

# Physical Activity and its perceived Barriers among the University Students (Colleges of Public and Environmental Health & Nursing Sciences- University of Bahri)

Dr. Somiya Gutbi Salim

Associate Professor, University of Bahri, College of Public & Environmental Health

**Abstract:** Regular physical activity has long been regarded as an important component of healthy lifestyle. Many individuals do not engage in sufficient physical activity due to low perceived benefits and high perceived barriers to exercise. Cross-sectional Descriptive study conducted among students studying in both colleges of public and environmental health & nursing sciences at University of Bahri -Sudan. The aim of the study to assess the physical activity level and its perceived barriers among the students. Data was collected by using a questionnaire that included demographic data, anthropometric measurements (weight, height) and information regarding physical activity and barriers to physical activity. The sample included 280 students. Twenty nine percent their age group between 21-23 years, most of them from middle income Families. The majority of the students had normal body weight 62.8% and 12.1% of them were underweight, 77% of the students were physically active, and 23% of them were physically inactive. The top reported barrier to physical activity among students was time limitations stated by 52% followed by lack of suitable place by 23%. Academic load was other important barriers, for being not interested in sport as stated by (7.8 %). Significant relationship was found between gender with type of sports & leisure time ( $P= 0.000$ ). The study recommended physical activity program that should address students perceived barriers to physical activity and have to be a part of colleges' curricula.

## 1. Introduction

Inactivity and living a sedentary life without much physical activity are among the major causes of chronic diseases which account for 60% of total mortality rate worldwide and this figure is expected to exceed 60% by 2020, today, different factors have worked together and resulted in human inactivity, which has been the source of many diseases. Welfare in terms of housing, using automobiles, machine work, the emergence of sedentary jobs such as office and business jobs, and leading an easy life contributed to less muscular and physical activity and in many cases ruled out the possibility of active life style (Ali, *et al.*, 2014) therefore regular physical activity has a positive effect on physical, mental, and social aspects of individual and community health. Most of the important risk factors for non-communicable diseases such as primary hypertension, osteoporosis, and cardiovascular diseases are closely related to inappropriate diet and physical inactivity (WHO, 2002). The recommended physical activity for age group 18-28 years is 60 minutes of moderate to intense physical activity per day (Abolfotouh, *et al.*, 2005). This figure is 30 minutes of moderate to intense physical activity, five times in a week or 20 minutes of intense activity 3 times a week for age group 18-65 years and older ages This could provide individuals with physical, mental and social health (WHO, 2011).

The World Health Organization indicated that the lack of physical activity considered as fourth most important cause of mortality worldwide. Physical activity is categorized as being of light, moderate, or vigorous intensity, and most health benefits have been associated with moderate to vigorous intensity physical activity (WHO, 2011). Light intensity physical activity does not cause noticeable increases to breathing, and results in small increases to

energy expenditure, while moderate intensity physical activity (e.g., brisk walking), and vigorous physical activity (e.g., jogging) both create noticeable increases in breathing and energy expenditure (WHO, 2011). Lovell, *et al.*, (2010), found that heavy academic study was considered to be one of the barriers to participate in physical activity. The perceived barriers were divided into two categories: internal barriers and external barriers. The internal barriers were grouped into three categories: lack of energy, lack of motivation and lack of self-efficacy. External barriers were also grouped into three categories: lack of resources, lack of social supports and lack of time (Gabi, *et al.*, 2010). Study in Brazil conducted by (Silva, *et al.*, 2011) indicated that the feeling of tiredness and obligations with the studies are related to the leisure-time physical inactivity. Since perceived barriers to being active are the single main predictor of health behavior Change, identifying barriers to Physical activity (PA) for university students are a key issue to develop and implement successful physical activity promotion programs for this group (Awadalla, *et al.*, 2014), (Fontes & Vianna, 2009).

## 2. Statement of the Problem

Physical inactivity is public health problem in Sudan as it is a prime behavioral risk factor associated with major Non-Communicable disease. In Sudan few studies showed that about 40% of adult did not practice physical activity (Ali, *et al.*, 2014). Physical inactivity has been identified as the fourth leading risk factor for global mortality (accounting for 60% of death globally. Worldwide, 31% of the individuals older than 15 was found to be inactive and 3.2 million deaths are attributed to lack of enough physical activity (WHO, 2012).

### 3. Justification

Physical activity is major contributing factor for prevention of non-communicable disease (NCDs) and it has positive effect on the physical, mental, and social aspects of student's health. However the researchers observed that fewer of students were practicing physical exercise and due to limited studies found in physical activity and its barriers among university students, this drew the researcher attention to carry out the present study to assess the level of physical activity and its associated barriers among the students studying in colleges of public and Environmental health and Nursing sciences (University of Bahri).

### 4. Objectives

#### Main objective

To assess the level of physical activity and its associated barriers among the students studying in college of public and Environmental health and Nursing sciences (University of Bahri)

#### Specific objectives

- 1) To identify the level of physical activity among the students studying in colleges of public and Environmental health and Nursing sciences
- 2) To determine perceived barriers to physical activity among the students studying in colleges of public and Environmental health and Nursing sciences.
- 3) To assess body mass index (BMI) among the students studying in colleges of public and Environmental health and Nursing sciences

### 5. Material and Methods

Descriptive cross-sectional study was used to assess the physical activity level and its barriers among students studying in the college of public and environmental health & college of nursing sciences at University of Bahri.

#### Sample size:

The calculation of the sample was accounted by use sloven's formula:

$$n = N / 1 + Ne^2$$

#### Where:

**n:** sample size wanted

**1:** constant

**N:** population of college of public and environmental health and college of nursing science students.

**e:** error allowable in we use 0.05 (95%)

$$n = 920 / 1 + 920 (0.05)^2$$

$$= 920 / 1 + 920 (0.0025) = 280$$

The sample size n= 280

The minimal sample size require for the study was estimated to be 280 selected by simple random sampling strategy.

#### Socio-demographic characteristics

**Table 1:** Demographic characteristic of study population

Age	Frequency	Percent
19-21	80	28
21-23	81	29
23-25	76	27.5
>25	43	15.5
Total	280	100
Level	Frequency	Percent
First	90	31.9
Second	80	28.7
Third	60	21.3
Fourth	50	18.1
Total	280	100
Residence	Frequency	Percent
At hostel	200	70.9
with family	80	29.1
Total	280	100
Income	Frequency	Percent
500-800	48	17
800-1200	107	38.9
1200-1500	84	29.6
>1500	41	14.5
Total	280	100

Table (1) shows that, (29%) of students their age group were between 21-23 years old, (31.9) of students were selected from class one and (28.7 %) from class two while (21.3 %) from class three and only (18.1%) were from class four, (38.9%) of students their family income were between (800-1200) and only (17.0 %) of them family income were between (500-800).

**Table 3:** Relationship between gender and type of sport

Types of sport	Gender		Total	P value
	Male (%)	Female (%)		
None	8 (12.5%)	56 (87.5%)	64 (100.0%)	0
Football	32 (100.0%)	0	32 (100.0%)	
Handball	11 (100%)	0	11 (100.0%)	
Swimming	27 (100%)	0	27 (100.0%)	
Tennis	12 (100%)	0	12 (100.0%)	
Basketball	5 (100.0%)	0	5 (100.0%)	
Dance	1 (2.8%)	35 (97.2%)	36 (100.0%)	
volley ball	8 (100%)	0	8 (100.0%)	
Walking	31 (36.5%)	54 (63.5%)	85 (100.0%)	

Table 3: Significant statistical relationship was found between gender and types of sport p value= (0.000).

**Table 4:** Relationship between numbers of hours spent in watching TV or videos and Body mass index

Body mass index	Hours spend in watching TV or videos or both				Total	P value
	Half an hour (%)	One hour (%)	Two hour (%)	>4 (%)		
<18 thin	11 (32%)	6 (18%)	9 (26%)	8 (24%)	34 (100.0%)	0.07
18.5-24.9 normal-healthy	38 (22%)	35 (19.7%)	67 (37.8%)	36 (20.5%)	176 (100.0%)	
25-29.9 overweight	10 (20%)	13 (25.4%)	11 (21.5%)	17 (33.10%)	51 (100.0%)	
30-34.9 obesity I	1 (10%)	3 (30%)	2 (20%)	4 (40%)	10 (100.0%)	
35-39.9 obesity II	0	1 (6.67%)	3 (50%)	2 (33.33%)	6 (100.0%)	
≥40	1 (33.00%)	0	2 (67%)	0	3 (100.00%)	

Table (4) indicates that no significant relationship was detected between numbers of hours spent in watching TV or videos and Body mass index P value= (0.070).

**Table 5:** Relationship between gender and leisure time:

Leisure time	Gender		Total	P value
	Male (%)	Female (%)		
Reading	33 (25.8%)	95 (74.2%)	128 (100.0%)	<b>0.000</b>
No activity	44 (68.75%)	20 (31.25%)	64 (100.0%)	
Physically active	140 (64.8%)	76 (35.2%)	216	
At work	10 (53%)	9 (47%)	19 (100.0%)	

As shown in Table (5) a significant relationship was found between gender and leisure time p value= (0.000).

**Table 6:** Relationship between Practicing of physical activity and body mass index:

Body mass index	Practice of physical activity		Total	P value
	Yes (%)	No (%)		
<18 thin	28 (82%)	6 (18%)	34 (100.0%)	<b>0.129</b>
18.5-24.9 normal	142 (80%)	34 (20%)	176 (100.0%)	
25-29.9 overweight	31 (60.7%)	20 (39.3%)	51 (100.0%)	
30-34.9 obesity class I	8 (80%)	2 (20%)	10 (100.0%)	
35-39.9 obesity class II	4 (66.7%)	2 (33.3%)	6 (100.0%)	
≥40	3 (100)	0	3 (100.0%)	
	216 (77%)	64 (23%)		

Table (6) clarifies that no significant relationship was found between Practicing of physical activity and body mass index p value= (0.129).

**Table 7:** Barriers to physical activity among the students

Reasons for not practice PA or sport	Frequency	Percent
No time	33	52
Don't know the importance PA to the health of	5	7.8
Academic loads	5	7.8
No suitable place for practice	15	23
For health conditions	6	9.4
Total	64	100

Table (7) reveals that (52%) of students did not find time for physical exercise and (23%) of them did not find suitable place for practice.

## 6. Discussion

The present study aimed at assessing the physical activity and its perceived barriers among students study in college of public & environmental health and college of nursing sciences at university of Bahri. Two hundred and eighty students were enrolled in the current study included both male and female students, (70.9%) of the students lived in hostels and (29.1%) of students lived with their families. Age of the students was falling between 21-23. Regarding to the gender, significant relationship was detected between gender and type of sport (P=0.000) 58.8% of male more likely to participate in physical activities compared with females (41.2%). Biologically nature of males' body is differing from females' body nature which helps them to

practice sport. Regarding the anthropometric measures, the result indicated that, (62.8%) of the students had normal body weight, (12.1%) were under weight and (1.07%) were classified as morbid obese (BMI ≥40), no significant relationship was detected between physical activity and students' body mass index, P value= (0.129) as most of the students had normal healthy body mass index. The present study revealed, that the prevalence of inactive leisure time among the students (68.75% male&31.25% female), this is in line with previous study in Saudi Arabia demonstrated that the prevalence of inactive leisure time (67.5 female and 32.5% for male).among the students (Awadalla, *et al.*, 2014).however significant statistical relationship was detected between gender and leisure time (p = 0.000). The present study showed (77%) of students were physically active and (23%) were physically inactive, similar study in USA reported that (68%) of university students were physically active and about (22.5%) were inactive (Suminsk. *et al.*, 2002). In present study, time limitation was the first barrier reported by inactive students (52 %) followed by lack of suitable place (23%) previous study was in line with present study, indicated some barriers for practice of physical activity included (lack of time, 41.2%), (absence of places for the practice, 35.5%), (lack of safe places, 31.9%) (El-Gilany, *et al.*, 2011). Academic load was other important barriers, for being not interested in sport as stated by (7.8 %) of the students who spent at least more than three hour daily in writing assignment and reading, so that they did not find time for practicing sport. This is in accordance with a study in Egypt; found that heavy academic study was considered to be one of the barriers to participate in physical activity (El-Gilany *et al.*, 2011).

## 7. Conclusions

The study concluded that, (77%) of students were physically active and (23%) were physically inactive. Significant barriers to physical activity that reported by students, were personal factors, such as time limitation and lack of suitable place as well as academic load.

The study recommends Awareness should be raised about the benefits of physical activity and healthy lifestyles for the prevention of chronic diseases and improvement of quality of life.

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