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Research Article

LEVEL OF PHYSICAL ACTIVITY AMONG MEDICAL STUDENTS IN HAIL UNIVERSITY, ANALYTICAL CROSS-SECTIONAL STUDY

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Abstract:

Background: In today's urbanized and technologies society, physical activity (PA) is becoming an increasingly peripheral part of our daily lives. The World Health Organization (WHO) recommendations for PA levels for promoting maintaining health among adults.

Methods and objectives: This analytical cross-sectional study design was conducted among medical student at Hail university Hail, KSA, to assess the level of physical activity among participants.

Results: For the purpose of this study290 medical students were participated,55% were males while 45% were females, age group ranged from 18 to 26 years old; Our study demonstrated that doing any types of physical activity where vigorous or moderate physical activities or even walking ranged between 1 to 3 hours per day; but when compare having any types of physical activity according to gender, males were more physically active than females related to vigorous or moderate physical activities, Our findings also indicated that the sitting time was ranged from 120 to 480 minutes with the mean of 300 minutes per day and finally Our study revealed that small number of participants 26%, 18% and 28% who had more than 5 days of vigorous physical activities , moderate physical activities or walk for at least 10 minutes per week respectively.

Conclusion: Physical activity being one of the leading health indicators worldwide and all individuals should engage regularly moderate physical activity for at least 30 minutes per day, so health promotion interventions and programs should be carried out to encourage youth practicing healthy life style including physical activity. **Keywords:** vigorous or moderate physical activity, sitting time, medical student, Hail university, Saudi Arabia.

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INTRODUCTION:

In today's urban and technologies society, physical activity (PA) is changing into associate progressively peripheral a part of our daily lives. Several sorts of PA are healthy. The PA is that the most effective and therefore the healthiest way to properly maintain our bodies. PA influences health outcomes, corporal and psychological state issues, and fitness[1]. Despite the positive effects of PA on health. life has become additional inactive and therefore the decrease in PA has affected youngsters. Whereas PA declines gradually with age. there are periods wherever this can be additional fast[2].

Health-enhancing PA is that edges health and useful capacities while not damage or risk. This term includes the total level of human movement, like competitive sports and exercise, active hobbies, sport or the PA of daily living. PA is the key strategy for reducing the danger of chronic diseases and its regularity helps build and maintain healthy bone and muscle, reduces the danger of developing obesity and overweight, reduces feelings depression and anxiety promotes of and psychological well-being[3]. PA is outlined as any bodily movement made by skeletal muscles that ends up in energy expenditure above basal level. The World Health Organization (WHO) has issued in 2010 recommendations for PA levels for promoting maintaining health among adults. Evidence suggests that the level of PA of doctors is correlate directly their counseling patterns regarding this with behavior[4].

A lack of muscular activities lowers practicality of all and biochemical mechanisms associated physical with the motion and aging. However, our modern times are characterized by a extended and periods that longer instructional need less and fewer PA. from earliest the age to maturity, whereas exposing students to additional psychological demand and stress. These days students experience growing educational load, fast way changes througho transition from high school to ut the the undergraduate study, longer commute and fastsocio-economic components of changing our society that everyone along contribute to less attention being dedicated to correct nutrition and physical activities, and so to their health[5]. Objective of recent researches was to determine if medical students, resident and fellow physicians and

attending physicians meet the PA tips set forth by the U.S.A. Department of Health and Human Services. Within the conclusion they found that physicians and medical students have interaction in additional PA and have a tendency to possess a lower BMI than the overall population. Resident and fellow physicians engage in less PA than attending physicians and medical students[6].

In another study they found that the PA of the both female and Male students was beyond the average PA of the Polish adults, and therefore the study emphasizes that varied types of PA ought to be enforced within the schedule of students and that they ought to be inspired to participate in a very high level of PA therefore as to promote healthiness status[7].

Among U.S. medical students, personal PA levels are beyond those of age-matched peers within population, are maintained the general throughout graduate school, and are correlate with frequency of PA guidance of their patients. Promotion of adequate PA habits throughout medical education could also be a vital step to enhance the PA preventive counseling that future clinicians offer[8]. In the United Arab Emirates the number of PA undertaken by adolescent females was terribly low, its reason behind rise within the incidence and of fleshiness during this population. What is more the prevalence of inactivity in the Kingdom of Saudi Arabia represents a serious public health burden, as evident by the high population-attributable risk of PA with several industrial countries[9]. compared Study revealed in 2013 reported that the prevalence of PA within the Saudi society ranged from forty thirdto as high as ninety nine in bound segments of the population and Study conducted at Alhassa town of Kingdom of Saudi Arabia in 2011 shows PA level decline gradually with age. Moreover, males were usually additional active than females across all ages[10].

During the previous few decades, the Arab countries across the Mediterranean Region (EMR) have encountered evidentchanges in their demographic profiles, socioeconomic options and health status.

Such transformations were equally reflected in changes within the lifestyle of those populations, wherever the accumulated access to fashionable amenities has influenced their PA levels[11]. actually, the substantial way changes because

of quick urbanization, the high use of vehicles for personal travel, and establishmentof labor-saving

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domestic

and workplace appliances, beside different options ha d in depth influence on reducing the everyday physical necessities, so boosting inactive lifestyles amongst these youngsters and adults[12].

There is lack of studies on the extent of physical activity in Kingdom of Saudi Arabia specially in Hail town and its aim of our research to see physical activity levels among medical students in Hail town. Severalstudies centered in university population from USA. UK, Canada and alternative counties. It's important to PA vogue from explain the Hail university population, as a result of would be the primary study that investigate the extent of PA using The Activity Ouestionnaire International Physical (IPAO).

METHODOLOGY:

This analytical cross-sectional study design was conducted to asess the degree of physical activity among medical student at Hail university, the sample in the present study comprised of 254 medical student of both genders (males n = 127 and females n = 127) who recruited from male and female branches of Faculty of Medicine, Hail University, Hail City, Kingdom of Saudi Arabia. The subjects aged from 24 to 26 y/o, body height from 155 to 178 Cm, body weight from 55 to 70 kg and body mass index (BMI) ranged from 20 to 22. Inclusion criteria include; Medical student at Hail university between 18 to 26 years old. Data was collected using the official English short-version self-administration format of IPAQ, that is offered at www.ipaq.ki.se. The short type of IPAQ that was utilized in this study has seven things which providing data on time spent walking, in vigorous- and moderate intensity physical activities and in sedentary activity throughout the last seven days.

IPAQ defines moderate physical activities as people who produce a moderate increase in respiration rate, heart rate and sweating for a minimum of ten min length. Vigorous physical activities are outlined as those producing

vigorous will increase in respiration rate, heart rate and sweating for a minimum of ten min length. Additionally physical to activity queries, IPAQ includes other questions on education age. vears. Before applying this standardized questionnaire, all students participated on anthropometrical measurements as height and weight, per normal ways proposed by the International Society for the Advancement of Ki anthropometry (ISAK. 2001). Based on these measurements, we've got determined the body mass index (BMI) by using formula: weight(kg)/height2 (m).

Evaluation of physical activity level was done applying the short type of International Physical Activity questionnaire (IPAQ) in

which students are asked to report the number of days and length of the vigorous, moderate, walking activity, and a combined total physical activity score.

After conducting the data, they were entered into a personal computer and checked again for outliers, according to the guidelines from IPAQ. Data were then analyzed using the SPSS program, version 18.0 (SPSS Inc., Chicago, IL, USA).

All ethical issues are considered during the process of this research, the study protocol was approved by the University's ethics committee and all subjects signed an informed consent form prior to participation and finally there was no conflicts of interest for this study

RESULTS:

As shown in table 1; About 290 medical students were participated in this study; 55% were males while 45% were females, 19% from second level, 16% third level, 15% fourth level, 21% fifth level and 28% were from level six. All participants within the age of 18 to 26 years old; 18% within the age group of 18 - 20 years, 40% within the age group of 20 - 22 years, 38% within the age group of 22 - 24 years while only 3% within the age group of 24 - 26 years.

in – 290								
Variable	Sub Variable	Fr.	%					
Gender	Male	161	55.5					
	Female	129	44.5					
Study Level	2nd Level	56	19.3					
	3rd Level	46	15.9					
	4th Level	44	15.2					
Educational level	5th Level	62	21.4					
	6th Level	82	28.3					
	18 - 20 years	53	18.3					
	20 - 22 years	115	39.7					
Age group in years	22 - 24 years	111	38.3					
	24 - 26 years	11	3.8					

Table 1: Demographic Characteristics of the participants

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As demonstrated in table 2 practicing in any types of physical activity where vigorous or moderate physical activities or even walking per week was too low, it ranged between only 1 to 3 days per week; further more when we compare having any types of physical activity according to gender, males were more physically active than females and there were strongly statistically significant association, p value < 05.

In other hand practicing in any types of physical activity where vigorous or moderate physical activities or even walking per day was too low, it ranged between only 1 to 3 hours per day; but when compare having any types of physical activity according to gender, males also were more physically active than females related to vigorous or moderate physical activities, p value < 05, while there were no statistically significant association between males, females and walking hours per day, p value > 0.05.

Table 2: The overall mean of Participants habits related to vigorous and moderate physical activities and walking in days per week and in hours per day

week							
	Gender			Std.	P Value		
		Ν	Mean	Deviation			
During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, digging	Male	155	2.73	2.249	0.000		
aerobics, or fast bicycling?	Female	112	1.05	1.692			
During the last 7 days, on how many days di d you do moderate physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis ? do not include walking	Male	154	1.91	1.859	0.02		
include warking .	Female	106	1.39	1.900			
During the last 7 days, on how many days did you walk	Male	157	2.96	2.170			
for at least 10 minutes at a time?	Female	127	3.76	2.524	0.004		
The overall mean of participants habits related to vigorous and moderate physical activities and walking in hours per day							
How much time did you usually spend doing vigorous physical activities on one of t hose days	Male	117	1.60	.965	0.000		
	Female	62	1.15	1.226			
How much time did you usually spend doing moderate	Male	106	2.04	1.536	0.01		
physical activities on one of those days	Female	72	1.44	1.546			
How much time did you usually spend walking on one	Male	137	1.58	1.343	0.1		
of those days	Female	114	1.71	1.486			

The overall mean of Participants habits related to vigorous and moderate physical activities and walking in days per

AS shown in table 3; Small number of participants 26%, 18% and 28% who had more than 5 days of vigorous physical activities, moderate physical activities or you walk for at least 10 minutes per week respectively; but when comparing these in hours per day; only 36%, 38% of participants had less than 4 hours of vigorous physical activities or moderate physical activities per day respectively.

Table 3: The percentages of participants habits related to vigorous and moderate physical activities and walking in days per week and in hours per day

	Number of Days per week						
	Co 11	1-2	3-4	5-6	7	Do not know / not sure	
During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, digging							
aerobics, or fast bicycling?		118	65	50	27	7	
	%	41	22	17	9	2.4	
During the last 7 days, on how many days did you do moderate physical activities like carrying light loads, bicycling at a regular pace or doubles tennis ? do not	Fr.	117	85	41	12	5	
include walking .		40	29	14	4	2	
During the last 7 days, on how many days did you walk for at least 10 minutes at a time	Fr.	39	130	66	14	2	
	%	13	45	23	5	1	
	Number of hours per day						
	Co	1-2	1-2 3-4 5-6 7 Do no				
	l1					/ not sure	
vigorous physical activities							
	Fr.	31	72	59	17	0	
	%	11	25	20	6	0	
moderate physical activities							
	Fr.	34	75	51	17	1	
	%	12	26	18	6	0	

As shown in table 4, the sitting time was ranged from 120 to 480 minutes with the mean of 300 minutes. More than 70% of participants sitting more than 5 hours per day.

Table 4: Mean sitting time per day and percentages setting hours per day

	Times in days per week								
	Gender					Std.		P Value	
			Ν	Mean		Deviation			
During the last 7 days, how much time	Male Female		160	5.36		3	3		
did you spend sitting on a week day?			126	4.75		3		0.01	
Overall mean				5.05		3			
	Times in days per week								
		1-2	3-4	5-6	7-	Over	Do	on't know	
					8	8	/	not sure	
						hours			
During the last 7 days, how much time									
did you spend sitting on a week day?	Fr	58	30	32	61	43		62	
	%	20	10	11	21	15		21	

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DISCUSSION:

This cross-sectional study design was conducted among medical student at Hail university, where 290 medical students were participated in this study at Hail university, Hail, KSA. Correct monitoring of physical activity is a good indicator for health of the population and for evaluating the effectiveness of any interventions and programs. The International Physical Activity Questionnaire (IPAQ) is used as an international tool, a comparable and standardized self measure of physical activity among populations from various countries and socio-cultural differences[13].

The World Health Organization (WHO) guidelines for physical activity recommended that at least 150 minutes of moderate aerobic activity or 75 minutes of vigorous aerobic activity a week, or a combination of moderate and vigorous activity¹⁴. Our study demonstrated that doing any types of physical activity where vigorous or moderate physical activities or even walking ranged between 1 to 3 hours per day; but when compare having any types of physical activity according to gender, males were more physically active than females related to vigorous or moderate physical activities, p value < 05, while there were no statistically significant association between males, females and walking hours per day, p value > 0.05. One previous study conducted on undergraduate students at the University of Zagreb showed same results[14]. Furthermore when we compare having any types of physical activity according to gender, males were more physically active than females and there were strongly statistically significant association, p value < 05. Across KSA, it is not common to see individuals jogging in the streets, and even much less so for females. This might be due different factors such as bad weather including long summer months, high temperature and humidity most of year months, shortage of parking and special walking areas mainly for females in addition to prevalent cultural norms, and probably religion particularly for Saudi Muslim females living in a predominantly Muslim society which accompanied by a male family member (husband, father, brother) when going outdoors which decreases opportunities for physical activity and restrict outdoor female movement alone[15].

Our findings indicated that the sitting time was ranged from 120 to 480 minutes with the mean of 300 minutes per day, this finding is similar to previous study conducted in 20 countries worldwide which reported the median sitting time was 300 minutes/day, with an interquartile range of 180–480 minutes. Recent epidemiologic studies have showed the health hazards of sedentary behaviors in general, and "sitting" time in particular. Measuring sitting

time is an essential new area for preventive and social medicine. Median sitting time varied widely across countries. Long sitting period is related with an increased risk of all-cause mortality such as cardiovascular disease, overweight and obesity[16]. Another study showed that there were about 31.3% of the participants sit less than three hours per day, whereas 69.7% of the participants are sitting three hours or more and 64.7% of the participants did not attain the recommended 150 minutes of regular training per week[17]. Our study revealed that small number of participants 26%, 18% and 28% who had more than 5 days of vigorous physical activities , moderate physical activities or walk for at least 10 minutes per week respectively. As part of their efforts to encourage and more involvement of individual to participate in health-enhancing Physical Activity, the American College of Sports Medicine (ACSM) and the Centers for Disease Control and Prevention (CDC) established a minimum recommended Physical Activity level that could be easily combined into a person's daily habit. This recommendation calls for 30 minutes of moderate intensity Physical Activity on at least 5 days each week, and the activity may be accumulated in bouts of 10 minutes or longer[18, 19].

CONCLUSION:

Physical activity being one of the leading health indicators worldwide and all individuals should engage regularly moderate physical activity for at least 30 minutes per day, so health promotion interventions and programs should be carried out to encourage youth practicing healthy life style including physical activity.

Conflicts of interest:

There were no any conflicts of interest.

Funding:

This study was funded from investigators' own pockets

List of abbreviations:

BMI: Body Mass Index

CDC: Centers for Disease Control and Prevention EMR: Mediterranean Region IPAQ: The International Physical Activity Questionnaire ISAK: International Society for the Advancement of Ki anthropometry KSA: Kingdom of Saudi Arabia PA: Physical Activity SPSS: Statistical Package for Social Sciences UK: United Kingdom USA: United State of America WHO: World Health Organization

Ethical Consideration:

All ethical issues are considered during the process of this research and the study protocol was approved by the Institutional Ethics Committee of the College of Medicine UOH with Ref. No. : EC-0033/CM/UOH.12/18 in 24/12/2018 and written informed consent was obtained from the participants prior to participation in the study.

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