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Physical inactivity among University Students, Saudi Arabia

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Abstract

Background: Physical inactivity is a serious health problem in among university students worldwide.

Methods: This is observational, cross-sectional, institutional-based study was carried out to assess the rate of physical inactivity, self-awareness about its negative impacts on health, measuring satisfaction on provided sport facilities and to identify the underlying perceived barriers among university students, conducted between January- April 2017. 376 university students (238 males and 138 females) participated in this study through pre-tested Questionnaire.

Results: The overall rate of physical inactivity was 51.1% amongst the students. The study showed that there was strong association between provision of sports facilities and motivation towards physical activity (79.5%). More than half of students (59.2%) were dissatisfied with university sport provision.

Conclusions: The rate of physical inactivity among Majmaah university students is remarkably evident, while the awareness of drawbacks of physical inactivity and its complication is very high. We found that the most prominent barrier of being physical inactive is time limitation and inappropriate usage of social media. This study also reflects high level of student's dissatisfaction with current sports facilities provided by the University. Future interventional plans in different directions needed to be designed by the University authority.

Keywords: Physical inactivity, University students.

Introduction

Physical inactivity is a term used to identify people who do not get the recommended level of regular physical activity. It has been identified as the fourth leading risk factor for global mortality and considered as most important risk factor for non-communicable diseases (NCDs).¹

Physical inactivity has been observed as an expansion trend in adult age group and considered as one of serious medical problem with negative impact on health worldwide.

Global estimate of physical inactivity revealed that around 31% of adult (aged 15 and over) were insufficiently active and approximately 3.2 million of different adult age group die each year of direct relation to insufficient physical activity.²

The World Health Organization (WHO) approved protocols on physical activity in adults aged 18 - 64, include moderate aerobic physical activity for no less than 150 minutes per week or not less than 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of both. These guidelines (WHO guidelines) on assessment of physical activity will be adopted as reference standard tool for this study.

Furthermore, recent publications have mentioned the benefits of physical activity and exercise, with more focus on improvement of cardiorespiratory function, muscular fitness, bone health, remarkably reduction of NCDs and depression.³

Despite intense media and political attention, to increase the awareness about the negative health circumstances of physical inactivity, the majority of youth do not comply to the recommended guidelines given for physical activity.⁴

Therefore, we aim at studying in details the features of inactive university students, to determine the barriers, level of satisfaction on the available sports facilities, in order to find out the reasons why they have adopted an inactive lifestyle.

The current level of physical inactivity is inadequate due to insufficient participation in physical activity during leisure time with increasing frequency of sedentary behavior during domestic activities, likewise an increase in the use of passive modes of transport has been also associated with decline physical activity level.

University students are subjected to different factors and barriers during the academic year, which may discourage participation in physical activity such as: academic pressure, high density traffic, low air quality pollution, lack of sports/recreational facilities, self-motivation, also peers' pressure, social habits, and lack of awareness. All these issues need to be addressed to provide guidance to design further supportive policies.

Methodology

The proposed design for this project is observational, cross-sectional, facility-based study of physical inactivity of Majmaah University students.

The study was conducted in Majmaah University, Majmaah, KSA. Majmaah lies about 180 km north of the capital city, Riyadh.

The study covered different colleges affiliated to university located at several places, e.g. the university main campus & at Al Majmaah city, colleges affiliated to university at Zulfi city.

This study was conducted among male and female students at different academic sectors and stages in Majmaah University, KSA.

Stratified Sampling was considered to select four colleges, being classified as medical and non-medical. At the level of the students, selection was by simple random sampling for those registered for this academic year.

Sample size of this study was calculated by the following formula:

$$n = Z^2 \times pq / d^2 = Z^2 P(1-P) / d^2$$

Sample size = $1.96 \times 1.96 \times 0.5 \times 0.5 / 0.052 = 384$

Where, n= Sample size, Z = Standard deviate, P= Prevalence, Q= 1-p, d= error accepted

With reference to above mentioned formula and other studies done previously we decided that the size of the study sample should be around 384.

The total duration including data collection was six months including the data collection and processing.

A pretested, well-designed preformed questionnaire was used to collect data for assessing Physical inactivity among university students.

All the data was entered and analyzed by computer using the SPSS software version 20 and statistical analysis was done.

Ethical approval for this study was obtained from the Deanship of Scientific Research, Majmaah university under the this number of project: [Approval No.: MUREC- Jan 23|COM-2017/7]. Participation verbal consent from the participant was assured. They were briefed about the aim and objective of the study and the advantage to them as well as to the community due to their participation. They were also informed that all the

information was kept purely confidential and was used only for the purpose of statistical analysis.

All students who registered at university night-courses and attending courses conducted by the College of community services were excluded. Also any study participants who voluntarily refused to participate in the study were excluded.

Results

The number of randomly selected university students were 376 from different Majmaah university colleges, 238 male & 138 female students. The age of participating students ranged from 18 to 30 years.

Table 1 represents the rate of the university students' physical inactivity. Results show a high rate of physical inactivity among the investigated students; more than half of the sample does not perform sufficient or any physical activity (51.1%). Female students from different colleges showed a higher rate of the university students' physical inactivity than male students (55.75%). The participating students from medical colleges showed a higher rate of the university students' physical inactivity in comparison to their peers from non-medical colleges (54.66% vs 45.70%).

Table (1): Relation between physical inactivity and social characteristics

Variable	Physical inactivity		Physical activity		Total	p
	Frequency	%	Frequency	%		
Sex						
Male	115	48.3%	123	51.7%	238(100%)	0.29
Female	77	55.75%	61	44.25%	138(100%)	
Total	192	51.1%	184	48.9%	376 (100%)	
Type of College						
Medical	123	54.66%	102	45.33%	225(100%)	0.20
Non-medical	69	45.70%	82	54.30%	151(100%)	
Total	192	51.1%	184	48.9%	376	

Table (2) gives the results of analyzing the association between the university students' physical inactivity and the availability of sports facilities. We can show there are 79.5% of the

students strongly support the relationship of provision of sports facilities and increase the level of motivation of the university students' physical activity and sport participation.

Table (2): Availability of sports facilities according to gender and type of college
n = 376

Item	No.	%
Gender		
Male	188	50%
Female	111	29.5%
Total	299	79.5%
Types of college		
Medical college	186	49.5%
Non-Medical college	113	30.0%
Total	299	79.5%

Students who participated in university sport were also asked to rate their overall satisfaction with sport at their university, and the results shown in **Table (3)**, which revealed that students' overall satisfaction level with the current sports facilities

provided by the university. The overall, more than half of students who participated in university sport were very dissatisfied with university sport provision (59.2% rating their dissatisfaction). Only 36.7% were satisfied.

Table 3: Level of students' satisfaction with current university sports Facilities

Level of satisfaction	Overall satisfaction	
	No.	(%)
Poor satisfaction	100	59.2%
Average satisfaction	62	36.7%
Highly satisfied	7	4.1%
Total	169	100%

Table (4) shows that the frequencies of the respondents and the data collected of 373 respondents in which 325 (87.1%), reflecting significant increase in the awareness about

drawbacks of physical inactivity and its complications among all the respondents whether male or female.

Table 4: Level of awareness of university students about drawbacks of Physical inactivity and its complications

Level of awareness	Overall awareness	
	No.	(%)
Aware	325	87.1%
Not aware	48	12.9%
Total	373	100%

Table (5) show that the frequencies of the different variables considered as barriers behind physical inactivity. The most significant barriers

reported by physically inactive students were time limitations (87.1%), followed by using social media 3 hours per day (72.1%).

Table 5: Barriers and reasons behind physical inactivity among the University students n=376

Barriers reported	The reasons and barrier behind physical inactivity	
	No.	(%)
Time Limitation	343	91.2%
Occupied by Social media	227	60.4%
Expensive subscriptions of GYM's	109	29%
Lack of motivation	101	26.9%
More time in watching TV	48	12.8%

GYMs: Gymnasium

Discussion

This study was conducted among 376 medical and non-medical undergraduates' students in Majmaah University-KSA, which providing deep insight into study of physical inactivity among students. Data was collected from the colleges located at two different university campuses [Al-Majmaah and Zulfi campuses], following similar conditions.

Our study showed high level of physical inactivity (51.1%)³. Female students are shown to be less active (55.75%) than male students (48.3%). These findings agree with observations and studies recently published by Awadalla NJ et al in KSA¹ and L. Radua et al in Finland⁸. Also, this finding is matching with the international expanding trends regarding sedentary lifestyle of

university students as described earlier by Quadros. et al.⁵

Assessing the relationship between the availability of sports facilities and building self-interest in physical activity reveals 79.5% of the students strongly support the direct role of provision of sports facilities with achievement of high level of motivation of the university students' physical activity and sport participation. This result is comparable with what are described recently in 2017 by Eime et al and Lee SA, Ju YJ, Lee JE, et al.^{9,10}

Measuring the level of students' satisfaction with current sports facilities offered by Majmaah University, reveals majority of students are generally dissatisfied with current situation (59.2%), which indicates that the university needs

to have some further steps for sake of consolidation of sports facilities. This result has definitely negative impact on student academic performance as the sport plays a significant role to foster healthy mind of the students.¹¹

The evaluation of awareness of university students under investigation about drawbacks of Physical inactivity and its complications is clearly of high level (87.1%) of the students from both sections reported their feedbacks on the negative impact of being inactive and the association serious medical complication e.g. Hypertension, Diabetes Mellitus, Obesity, depression and heart diseases.⁷

Our results point out that there are different varieties of barrier and reasons for student behind being physically inactive. The main perceived barrier among different studied variable is time limitation (91.2%), followed by social media, which occupying significant space (60.4%). These findings are consistent with study reported in 2006 by Daskapan Arzu. et al.⁶

Conclusion

In conclusion, the rate of physical inactivity among Majmaah university students is high, while the awareness of drawbacks of physical inactivity and its complication is very high. We found that the most prominent barrier of being physical inactive is time limitation and inappropriate usage of social media. This study also reflects high level of student's dissatisfaction with current sports facilities provided by the university.

Recommendation:

1. We recommend groups of interventional strategic plan to be adopted by the University in order to create healthy environments by making it easier for students to be physically active.
2. Upgrading and advertisement of the provided sport facilities by the University along with foundation of additional sport facilities in both male and female sections.
3. Implementation of extra-curricular classes or free time should be conducted along with the

academic journey of the student for its important and relation to academic performance.

4. Certain issues to be deeply investigated in the future studies regarding different related variables of "physical inactivity" for example:
 - Avoidance of overestimation of physical activity and inactivity by measurement of physical activity as a vital sign.
 - The relationship of physical inactivity of student with their Socioeconomic level and academic performance.

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- o Department of Student affairs, College of science and humanities in Zulfi.
- o Department of Student affairs, college of science and humanities in Majmaah.

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