

Participation in Regular Leisure-time physical Exercises: Prevalence and Associated factors among a group of Physiotherapy students in Sri Lanka

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Abstract

Physical exercise plays a vital role in improving and maintaining physical fitness. Regular and adequate physical exercises have significant benefits for enhancing health and improved academic performance. The purpose of this study was to investigate the prevalence of participation in regular leisure-time physical exercise and to investigate the factors that determine the same among a group of physiotherapy students in Sri Lanka. A descriptive cross-sectional study was conducted involving 105 physiotherapy undergraduates of Department of Physiotherapy of Faculty of Allied Health Sciences of University of Peradeniya, Sri Lanka. Gender, academic year, place of residence and experience of participation in physical exercise during school time were taken as the variables. Self-administered structured questionnaire was used to obtain the descriptive data regarding participation in physical exercise, leisure time activities and reasons for not participating physical exercise. From 105 subjects, 28 students (26.67%) reported participating in regular physical exercises. 44.83% male students reported participating in regular physical exercise, while only 19.74% of female students reported participating in regular physical exercise. A significant association was found between gender and physical activity participation ($p < 0.05$) with a significantly higher participation in physical exercise among male students. Academic year, residence and participation in physical exercise in school had no significant association with participation in physical exercise. Heavy academic burden was the most frequently mentioned reason for not participating in regular physical exercises.

Keywords: physical exercise, leisure time activities, university students

1. Introduction

Physical exercise is defined as a subset of physical activity that is planned, structured, and repetitive and has an objective to improve or maintain the physical fitness [1]. Physical exercises be categorized into three groups as aerobic exercises, anaerobic exercises and flexibility exercises, depending on the net effect of a particular exercise has on the body. It is well established that, regular and adequate physical exercises has significant benefits for health. It improves muscular strength, endurance, cardio respiratory fitness, bone health and also reduce the risk of hypertension, coronary heart disease, diabetics, stroke, cancer and psychological disorders.

Physiotherapy profession demands the therapist to engage in activities which require considerable amount of strength, endurance and flexibility. In other words, reasonably high level of physical fitness is essential to perform the activities of a physiotherapist [2]. Nonetheless, it had been observed that physiotherapists had a relatively low physical fitness compared to age adjusted values [3]. Furthermore, physiotherapy undergraduate's programs consist of practical sessions on physiotherapy skills and clinical practice modules on musculoskeletal physiotherapy, Neurological physiotherapy, Cardio respiratory physiotherapy and Pediatric physiotherapy, which demand a significant amount of physical fitness. Studies conducted among physiotherapy undergraduates regarding physical fitness have showed that, physiotherapy undergraduates show an increased prevalence of low back pain [4] and a very high level of musculoskeletal pain [2]

indicating the fact that physiotherapy students do not have required level of physical fitness.

Physiotherapists, as well as physiotherapy undergraduates are commonly expected to provide guidance on how to improve physical fitness. They are also expected to be serving as role models for engaging in healthy lifestyle behaviors. By involving in regular and adequate physical exercise, physiotherapy undergraduates can improve and maintain a physical fitness level to cope up with the imposed physical demands as students while benefiting of the advantages of physical exercise to improve their academic performance as well.

University of Peradeniya and University of Colombo are the only two universities which conduct BSc. in Physiotherapy degree program in Sri Lanka. Physiotherapy undergraduates of University of Peradeniya represent students from all parts of Sri Lanka, including all ethnic groups. The purpose of this study was to investigate the prevalence and factors associated with participation in regular leisure-time physical exercises among a group of Physiotherapy students in Sri Lanka. The findings will not only help to identify the current status regarding participation in regular Leisure-time physical exercises but also to improve the participation in regular physical exercises among physiotherapy students.

2. Materials and methods

A descriptive cross-sectional study was conducted involving all 105 physiotherapy undergraduates of Department of Physiotherapy, Faculty of Allied Health Sciences of

University of Peradeniya, Sri Lanka. Ethical clearance was obtained from the Ethical clearance committee of Faculty of Allied Health Sciences. Written informed consent was obtained from subjects.

As the research tool, a self-administered structured questionnaire was used to obtain the descriptive data regarding participation in physical exercise, leisure time activities and reasons for not participating physical exercise. Students who participated in physical exercise at least one hour in minimum two days per week were recorded as the subjects who participate in regular physical exercise. Gender, academic year (1st year, 2nd year, 3rd year and 4th year), place of residence (University hostels vs outside the university) and physical exercise participation in school time were taken as the variables to be studied. Data were analyzed using SPSS version 20.0 software. Chi-square test was used to determine the factors associate with physical exercise participation.

3. Results and Discussion

The study population involved all 105 physiotherapy undergraduates who are currently studying at the University of Peradeniya. Out of which 29 (27.62%) were male students and 76 (72.38%) were female students. From 105 subjects, 28 students (26.67%), 13 males and 15 females, reported participating in regular physical exercises. Running, swimming, aerobics and strength training exercises were reported as more preferred exercises.

3.1. Gender and participation in physical exercise

Gender was assumed to influence the physical exercise participation. It was found in this study that male students were more likely to participate in regular physical activities than female students; 44.83% male students reported participating in regular physical exercise, while only 19.74% of female students reported participating in regular physical exercise. A significant association was observed between gender and physical activity participation ($p < 0.05$) with a significantly higher participation in physical exercise among male students. The strength of association was a mild association (Phi and Cramer's V - 0.254) between gender and physical activity participation. However it was found that more than 50% of students are not participating in regular physical exercises irrespective to the gender. (Figure 01)

Our results are compliant with previous studies, which were done in both developed and developing countries, which showed that males are more engaged in physical exercise than females in leisure time [5-10]. One of the reasons for more physical exercise participation among males can be the fact that men tend to enjoy physical exercises more than females [5]. Moreover females are less favorably influenced by socio-ecological factors at the individual, family, university and environmental levels [11].

3.2. Academic year and participation in physical exercise

Academic year was assumed as a factor that can influence leisure time physical exercise participation. Study group comprised, 23 first year students, 26 second year students, 31 third year students and 25 fourth year students in the study. Prevalence of physical exercise participation in first, second, third and fourth year students were 13.04%, 38.46%, 22.58% and 32.0% correspondingly. There was no significant association between the academic year and physical exercise

participation. (Table 01) Among the 28 students who participated in physical exercises, 03 (10.71%) were 1st year students, 10 were (35.71%) were 2nd year students, 07 (25%) were 3rd year students and 08 (28.57%) were 4th year students. It was noted that the participation of first year students is less when compare to other students who are engaged in regular physical exercises and the highest participation was reported from 02nd year students.

As the students advance in the academic year, the academic burden simultaneously increases thereby having a negative influence on leisure time activities including physical exercise. On the contrary, as the years go by, the student become more accustomed to university life and academic work which could have a positive effect on leisure time physical exercise participation. Therefore, a combined result of these factors may have caused academic year to not have an association with physical exercise participation.

3.3. Place of residence and participation in physical exercise

Living in and outside of the university was thought to affect physical exercise participation. In this study population, seventy subjects (66.67%) were living in university hostels and thirty five (33.33%) were residents of outside the university. Out of this, 22.86% of subjects who were living in hostels and 34.29% of students who live outside the university reported participating in regular physical exercise. Among the 28 students who participated in physical exercises, 16 (57.14%) were living in university hostels while 12 (42.86%) were living outside the university. There was no significant association found between the residence and physical exercise participation. (Table 01)

Residence could affect the physical exercise participation as students who live inside the university have more opportunities and facilities to participate in physical exercise those students who live outside the university. Nevertheless, there was no significant association seen between the place of residence and physical exercise participation. The reason for this may be other factors as coping with academic burden may have a more influence on regular, leisure time physical exercise participation.

3.4. Physical exercise participation in school and participation in physical exercise in university

School time physical exercise participation was considered to have an influence to physical exercise participation at university. Out of 105 students, 63 students had participated in sport activities during their school time. Among the subjects who participated in physical exercise at school, 28.57% showed continuation of physical exercise participation in university while 71.14 % did not continue in the university. On the other hand, 23.81% of who had not engaged in physical exercise at school has participated in regular physical exercise after entering university. Among the 28 students who participated in physical exercises, 18 (64.29%) had participated in physical exercises at school while 10 (35.71%) were not. There was no significant association observed between the physical exercise participation in school and physical exercise participation in university as undergraduates. (Table 01)

Students who did not have enough facilities and funding to engage in physical exercises in schools may have started

participating in those at university, as university provides ample opportunities and facilities free of charge. Discontinuation of physical exercise participation of some students after entering university may be due to heavy academic burden.

In summary, out of 28 students who participated in regular leisure-time physical exercises, largest participation was reported from 2nd year students, more than 50% of them reside inside the university and nearly two third have participated in physical exercises in school as well.

When considering the leisure time activities of students who are not participating in physical exercise, it was observed that, 96% of subjects who did not participate in physical exercise had other involvements such as, activities organized by associations and clubs in university (University explorers' club, Students' union, religious and cultural associations etc.), reading non-academic material and performing arts. Among the students who did not participate in physical exercises, 35.06% were engaged in electronic games while 4% were not participating in any of the above mentioned activities.

The reasons given by the participants as excuses for not participating in regular and adequate physical exercises are shown in the figure 02.

Although heavy academic burden has been mentioned as the main reason for not participating in physical exercise, it had been observed in previous studies that, using physical exercise as a leisure time activity to take a break from academic time had provided benefits such as improving the capability of paying attention [12, 13] and enhanced academic performance [14]. Moreover, it has been concluded that, comparable to school age students and adolescents, the university students benefit from the physical activity to improve their academic performance despite their heavy time schedules, overloaded curricula and variations in their gender, nationalities and study materials [15].

As a measure to increase student participation in regular leisure-time physical exercises, students' awareness of both health related and academic performance related benefits of regular physical activity participation, should be improved by conducting awareness programs. Although the study group included whole population of students from the University of Peradeniya, less number of males was a limitation for this study. Future researches on this subject, involving large numbers are recommended to gather more comprehensive information and to gain a better understanding of this topic.

4. Tables and figures

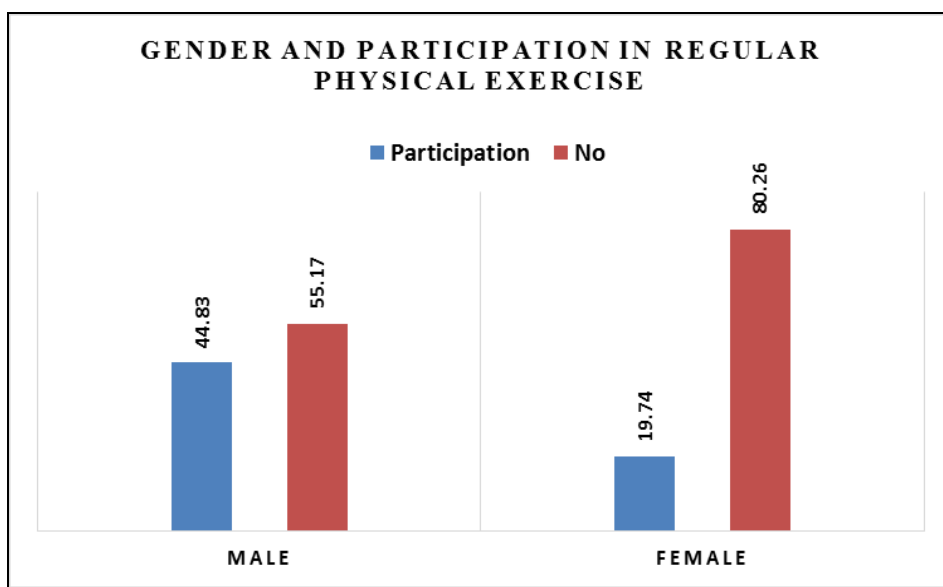


Fig 1: Gender and participation in regular physical exercise

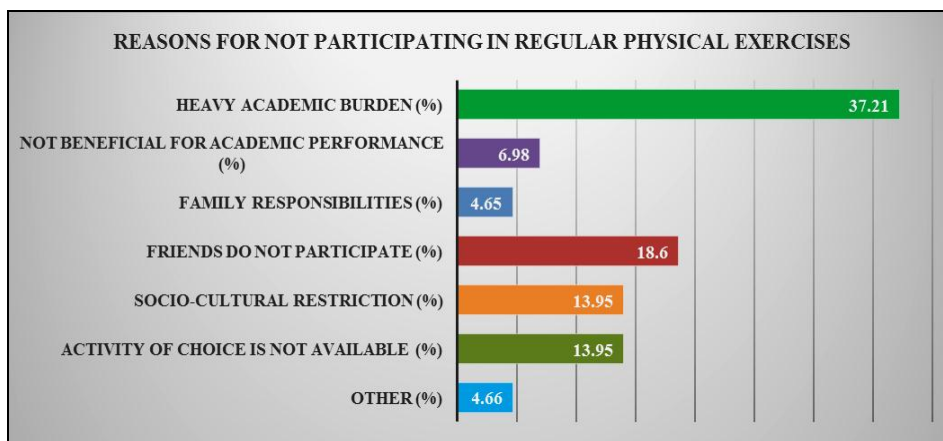


Fig 2: Reasons for not participating in regular physical exercise

Table 1: Factors associated with participation in regular physical exercises

Variables		Participation		P value
		Yes (%)	No (%)	
Gender	Male	44.83	55.17	0.009*
	Female	19.74	80.26	
Academic Year	01 st Year	13.04	86.96	0.198
	02 nd Year	38.46	61.54	
	03 rd Year	22.58	77.42	
	04 th Year	32.00	68.00	
Residence	Inside the University	22.86	77.14	0.212
	Outside the University	34.29	65.71	
Participation during school time	Yes	28.57	71.43	0.589
	No	23.81	76.19	

* Significant difference at p-value < 0.05

5. Conclusion

Only 26.67% of Physiotherapy undergraduates participate in regular physical exercise. Gender is significantly associated with physical exercise participation with males showing higher prevalence of participation. Academic year, place of residence and participation in physical exercise in school are not significantly associated with physical activity participation as undergraduates. Heavy academic burden was the most frequently mentioned reason for not participating in physical exercise.

6. References

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