



## INSOMNIA AMONG MEDICAL STUDENTS OF BAHRI UNIVERSITY AND ITS RELATIONS TO SOME (2018-2017) VARIABLES DURING PERIOD

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### Abstract

Normally human need to sleep for recommended hours to function properly , adequate sleep is necessary for good health , this why suffering from insomnia for long time may cause physiological and cognitive problems , the general objective of this study is to study the prevalence of insomnia among medical students of Bahri university and its relation to some variables during the period of (2017 \_ 2018 ) , data was collected through insomnia scale designed by dr. Ahmed Abdelkhaleg , Maysa Ahmed , Hanan Saeid Alnayal , this scale was rationed to fit Sudanese environment , the study included 377 student from faculty of medicine from (First,Thirdand Sixth) grades ,the study found that there was a statistically significant differences in insomnia prevalence attributing to students residence , where those students who live in hostels or with their relatives suffer more compared to those who live with their families , there was no apparent negative academic impact , the researcher recommends raising students awareness about bad impact of prolonged insomnia which may lead to addiction to internet , drugs , pornographic websites and it is also associated with crime commit, universities administrations should take care of students psychological health and offer counseling . Programs about insomnia and how to address it's effect to prevent future spread of this Phenomena , good living place is supportive to good sleep quality , so hostels need to be well prepared for those who were



compelled to live away from their families so as to offer a Suitable environment, as well, parents should try to offer a suitable environment for their sons And daughters.

## 1.1 General Introduction

Sleep is one of the very important activities that humans and many other creatures Used to do since the creation of this plant , its important because it represent a vital Process for human life and its directly affect their function and their awareness , so Good sleep quality for 7 to 9 hour helps the person to function well , and it also Associated with good health in general , because if we didn't sleep well we will suffer From some sleep related illnesses

In general sleep occurs in 3 to 5 cycles , scientist named these cycles as Rapid Eye Movement (REM) and Non Rapid Eye Movement( NREM(Rapid eye movement (REM) – when most dreaming occurs.

Non-REM – has three phases, including the deepest sleep , your body typically works On a 24-hour cycle (circadian rhythm) that helps you know when to sleep.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders , Diagnostic sleep medicine[ 2013].

The Suitable sleep hours needed varies from one person to another according to many Things like age , gender , physical problems , health status , life style , work nature etc.

"According to the National Sleep Foundation most adults need about seven to nine Hours of restful sleep each night. The Foundation revised its sleep recommendations In 2015 based on a rigorous review of the scientific literature" .Unfortunately as Noticed one third of population don't get enough sleep at night , " Nearly 30 percent Of adults get less than six hours of sleep each night and



only about 30 percent of high School students get at least eight hours of sleep on an average school night. An Estimated 35 percent of Americans report their sleep quality as “poor” or “only fair ”Centers for Disease Control and Prevention. Insufficient Sleep is a Public Health Problem. Accessed July [2017].

Human brain needs enough sleep to function properly , this why poor sleep quality or Not getting enough sleep leads to potential consequences like irritability , being tired With low energy , mood disturbance ,problems in decision making and focusing Problems.

" Lack of sleep and too much sleep are linked to many chronic health problems, such As heart disease and diabetes. Sleep disturbances can also be a warning sign for Medical and neurological problems, such as congestive heart failure, osteoarthritis And Parkinson’s disease. Diagnostic and Statistical Manual of Mental Disorders,Diagnostic sleep medicine,[ 2013]

### **Sleep disorders**

Sleep disorder are those condition associated with quality , timing and how many Hours do the person sleep , which may cause distress during daytime and function Impairment.

"Sleep-wake disorders often occur along with medical conditions or other mental Health conditions, such as depression, anxiety, or cognitive disorders " [4] National Sleep Foundation. Sleep Health Index. [2014]

### **Insomnia**

When a person complains of having problems to get sleep , stay sleep or suffer from Interrupted sleep pattern this condition called insomnia.Apparently about one third of Population suffer from insomnia according to many researches have been done Regarding insomnia.It has been noticed that insomnia associated with almost all Mental and psychiatric illnesses ." 10-15 percent report problems



with functioning During the daytime and 6-10 percent have symptoms severe enough to meet criteria For insomnia disorder. An estimated 40-50 percent of individuals with insomnia also Have another mental disorder , National Sleep \American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorder, Diagnostic sleep medicine s,[ 2013].

## 1.2 Research problem and justification:

Sleep disturbances severely impair medical students academic success , they need to Stay focused due to much load in their study programs , they should study for long Hours and due to this pressure they may stay awake till late hours or getting up early In the morning , which may lead to day time sleepiness ,difficulty to fall asleep at Night , inability to stay sleepfor recommended hours and such problems are called Insomnia ,it is common for those with insomnia to suffer from chronic fatigue , Depression , stress , anxiety and lower life quality , this why they need to regulate Their time and seek help when they face such problems to achieve their goals .

Justification is that the healthy sleep helps human mind to function well, medical student need to stay Focused to cope with their study programs, this is why it is important to raise their Awareness about insomnia .and to add another study regarding sleep problems among Medical students in sudan.

## 1.3Objectives:

Insomnia is a serious problem with bad impacts on human life in general and it affects The lifestyle too , There were many international studies those associated between Sleep problems and variables of gender , study level and its prevalence among Medical students , this why the researcher aimed to apply this study in sudan to find Weather there were statistically significant relations between sleep problems and its Prevalence among medical students with



respect to variables of gender ,study year in Addition to students residence and make comparisons between the results of this Study and other international studies regarding the same domain.

### **General objectives:**

To study the prevalence of insomnia among medical students of Bahri university and Its relation to some variables during 2017 \_ 2018 .

### **Specific objectives:**

1.To study the prevalence of insomnia among medical students of Bahri university .

2.To determine if there are statistically significant differences in the insomnia among Medical students of Bahri university attributing to gender.

3.To determine if there are statistically significant differences in the insomnia among Medical students of Bahri university attributing to students study level.

4.To determine if there are statistically significant differences in the insomnia among Medical students of Bahri university attributing to students residence

## **RESULTS AND DISCUSSION**

### **Result and discussion of insomnia scale :**

This chapter contains the results and discussion of spss analysis .

Insomnia is a serious health problem , it has bad impacts on human health in general And it affects lifestyle too ,there were many international studies those associated Between sleep problems and variables of gender , study level and its prevalence Among medical students , this why the researcher aimed to apply this



study in Sudan Because as noticed many students fall asleep during lectures or at least feel so sleepy When they come to their university , which may indicates they don't have enough Sleep at night , on other hand this study aims to find whether there were a Statistically significant differences between sleep problems and its prevalence among Medical students with respect to variables of gender , level of study year addition to Students residence and make comparisons between the results of this study and other International studies regarding the same domain .

The results of the study was analyzed by using the statistical package of social Sciences spss.

**Table( 4.1)Shows male and females number and percentage**

gender	frequency	Percentage
male	128	34%
female	249	66%
total	337	100%

According to table (4.1) 377 students were enrolled in the study ,128 male forming (34%) of Study total population, 249 female forming (66%) of study total population.

**Table (4.2): shows the students age intervals:**

Age	Frequency	Percentage
16 _20	156	41.4%
20 _24	172	45.6%



More than 24	49	13%
Total	377	100%

As shown in table (4.2) there were 156 students their age interval between 16-20 which is (41.4%) , 172 Students their age between 20-24 which is (45.6%) and there were 49 students who Were older than 24 which represents (13.0%) of study total population.

**Table (4. 3) :shows students numbers and percentage according to study level**

Students grade	Frequency	percentage
Grade 1	130	34.5%
Grade 3	117	31%
Grade 6	130	34.5%
Total	377	100%

With respect to students study grade, there were 130 students from the first grade Representing (34%) , 117 students from third grade representing (31%) and 130 Student from sixth grade representing (34%) of total study population ( table 4.3).



**Table (4.4) : shows distributions of students residence and percentage**

Residence	Frequency	Percentage
With family	243	64.5%
Hostel	101	26.8%
With relatives	19	5%
With friends	5	1.3%
Total	377	100%

Regarding residence most of the students were found to live with their families 243 Student forming (64.5%) , 101 reside in hostels forming (26.8%), 19 student lived With their relatives forming (5%) and only 5 students lived with their friends forming (1. 3%) ( table 4.4).

**Table( 4.5) :**

Hypothesis is no(1 ) the level of insomnia : the researcher used (t)one - sample -t And showed the following result :

Variable	No	Mean	ST-DV	Average theoretical	(t)value	Sig
Insomnia	377	21.76	6.256	30	-25.569	.000

From the table above the researcher noted that the (t) value reached (-25.569), at a Level of significance(.0.00), it's a statistically indicates : the level of insomnia is low.





**Table (4.6) : shows the severity of insomnia according to scale answers**

	classification	frequency	percentage	Insomnia interval
Level of insomnia among medical students	High	26	6.9%	12_23
	average	69	18.3%	24_35
	Low	282	74.8%	36_48
	Total	377	100.0%	48

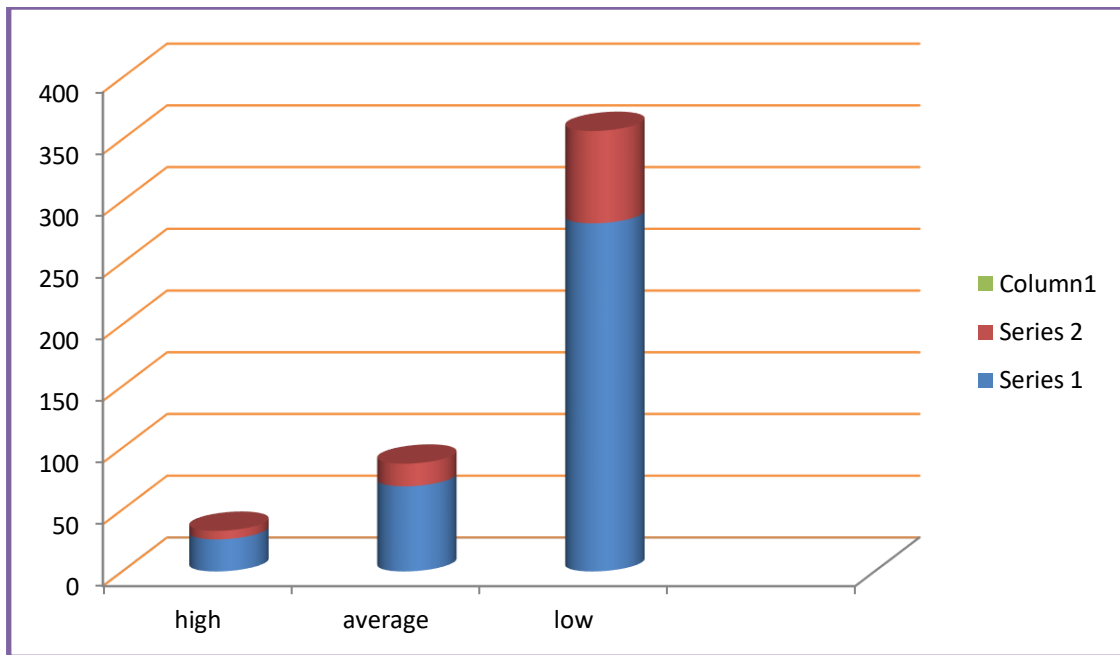
Above table showing that the high level of insomnia among the medical student of Bahri university was only 6.9% representing 26 students only , where the interval of insomnia severity was considered as follow according to insomnia scale answers :

According to scores given for answers the least score is 12 and the highest is 48.

(12\_23) : low

(24\_35) : moderate

(36\_48) severe



**Figure (4.1) : representing the severity of insomnia .**

#### **4.1 First hypothesis discussion :**

First hypothesis stated that ( the Insomnia is expected to be highly dominated among Medical students of Bahri university) .

According to table (4.6) which showed that the t value was less than significant which Means the prevalence of insomnia is low, conversing the researcher observation Where students tend to fall asleep during lectures and the small present could be Attributed to student denial ,In other hand a study by Huen LL et al[ 2011] on Medical students which opposed the results of the previously mentioned results , it Found that about 70% of medical students self \_reported sleep deprivation , On other Hand Brick CA[ 2010] study which confirmed that medical students sleep quality Was significantly worse than a healthy adult sample, alsoMubasir zafar [2020] study Found that the sleep disorder was highly prevalent among medical students and it was Associated with poor academic performance , so Brick and Mubashir they don't agree With the small percent finding of first hypothesis .



Preišegolavičiūtė E et al [2010] study revealed poor sleep quality in 40% of medical Students as measured by the Pittsburgh sleep quality index ,it's a questionnaire Designed to measure sleep quality and disturbance( PSQI) . Another survey of 150 Indian medical students, 30.6% reported an ESS > 10, indicating daytime sleepiness , [23]Giri et al [2013], according to previously mentioned results the disagreement Between this study and other international studies from Europe , India ,Hong Kong ,South and north America was clear ,because the international studies confirmed high Prevalence of sleep problems among medical students ,while this study find only Small percentage ,so 1<sup>st</sup> hypothesis was not confirmed.

Hypothesis No(2) there are statistically significant differences in the Insomnia among medical students of Bahri university attributing to gender and to Achieve the aims researcher used (independent –sample T test) and showed the Following result :

**Table (4.7) :**

Variable	N	gender	Mean	ST-D	(T)	Asymp. Sig. (2-tailed)	Result
Insomnia	1	male	21.4	5.11	-.685	.493	There are no differences between male and female
	2	female	21.9	6.77			
	28		5	0			
	49		2	5			

#### 4.2 Second hypothesis discussion :



Second hypothesis stated that (there are statistically significant differences in the Insomnia among medical students of Bahri university attributing to gender) , the Result in above table (8) showed there is no differences between males and females , While Lu J[ 2011] study on medical students reported that more than 90% of the Undergraduate in that study experienced excessive sleepiness in class , with more Males than females.

Giri P[ 2013] have done a survey on 150 Indian medical students reported that sleep Quality in females Was better than in males ,in contrast with the second hypothesis of This study which assumed there could be a positive correlational relation between Insomnia and gender , hence this assumption didn't fulfilled. Also the study of Loyzza[ 2001] showed that there were 28.2% of students in study sample size had Insomnia , females had more difficulty in maintaining sleep than males who were More likely to report "falling Asleep late " ,this result disagreed with the finding of Above Mentioned study Lu J which found males experienced excessive sleepiness In Class Than females. with regard to results of those previously mentioned studies and When They get compared to second hypothesis in (table 8) no coincidence found Between Them and therefore the second hypothesis in this research was not Confirmed.

Hypothesis No( 3 ) there are statistically significant differences in the insomnia Among medical students of Bahri university attributing to students study level , and To achieve the aims researcher used one way (Anova) and showed the following Results :

**Table (4.8):**

		Sum of Squares	Df	Mean Square	F	Sig	Result
insomnia	Between Groups	61.544	2	30.772	.785	.457	There are no differences
	Within Groups	14654.971	374	39.184			
	Total	14716.515	376				

### 4.3 Third hypothesis discussion :

Third hypothesis stated that (there are statistically significant differences in the Insomnia among medical students of Bahri university attributing to students study Level).

Here the researcher was looking for differences in insomnia among medical students Attributing to student study level which wasn't exist , conversely In a study on 244 Iranian medical students 40.6% reported poor sleep quality; this was significantly Associated with lower grades this means the Iranian study found positive relation Between study year and poor sleep which is seen in lower grades ,also like Tafoya SA[2013] study in Mexico which found 24% of first year reported some sleep Difficulties in the week prior to the survey, but Zailinawati AH et al didn't agree with Iranian and Mexico studies because they found that the daytime sleepiness was Significantly more common among the clinical students . all above mentioned studies From Mexico , Iran and Zailianawati et al confirmed there is relation between sleep Difficulties and study level in reverse to this study hypothesis which assumed there is A positive correlational relation between insomnia prevalence and student study level , But wasn't found among medical students of Bahri university where the study took Place .hence the hypothesis was not confirmed .



Hypothesis No (4) there are statistically significant differences in the insomnia Among medical students of Bahri university attributing to students residence , to Achieve the aims researcher used one way (Anova) and showed the following result :

**Table (4.9) :**

		Sum of Squares	Df	Mean Square	F	Sig	Result
insomnia	Between Groups	378.092	4	94.523	2.452	.046	There are differences
	Within Groups	14338.422	372	38.544			
	Total	14716.515	376				

#### 4.4 Fourth hypothesis discussion :

Fourth hypothesis stated that (there are statistically significant differences in the Insomnia among medical students of Bahri university attributing to students Residence).

Table (4.9) representing a result of this research data collection , here the analysis Showed that there were differences attributing to students residence where the Insomnia appeared among those who lived with their relatives and who lived in Hostels , but it wasn't apparent among those who lived with their families, this means The fourth hypothesis was confirmed , but there was no available data that agrees or Disagrees with this finding ,this why it demands much research to find weather there Is any relation between students residence and prevalence of insomnia .

#### 4.5 Justification

Study results disagreed with researcher first, second and third hypothesis , in the first Place they were assumptions needed to be proved or disproved through



this study , Which didn't confirm those assumptions but regarding fourth hypothesis which Showed that the students who lived with their relatives or in hostels suffer from Insomnia which could be attributed to un comfortable environment .

## CONCLUSIONS AND RECOMMENDATIONS

This chapter contains conclusions and recommendations based on study results .

### 5.1 Conclusion :

Although the researcher noticed that there were some student take naps during class But the study showed that the insomnia prevalent in small percentage among Medical students of Bahri university, there is no statistically significant differences Between insomnia attributed to gender or student study year but there was statistical Significant difference attributed to student residence.

### 5.2 Recommendations :

Based on research results ,the researcher recommend the following :

1. Universities should take care of students psychological health and offer counseling Program about insomnia and how to address it's effect to prevent future spread of this Phenomena .

2.Students need to know about insomnia and its bad impact on them so as to avoid it .

3. Raise student awareness about bad impact of prolong insomnia which may lead to Addiction to internet , drugs or pornographic web sites, it could also be associated With crimes commit.



4. Good living place is supportive to sleep quality , so hostels need to be well prepared For those who were compelled to live away from their families so as to offer a Suitable environment, parents should try to offer a suitable environment for their sons And daughters .





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