

Self reported physical activity among University Students in Ajman, UAE

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ABSTRACT

Objective: To assess the prevalence, pattern of self reported physical activity among university students and its association with socio demographic characteristics.

Methodology: One hundred and ten entry year students of 2009 from four colleges of Gulf Medical University, Ajman, United Arab Emirates participated in the study.

Results: Inquiry into physical activity showed that during the past 30 days, 64.5% were performing brisk walk daily, 23.6% of the students performed physical activity on treadmill, 10% of the students performed fast cycling in the static position, 8.2% of the participants did aerobics, and 4.5% in the motion cycle. Eleven of them (10%) were not involved in any physical activity.

Conclusion: The prevalence of physical inactivity varied among different socio demographic groups and females were more inactive compared to males. The study points out the need for additional research in the area of physical activity among students.

KEY WORDS: Physical activity, Youth, Nationality, BMI, Gender.

Pak J Med Sci October - December 2010 Vol. 26 No. 4 782-786

How to cite this article:

Muttappallymyalil J, Mathew E, Sreedharan J, Al-Sharbatii S, Shaikh RB, Basha SA. Self reported physical activity among University Students in Ajman, UAE. Pak J Med Sci 2010;26(4):782-786

INTRODUCTION

Physical activity is defined as any physical movement produced by skeletal muscles that requires energy expenditure and also includes activities outside day to day routine activities such as standing, sitting, and climbing stairs.^{1,2} Physical activity plays a vital role in balancing energy expenditure with the energy consumption. Different types and amounts of physical activity are required for different health outcomes: At least 30 minutes of moderate-intensity physical activity five days a week reduces the risk of several common non communicable diseases (NCDs) like cardiovascular disease, stroke, type-II diabetes mellitus, colon cancer and breast cancer. Regular physical activity provides greater health benefits.¹

Development of early coronary heart disease is associated with sedentary life-style.² Evidence suggests that decrease in body weight and blood pressure is beneficial to cardiovascular health, which can be achieved through regular physical exercise.²

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- * Received for Publication: July 5, 2010
- * Revised: July 26, 2010
- * Revision Accepted: August 13, 2010

Current research shows that today's children are probably less fit than children decades ago.³⁻⁵ Regular physical activity also improves physiological and psychological health. Increased educational pressure and major transitions in the life experienced by college students lead to high stress levels and decreased physical activity level.⁶ It is recommended that individuals must engage in adequate levels of physical activity throughout their lives to maintain their health. It is important to encourage children to practice doing physical activities at a younger age itself, so that this habit continues throughout their lives. This study was conducted to assess the prevalence, pattern of physical activity and relation to socio-demographic characteristics among a cohort of medical university students.

METHODOLOGY

Study setting and participants: This cross-sectional study was conducted in the Gulf Medical University (GMU), Ajman, United Arab Emirates (UAE) in the year 2009. GMU has Gulf Medical College, Gulf College of Allied Health Sciences, Gulf Dental College and Gulf Pharmacy College offering programs in the field of Medicine, Dentistry, Pharmacy and Physical therapy under its umbrella. Students from forty different countries are enrolled here for their professional education. This study was conducted among entry level students registered for different academic programmes in the year 2009-2010. A total of 110 students present in class on the day of study participated in the study. The response rate according to the academic program was MBBS 85%, DMD 80%, Pharm.D 90% and Physical therapy 65% respectively. *Study tool:* A pre-tested, structured, self-administered questionnaire was designed for data collection. The questionnaire contained both open-ended and close-ended questions. The questionnaire included socio-demographic variables like age, gender, nationality, ethnicity and religion in its first part and second part of the questionnaire contained all variables related to physical activity.

Research design: Investigators after obtaining Ethics Committee approval from GMU distributed the study tool to all entry year students who were present at the time of study. Verbal consent was obtained from the participants before administering the questionnaire. The purpose of the study was explained to the participants before administering the questionnaire. Time spent daily in various physical activities was assessed using a 30-day recall questionnaire. Body Mass Index was calculated as weight in kilogram divided by height in meter square. Body Mass

Index was categorized as underweight, normal, overweight and obese.

Data management and statistical analysis: Data was fed into the excel spread sheet and statistical analysis was performed using PASW-17 (IBM, Chicago, Illinois). Descriptive statistics of socio-demographic characteristics, activity levels by age, gender, program and nationality were calculated to describe the characteristics of the respondents. Chi-square test was performed to determine the association between socio-demographic characteristics and the common physical activities.

RESULT

The study included 110 participants. The respondents were categorized by age into two groups - those less than 20 years, 69.2% and remaining were more than 20 years. Age was not mentioned by three students. Female predominance was observed (76.4%). Details regarding other socio demographics are shown in Table-I while Table-II shows the pattern of physical activity during the last one month.

In the present study, 11 (10%) were neither doing vigorous nor moderate physical activity whereas seven (6.4%) were doing both moderate and vigorous physical activity for more than 30 minutes daily. The distribution of duration of moderate and vigorous physical activity is given in Table-III.

Detail of moderate physical activity among the study participants is shown in Table-IV. About 15.5% were not engaged in any moderate physical activity. Among those aged less than 20 years, 85% were doing some kind of moderate physical activity every day. More male students, 61.5% engaged themselves

Table-I: Socio-demographic characteristics of the participants.

Variables	Groups	No.	%
Age group (in years)	< 20	74	69.2
	>20	33	30.8
Gender	Male	26	23.6
	Female	84	76.4
Academic Program	MBBS	51	46.4
	DMD	28	25.5
	Pharm D	18	16.4
	Physical therapy	13	11.8
Nationality	Indian Subcontinent	33	30.0
	Arab Countries	44	40.0
	African Countries	22	20.0
	Others	11	10.0

Table-II: Pattern of physical activity in the past one month.

Physical Activity	Type	Yes	
		No.	%
Moderate	Brisk walk	71	64.5
	Domestic chores/ House work	61	55.5
	Dance	48	43.6
	Gardening	18	16.4
Vigorous	Running	38	34.5
	Brisk climbing	28	25.5
	Treadmill	26	23.6
	Fast swimming	20	18.2
	Fast cycling-Static	11	10.0
	Aerobics	9	8.2
	Fast cycling-Motion	5	4.5

in more than 30 minutes of moderate physical activity than female students, 52.4%.

Table-V shows that vigorous physical activity was performed more by students aged greater than 20 years and males were more than females. While 16.7% of the Pharm D students performed some amount of vigorous physical activity. 56.9% of MBBS students were engaged in vigorous physical activity. Students from Indian subcontinent engaged in vigorous physical activity were less than 33.3% as compared to all others. About 17% of those with BMI greater than 30 kg/m² and 12.2% of those with pre hypertension or hypertension were regularly doing vigorous physical activity for more than 30 minutes a day.

The prevalence of physical inactivity is different

Table-IV: Socio-demographic characteristics vs. Moderate Physical Activity.

Variable	Group	Nil		<=30 minutes/day		>30 minutes/day		Total
		No.	%	No.	%	No.	%	
Age group (in years)	<20	11	14.9	24	32.4	39	52.7	74
	>=20	6	18.2	8	24.2	19	57.6	33
Gender	Female	14	16.7	26	31.0	44	52.4	84
	Male	3	11.5	7	26.9	16	61.5	26
Academic programme	MBBS	10	19.6	13	25.5	28	54.9	51
	DMD	5	17.9	5	17.9	18	64.3	28
	Pharm.D	2	11.1	10	55.6	6	33.3	18
	BPT	—	—	5	38.5	8	61.5	13
Nationality	Indian Subcontinent	4	12.1	8	24.2	21	63.6	33
	Arab Countries	9	20.5	11	25.0	24	54.5	44
	African countries	1	4.5	11	50.0	10	45.5	22
	Others	3	27.3	3	27.3	5	45.5	11
BMI	<=30	15	16.3	26	28.3	51	55.4	92
	>30	2	11.1	7	38.9	9	50.0	18
BP	Normal	9	13.0	21	30.4	39	56.5	69
	Pre/Hypertension	8	19.5	12	29.3	21	51.2	41

Table-III: Distribution of Duration of Physical Activity.

Physical Activity	Duration	No.	%
Moderate	Nil	17	15.5
	<=30 minutes/day	33	30.0
	>30 minutes/day	60	54.5
Vigorous	Nil	64	58.2
	<=30 minutes/day	36	32.7
	>30 minutes/day	10	9.1

in different socio demographic groups. Active and inactive status was classified according to their participation in physical activity. Those who were not performing any physical activity was labeled as inactive. Males were more active compared to females. The two age groups in the study were similar with respect to physical activity whereas a slight male preponderance is seen in performance of physical activity. The details are given in Table-VI.

DISCUSSION

In the present study brisk walk, house work and dance were the top three moderate physical activities performed by the students. With regard to vigorous physical activities, running, brisk climbing and treadmill were the top three activities students performed. The type of activities changed according to different culture. A study from Taiwan reported that the top three physical activities were Ball sports, Cycling, Jogging.⁷ The activities also vary with nationalities. In the present study students from different nationalities participated. The choice of physical activity in the study area might also reflect the

Table-V: Socio-demographic characteristics vs. Vigorous Physical Activity.

Variable	Group	Nil		<=30 minutes/day		>30 minutes/day		Total
		No.	%	No.	%	No.	%	
Age group (in years)	<20	11	14.9	24	32.4	39	52.7	74
	>=20	6	18.2	8	24.2	19	57.6	33
Age group (in years)	<20	44	59.5	25	33.8	5	6.8	74
	>=20	17	51.5	11	33.3	5	15.2	33
Gender	Female	51	60.7	26	31.0	7	8.3	84
	Male	13	50.0	10	38.5	3	11.5	26
Academic programme	MBBS	22	43.1	21	41.2	8	15.7	51
	DMD	19	67.9	8	28.6	1	3.6	28
	Pharm D	15	83.3	3	16.7	—	—	18
	BPT	8	61.5	4	30.8	1	7.7	13
Nationality	Indian Subcontinent	22	66.7	10	30.3	1	3.0	33
	Arab Countries	24	54.5	14	31.8	6	13.6	44
	African countries	13	59.1	6	27.3	3	13.6	22
	Others	5	45.5	6	54.5	—	—	11
BMI	<=30	55	59.8	30	32.6	7	7.6	92
	>30	9	50.0	6	33.3	3	16.7	18
BP	Normal	43	62.3	21	30.4	5	7.2	69
	Pre/Hypertension	21	51.2	15	36.6	5	12.2	41

available resources and opportunities.

A cross-sectional study conducted among university students from different countries reported that physical activity varied based on culture and level of economic developmental factors. The prevalence of physical inactivity was 23% in North-Western Europe and the USA, 30% in Central and Eastern Europe, 39% in Mediterranean region, 42% in Pacific Asian and 44% in developing countries.⁸ A study conducted in California observed that a high percentage of students were physically inactive or engaged in limited physical activity.⁹ Musharrafieh et al. conducted a study to assess the prevalence of physical

activity among university students in Beirut. The study observed that only 26.4% of students were engaged in physical exercise.¹⁰ Dinger et al. observed that many young adults on college campuses are not meeting current physical activity recommendations.¹¹ In our study students from African countries are seen to be more active than the others. Nelson et al. observed that compared to school students, college students are less engaged in vigorous physical activities both among males and females. Among males, Asians were less engaged in vigorous physical activities and among females African Americans and Asians less compared to other nationalities. The

Table-VI: The prevalence of physical inactivity for the university students according to socio demographic and metabolic variables.

Variable	Group	Inactive		Active		p
		No.	%	No.	%	
Age group (in years)	< 20	8	10.8	66	89.2	NS
	>= 20	3	9.1	30	90.9	
Gender	Female	9	10.7	75	89.3	NS
	Male	2	7.7	24	92.3	
Academic programme	MBBS	5	9.8	46	90.2	NS
	DMD	4	14.3	24	85.7	
	Pharm.D	2	11.1	16	88.9	
	BPT	—	—	13	100.0	
Nationality	Indian Subcontinent	3	9.1	30	90.9	NS
	Arab Countries	6	13.6	38	86.4	
	African Countries	1	4.5	21	95.5	
	Others	1	9.1	10	90.9	
BMI	<=30	10	10.9	82	89.1	NS
	>30	1	5.6	17	94.4	
BP	Normal	7	10.1	62	89.9	NS
	Pre/Hypertension	4	9.8	37	90.2	

study observed that the rate of vigorous physical activities declined from high school to college.¹² de Quadros et al. also observed that a higher percentage of female students were inactive when compared to male students.¹³ The highest prevalence of physical activity among men was in Sweden and among women it was in Denmark.¹⁴ The present study observes that 90% of the participants were engaged in some form of regular physical activity with a minimal male preponderance.

In a study conducted by Stevens et al., it was observed that physical inactivity increases with age and the most rapid increase occurs in late adolescence and early adulthood.¹⁵ Chen LJ et al. in their study observed that among adolescents aged 15-18 years, 76.3% participated in physical activity and the prevalence of inactivity increased with increasing age.⁷ Some studies observed association with the course of study also. Night course students are more inactive compared to day course students.¹³ The present study revealed a slight decrease in physical activity among students who are more than 20 years compared to those less than 20 years, which is in accordance with many other studies. In the present study students with BMI higher than 30 kg/m² and those with pre hypertension/hypertension seem to be engaged in more vigorous physical activity than the others who are involved in moderate physical activity. Self-realization may be the reason for performing vigorous physical activity among students with BMI higher than 30 kg/m² and those with pre hypertension and hypertension.

CONCLUSION

Our results may not characterize the general university students in UAE, because of the small sample; but it points to the need for a larger study to precisely identify the perceived benefits and barriers and to recommend increase in physical activity among youth and young adults. Based on this study, inclusion of physical activity in the curriculum seems to be the need of the day.

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