positively associated with gender among university students.

Keywords: Exercise, Gender role, Gender Identity, Sedentary Behaviour.

Introduction

More than a quarter of individuals worldwide do not engage in the required amount of 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity physical exercise per week, with people from high-income countries being more physically inactive than adults from low- and middle-income countries.[1] Physical activity reduces the chance of developing and dying from cardiovascular and respiratory diseases, type 2 diabetes, some types of malignancies, and all-cause mortality. It also has many other positive effects over time.[2] All-cause mortality is among the health outcomes that physical exercise of any duration is related to, according to the most recent data from cross-sectional and prospective cohort studies.[3]

Sport, exercise, and leisure-time physical activity are all highly advised due to their positive effects on lung and aerobic function as well as improvements in cardiovascular endurance, muscular strength, and mucus clearance. The health-related quality of life, fatigue, and psychological well-being are all improved by physical activity.[4] University students

are found to be both highly active and highly sedentary. In contrast, they are generally perceived to be healthy and active.[5] Establishing healthy lifestyle habits during adolescence and early adulthood is crucial for maintaining exercise routines and avoiding obesity.[6] Modifiable risk factors in the case of most diseases are positively influenced by lifestyle changes such as daily regular exercises, healthy diet, physical activities, social engagement, stress management.[7]

The purpose of this study was to establish an association between the levels of physical activity and gender. The possible association can highlight the need to design and promote gender-specific physical activity need awareness and regimes. To find out the association between the level of physical activity and gender among university students of Lahore.

Methodology

. It was a cross-sectional design study. Data was collected from the University of South Asia and the Pakistan Society of the Rehabilitation for Disables in Lahore, Pakistan. The sample size was calculated by using the open-epi sample size calculator. A maximum sample size of 335 students was calculated at a 95% confidence interval.[8] 301 male and female students were selected through the convenience sampling technique. 164 (54.5%) males and 137 (45.5%) females were part of this studyInclusion criteria was, university students both male and female within the age group of 19-25 years. Exclusion criteria were; any recent trauma or injury to hamstring muscles in the last 3 months, any spinal deformity or leg length discrepancy, acute spasm of hamstring muscles, or history of any bony or soft tissue systematic disease hindering regular Physical activity. The purpose of the study and procedure was carefully explained to the subjects, and consent was obtained. University's ethics review board gave the approval to conduct this research.

International Physical Activity Questionnaire was used to estimate the physical activity levels of participants in the last 7 days.[9] The Students were approached at the end of their university lectures. After filling out the consent form, they completed the International Physical Activity Questionnaire (IPAQ) based on their physical activity in the last 7 days. The Participant having a minimum of 1500 MET-minutes/week of vigorous activity for 3 days or 3000 MET-minutes/week of combined physical activity for 7 or more days were included in the "Vigorous physical activity" category. The Participant having a minimum of 600 MET-minutes/week of combined physical activity for 5 or more days were included in the "moderate physical activity" category. The participants short-falling vigorous and moderate activity criteria were included in the "low physical activity" category.[10]

Data was entered and analyzed by SPSS software version 20. Demographic data was analyzed through mean and standard deviation and Chi-Square correlation analysis were used to measure the association between categorical variables.

Results

A total of 301 students participated in the study with 164(54.5%) males and 137 (45.5%) females. The mean age of male participants was 22.36 ±1.978 years and the mean age of female participants was 20.77 ±1.824 years.

Out of 301 participants, 64(39.0%) males and 36(26.3%) females were engaged in low levels of physical activity. 52(31.7%) males, and 68(49.6%) females in moderate levels of physical activity while 48(29.3%) males and 33(24.1%) females were involved in vigorous physical activity (Table I)

Table I: Physical Activity Level across Gender.

Gender of Participants	Level of Physical Activity	N	%
Male	Low	64	39.0
	Moderate	52	31.7
	Vigorous	48	29.3
	Total	164	100.0
Female	Low	36	26.3
	Moderate	68	49.6
	Vigorous	33	24.1
	Total	137	100.0

The Chi-square test was used to find an association between physical activity level and gender. A higher percentage of low and Vigorous physical activity was seen in males as compared to females. The association between gender and levels of Physical activity is highly significant with a $\chi 2$ value of 10.65 and the p-value was significant at 0.005. The results show a significant association between Physical activity and

Discussion

Studies examining the patterns of physical activity among university students are scarce, especially in Pakistan. It is very fascinating to study a particular population, such as university students, because of the abrupt changes that this

Table II: Association of Gender and Level of Physical Activity.

		Physical Activity Level according to MET			X2	P value
		Low N (%)	Moderate N (%)	Vigorous N (%)		
Gender of Participants	Male	64 (39.0%)	52 (31.7%)	48(29.3%)	10.653	0.005
	Female	36(26.3%)	68(49.6%)	33(24.1%)		

group experiences, particularly in terms of behavior and lifestyle as they transition from the tightly controlled environment of high school to independent routines in universities. The results of the current study showed that health-related physical activity is associated with gender in university students of Lahore, Pakistan. Female students are less involved in vigorous physical activity as compared to male students. The findings of this study are in line with another study that was also carried out on university students to find out about their active lifestyle through Self-administrated International Physical Activity Questionnaire (IPAQ). It concluded that male students are more active than female students comparatively, in physical activity. Also, the study concluded that compared to men, women engage less in vigorous activities, and the same trend is seen in the current study. But on the contrary, more females engage in a moderate level of physical activity as compared to males in the current study.[11]

The results of the current study are in partial accordance with another study that showed that male and female students both were involved in satisfactory physical activity. The objective of the study was to find out if Portuguese university students satisfy the public health standards for physical activity and to determine the impact of gender and day of the week on students' daily physical activity levels. It was an observational cross-sectional study and it concluded that on average both male and female university students perform the recommended physical activities on weekdays whereas physical activity was minimum during weekends in both genders. In contrast to the current study, the study found no difference in physical activity in association with gender. In the current study, a significant difference is seen in the physical activity levels of both genders. [12]

Another study reported that the proportion of being overweight is increasing equally in both genders across all age groups, due to a lack of physical activity as a large population of university students are not involved in active healthy physical activities. In contrast, the current study showed differences in physical activity opted by male and female students. A higher percentage of males are involved in vigorous physical activity as compared to females. The difference can be attributed to the social setup of current study to some extent. [13]

Female adults not being able to meet the guidelines for recommended daily or weekly physical activity levels were also found in another study. The results are in partial agreement with the current study. In the current study, females are less engaged in vigorous activities but more engaged in a moderate level of physical activity.[14]

Another study conducted in China showed findings in contrast to the findings of the current study. The study found no gender differences in the total physical activity of male and female participants and reported that men spend more time sitting as compared to females. In the current study, gender differences were seen in health-related physical activity, and a higher percentage of males were engaged in vigorous activities as compared to females. [15]

Conclusion

Previous literature mostly reports a higher level of physical activity in males as compared to females. In the current study, It is concluded that a higher percentage of female students perform moderate levels of physical activity as compared to males while a higher percentage of males prefer performing vigorous physical activity as well as low Physical activity as compared to female students. The level of health-related physical activity is associated with gender in university students.

Limitations and Recommendations:

Due to limitations of time and resources, the research was conducted on a limited scale. The research can be reproduced with more vigorous controls for the performance of physical tests in Biomechanical labs.

A large percentage was involved in low levels of Physical activity. Awareness regarding the benefits of Physical activity must be provided among the masses with further studies exploring the adverse effects of lack of Vigorous Physical activity and flexibility on health status.

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