

Prevalence of physical activity among university students: A cross-sectional study

K. Karthijekan^{1*}

^{1*}Department of Supplementary Health Sciences, Faculty of Health-Care Sciences, Eastern University, Sri Lanka
karthijekank@esn.ac.lk* or jeshikarathi@gmail.com

DOI: 10.29322/IJSRP.13.12.2023.p14428
<https://dx.doi.org/10.29322/IJSRP.13.12.2023.p14428>

Paper Received Date: 17th November 2023
Paper Acceptance Date: 18th December 2023
Paper Publication Date: 26th December 2023

Abstract- Physical inactivity is a major risk factor for developing cardiovascular disorders (CVDs), leading cause of morbidity and mortality worldwide. University students are more vulnerable to be physically inactive due to various reasons, such as lack of time for physical activity, academic pressure, inadequate facilities, issues with academic calendar, lack of motivation, and lack of awareness of physical activity. Therefore, assessing physical activity among this group is essential to identify their risk for developing CVDs in future. This study aimed to assess the prevalence intervention of physical activity among university students at Eastern University, Sri Lanka. A cross-sectional study was conducted between 2018 and 2019 among 336 students, including nursing and medicine at Faculty of Health-Care Sciences, Eastern University, Sri Lanka using a pretested self-administered questionnaire and ethical approval was obtained from ethics review committee, Faculty of Health-Care Sciences, Eastern University, Sri Lanka. The questionnaire was pre-tested using ten university students for its understanding and accuracy and they were excluded from the study. No major modifications were suggested. Simple random sampling method was used to select the sample from their registration information kept at the university. Data were collected from those who showed willingness to participate in the study. The participants were asked “do you exercise regularly?” and the choices given were ‘yes’ and ‘no’. If they mentioned ‘yes’, then the question focused further on the type of exercise, i.e., walking, cycling, running etc. The duration of exercise also was recorded as follows; less than 10 minutes, 10-30 minutes, and more than 30 minutes. Data were analyzed using Statistical Package for the Social Sciences version 20 based on the research objective. Descriptive analysis was used and the results were presented as percentages. Out of 336 participants, majority were female (n=205, 61%), Sinhalese (n=181, 54%), resident at hostel (n=224, 67%), medical students (n=261, 78%), and non-vegetarian (n=295, 88%). Among all participants, only 15% were engaged in regular physical activity. Of these, 66% were males while 34% were females. The types of exercise among the subjects who engaged in regular exercises were walking (52%, n=27), cycling (31%, n=16), running (2%, n=1), and exercise at a gymnasium (15%, n=8). Duration of the exercise among participants was less than 10 minutes (6%, n=3), 10-30 minutes (62%, n=32), and more than 30 minutes (33%, n=17) respectively. The physical activities among university students were inadequate. Therefore, educational programme need to be conducted among university students to raise awareness on physical activity and future research has to be focused on identifying the barriers and facilitators for engaging in adequate physical activity among university students.

Key words- Prevalence, Physical activity, University students, Sri Lanka

I. INTRODUCTION

Cardiovascular disorders (CVDs) are the leading cause of morbidity and mortality and account for 31% of deaths globally (1). Physical inactivity is one of the modifiable risk factors for developing CVDs (2). Accordingly, WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical activity refers to all movement including during leisure time, for transport to get to and from places, or as part of a person’s work. Both moderate- and vigorous-intensity physical activity improve health (3). American Heart

Association (AHA) and the American College of Cardiology Foundation (ACCF) recognized that lifestyle modification including physical activity is the class I recommendation for prevention of CVDs (4). Further, AHA and ACCF recommended physical activity for adults as moderate-intensity aerobic activity, such as brisk walking for 30 to 60 minutes, at least five days per week (4). While recommending physical activities (types and duration) to university students' physical, social, and cultural factors need to be considered. University students can select the types of physical activities based on their preferences. University students are more vulnerable to be physically inactive due to various reasons, such as lack of time for physical activity, academic pressure, not an adequate facilities, issues with academic calendars, lack of motivation, and lack of awareness regarding physical activity (5). Therefore, assessing physical activity among this group is essential to identify their risk for developing CVDs in future. This study aimed to assess the prevalence of physical activity among university students in Sri Lanka.

II. METHODS

A descriptive cross-sectional study was conducted during the period from May 2018 to May 2019, among a sample of 336 students consisting 205 females and 131 males from the students of the B.Sc. (Nursing) degree programme and of the M.B.B.S. degree programme. The study sample was selected randomly from the whole 4 batches of nursing students and the 5 batches of medicine students. Simple random sampling method was used to select the sample from their registration information kept at the university. Data were collected from those who showed willingness to participate in the study. The respondents were thoroughly informed about the study and oral consent was obtained before the data collection. Anonymity was ensured throughout the study. Data relevant to the present study included socio-demographic and physical activity. This study was approved by the Ethics Review Committee, Faculty of Health-Care Sciences, Eastern University, Sri Lanka. Information (self-reported) on regular exercises was collected using the question "do you exercise regularly?" The choices given were 'yes' and 'no'. If they mentioned 'yes', then the question focused further on the type of exercise, i.e., walking, cycling, running etc. The duration of exercise also was recorded as follows; Less than 10 minutes, 10-30 minutes, and more than 30 minutes. The questionnaire was pre-tested using ten university students for its understanding and accuracy and they were excluded from the study. No major modifications were suggested. Collected data were transferred to SPSS 16 statistical software (SPSS Inc., Chicago, IL, USA) and analyzed based on the research problem, objectives and variables. Descriptive analysis was used and the results were presented as percentages.

III. RESULTS

A total of 336 students were given their consent to participate. The respondent rate was 87.5% (n=336/384). Among the 336 participants, majority of the participants were females 61.0 % (n=205). Out of 336 participants, Most of the participants were Sinhalese (n=181, 54%) with residents at a hostel (n=224, 67%) and were non-vegetarian (n=295, 88%). Among them, the percentage of students who studied nursing and medicine was 22.3% and 77.7% respectively. While sixty percent of students consumed their regular meals from the canteen, a very low percentage (6.0%, n=20) had self-cooked meals. The majority of the students (60%) belonged to the age categories between 21-24 years. Table 1 gives the percentage distribution of participants' socio-demographic characteristics.

Out of 336 participants, only 15% were engaged in regular physical exercises. Of these a 65.4% was males while a 34.6% was females. The types of exercise among the subjects who engaged in regular exercises walking (51.8%, n=27), cycling (30.8%, n=16), running (2.0%, n=1), and exercise at a gymnasium (15.4%, n=8) were respectively. The duration of the exercises among the study subjects were found to be less than 10 minutes among 5.8% (n=3), while it was between 10-30 minutes among 61.5% (n=32). A 32.7% (n=17) reported that they engage in physical exercises more than 30 minutes at a time.

Table 1: Socio-demographic characteristics of participants

Variables (No=336)	Number (%)
Discipline	
Nursing	75 (22.3)
Medicine	261(77.7)
Gender	
Male	131(39.0)
Female	205 (61.0)
Ethnicity	
Tamils	86 (25.6)
Muslims	67 (19.9)
Sinhalese	181(53.9)
Burger	02 (0.6)
Current Resident	
Home	54 (16.0)
Hostel	224 (66.7)
Other	58 (17.3)
Meal Type	
Vegetarian	21 (6.2)
Non-Vegetarian	295 (87.8)
Ovo-vegetarian	20 (6.0)
Sources of Food	
Home	64 (19.0)
Canteen	199 (59.2)
Shop	53 (15.8)
Own made	20 (6.0)

IV. DISCUSSION

Physical activity is defined as any movement of body skeletal muscles that results in energy expenditures over the basal level. It is important for normal growth as well as development and maintenance of healthy children and adolescents. According to the American Heart Association, the two levels of physical activities should be performed by children and youths for at least 60 minutes per day. In the present study, low proportion (15%) of the students had done regular physical exercise. Among students who had done regular physical exercise, nearly two third represented by male population. In a study conducted in Hong Kong claimed that same finding (6). Physical inactivity is found in both males and females but rate of physical inactivity in female is significantly higher than males. Many studies state that gender has significant correlates of physical activity (7). In a cross sectional study conducted among medical student at university of Silesia in Poland reported that these students do not meet the recommended level of physical activity. Majority of the students had followed moderate level of physical activity (8).

The crude worldwide prevalence of physical inactivity was 21.4% and female had higher prevalence than male with 23.7% and 18.9% respectively (9). Similarly, this study also reported that male students are more physically active than female students. It reported that the level of physical activity decreases from high school to college (10). In this study, the predominant types of exercise Walking (51.8%, n=27) which accounted just above half percentages of total followed by Cycling (30.8%, n=16). The other categories were less proportion among sample. Approximately two third of the students who had done regular physical exercise used 10-30 minutes for their exercise.

Understanding why young people (do not) engage in physical activity and sedentary behavior is important for intervention efforts encouraging more active lifestyles (10).

V. CONCLUSIONS AND RECOMMENDATION

This research was conducted among 336 students including nursing and medicine to assess the prevalence of physical activity. The physical activity among university students was unsatisfactory and it had a significant association with gender. Furthermore, male students were more engaged in physical activities than female students. If university students learned healthy behaviors early in life, this would not only have favorable health outcomes at an individual level, it would also reduce the burden on health services. This study highlights the importance of self-awareness on physical activity to maintain the healthy status. Awareness programs should be carried out in the student community to promote them to engage in adequate regular physical activity and the facilities to engage in regular physical exercise have to arrange in the university premises.

VI. ACKNOWLEDGMENT

The author would like to acknowledge all participants for their valuable contribution in this research.

VII. REFERENCES

1. World Health Organization (WHO). (2017). Cardiovascular diseases: Key facts. Retrieved February 6, 2020, from [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(CVD\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(CVD))
2. Zengin, E., Bickel, C., Schnabel, R. B., Zeller, T., Lackner, K., Rupprecht, H.-J., ... Westermann, D. (2015). Risk factors of coronary artery disease in secondary prevention-Results from the atherogene - study. *PLoS ONE*, *10*(7), 1–13. <http://doi.org/10.1371/journal.pone.0131434>
3. World Health Organization (WHO). (2018). Physical activity: Key facts. Retrieved June 17, 2020, from <https://www.who.int/news-room/fact-sheets/detail/physical-activity>.
4. Smith, S. C., Benjamin, E. J., Bonow, R. O., Braun, L. T., Creager, M. A., Franklin, B. A., ... Taubert, K. A. (2011). AHA / ACCF guideline AHA / ACCF secondary prevention and risk reduction therapy for patients with coronary and other atherosclerotic vascular diseases : 2011 Update. *Circulation*, *124*, 2458–2473.
5. Samarkandi OA. Prevalence of physical activity among healthcare students in King Saud University, Riyadh, Saudi Arabia. An observational study. *Inquiry*. 2022. doi: 10.1177/00469580221100157.
6. Lee RLT, Loke AJTY. Health-promoting behaviors and psychosocial well-being of university students in Hong Kong. *Public Health Nurs [Internet]*. 1997;22(3):209–20. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15982194>
7. Salamudin N, Harun MT. Physical activity index among Malaysian youth. *Asian Soc Sci*. 2013;9 (12 SPL ISSUE):99–104.
8. Dabrowska-Galas M, Plinta R, Dabrowska J, Skrzypulec-Plinta V. Physical Activity in Students of Medical University of Silesia in Poland. *J Phys Ther*. 2012;93(3):384–92.
9. Samuel C.Dumith Pedro C. Hallala Rodrigo S.Reis Harold W.Kohl. Worldwide prevalence of physical inactivity and its association with human development index in 76 countries. *Prev Med (Baltim)*. 2011;53(1–2):24–8.
10. Rajappan R, Selvaganapathy K, Liew L. Physical Activity Level Among University Students: a Cross Sectional Survey. *Int J Physiother Res [Internet]*. 2015;3(6):1336–43. Available from: <http://www.ijmhr.org/ijpr.3.6/IJPR.2015.202.html>

AUTHORS

First Author – Dr. Karthikesu Karthijekan, PhD, Department of Supplementary Health Sciences, Faculty of Health-Care Sciences, Eastern University, Sri Lanka, karthijekank@esn.ac.lk or jeshikarthi@gmail.com

Correspondence Author – Dr. Karthikesu Karthijekan, karthijekank@esn.ac.lk or jeshikarthi@gmail.com, 0094772029816