

ASSESSMENT OF THE FREQUENCY OF PITTSBURGH SLEEP QUALITY COMPONENTS AT TERTIARY CARE HOSPITAL HYDEBABD

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ABSTRACT

Background: Sleep is an essential and vital component for optimum and balance the dimensions of health and quality of life and normal brain functions and also the associated body's system, 7 to 8 hours of sleep is recommended for better condition of health and restoration of body functions. Sleep is a vital component and essential element for the mental, physical, and social dimensions of health, it depends on the amount or quantity and quality or eminence of sleep, both are essential for life. Sleep quantity and sleep quality have a significant effect on health like the cardiovascular system, mental health, cognitive function, memory, immunity, reproductive life, and hormone secretion. Most of the world's population was not getting appropriate sleep like the USA 50 to 70 million adults suffering from various kinds of sleep problems.

Methodology: A Comparative Cross-Sectional study was conducted at Medical OPD Liaquat University Hospital Hyderabad/ Jamshoro from May 2024 to October. The Estimated sample size 362n was calculated with the help of Open Epi Info with margin of Error 5%, Confidence Level 95%, non-probability convenient sampling. Participants who visit the Medical OPD for follow-up medical Care with aged 18 years and older who were obese and Non-obese and Consenting Participants and willing to study participants of both genders were included. Non-consenting Participants and Any abnormal neurological condition, intellectually disabled, pregnant women, aged less than 18 years, and those patients were excluded who were not willing to participate in this study were excluded.

Results: the majority of the study participants were usually gone to bed at 9:00 pm to 12:00 am 284 (79%), fall asleep every night > 60 minutes 212 (58%), gotten sleep hours per night <5 h 147 (40.6%), could not gotten sleep within 30 minutes three or more times a week 249 (69%), Waking up in the middle of the night or early morning, three or more times a week 267 (73.8%), getup for use the bathroom three or more times a week 260 (72%), Cannot breathe comfortably three or more times a week 258 (71%), Feeling too cold not during the past month 297 (82%), Feeling too hot three or more times a week 315 (87%), participants (83%) were not taking the medicine for help with sleep, prescribed medication was 12% and 5% were OTC medication taken by the study participants for help in sleep. trouble staying awake, three or more times a week (53%), keep up

enough enthusiasm, a very big problem (51%), participants rate their sleep quality overall, as very bad (39.8%), very good (34.8%), fairly good (14.9%), and fairly bad (10.8%).

Conclusion: This study concluded that most of the participants were suffering from unhealthy sleeping conditions because of their life style and during data collection it was also observed that environmental condition was also depends on their sleep quality.

INTRODUCTION

Sleep is an essential and vital component for optimum and balance the dimensions of health and quality of life and normal brain functions and also the associated body's system, 7 to 8 hours of sleep is recommended for better condition of health and restoration of body functions. Sleep is a vital component and essential element for the mental, physical, and social dimensions of health, it depends on the amount or quantity and quality or eminence of sleep, both are essential for life. Sleep quantity and sleep quality have a significant effect on health like the cardiovascular system, mental health, cognitive function, memory, immunity, reproductive life, and hormone secretion. Most of the world's population was not getting appropriate sleep like the USA 50 to 70 million adults suffering from various kinds of sleep problems.

"Sleep quality" is related to a person's self-satisfaction in every component of sleep like duration, efficiency, latency, etc. It does not depend on the objective sleep factors. Past literature proposed that future obesity due to the duration of short sleep was a major risk factor (odds ratio: 1.412; 95% CI).

Past literature proposed that short duration of sleep is one of the risk factors in future obesity (Odds Ratio 1.412; CI95%) and long sleep duration was not significantly associated (odds ratio 0.995; 95% CI). Good quality of sleep is an essential dimension of health and quality of life, poor diets and deskbound life increase the risk of obesity and other health issues. Those who have a sedentary lifestyle and do not get a sufficient amount of sleep as per recommendation have a risk of occupation-related injury, low productivity, instability of mood and emotions, obesity, and other comorbidities. Poor sleep quality or short duration of sleep increases the level of energy intake and opportunities to eat more it occurs changes in the body's hormones of appetite

decreases the physical activities and feeling of lethargic at day time.

Research Methodology

A Comparative Cross-Sectional study was conducted at Medical OPD Liaquat University Hospital Hyderabad/ Jamshoro from May 2024 to October. The Estimated sample size 362n was calculated with the help of Open Epi Info with margin of Error 5%, Confidence Level 95%, non-probability convenient sampling. Participants who visit the Medical OPD for follow-up medical Care with aged 18 years and older who were obese and Non- obese and Consenting Participants and willing to study participants of both genders were included. Non-consenting Participants and Any abnormal neurological condition, intellectually disabled, pregnant women, aged less than 18 years, and those patients were excluded who were not willing to participate in this study were excluded.

Data Collection

The collection of information from the participants about the research depended on the two major sections one was the demographic section which includes the participants' names, Ages, Residences, marital status, socioeconomic status, education level, and ethnicity. The second section was sleeping quality according to the Pittsburgh Sleep Quality Index (PSQI Index). PSQI proposed by Buysse et al (1989) was used for the assessment of the sleep quality regarding the past month sleep sleep-related queries. This is the most effective and widely used tool for sleep measurement worldwide. It depends on 19 questions with a score of 0 to 21. Every question marked with the range of 0 to 3 (0 means good and 3 means worse), is further divided into seven most effective components, and it includes subjective sleep quality, latency, duration, efficiency, disturbance, medication,

and daytime dysfunction. PSQI Score < 5 indicated good sleep quality and > 5 indicated worse sleep quality. This is the most authentic, effective, and globally used subjective method

for assessing sleep quality with the $\alpha = .83$ internal reliability, test and retest reliability .85 sensitivity 89.6%, and specificity 86.5%.

Results

Table 1: Bed Time, Fall Asleep each night and hours of Sleep

Bed Time			
1:00 am To 4:00 am	5:00 pm To 8:00 pm	9:00 pm To 12:00 am	
37 (10.2%)	41 (11.3%)	284 (78.5%)	
How Long (in minutes) has usually taken you to Fall Asleep each night			
< 15 Minutes	16 To 30 Minutes	> 60 Minutes	
47 (13%)	103 (29%)	212 (58%)	
Getting Up Time			
1:00 am - 5:00 am	6:00 am - 8:00 am	9:00 am - 11:00 am	
139 (38.4%)	195 (53.9%)	28 (7.7%)	
Hours of Sleep per Night			
< 5 hours	5 - 6 Hours	6 - 7 Hours	>7 Hours
147 (40.6%)	100 (27.6%)	103 (28.5%)	12 (3.3%)

Table 2: Troubles in Sleeping

Description	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
Cannot get to sleep within 30 minutes	73 (20%)	11 (3%)	29 (8%)	249 (69%)
Wake up in the middle of the night or early morning	46 (12.7%)	7 (1.9%)	42 (11.6%)	267 (73.8%)
Have to get up to use the bathroom	44 (12%)	15 (4%)	43 (12%)	260 (72%)
Cannot breathe comfortably	88 (24%)	-	16 (5%)	258 (71%)
Cough or snore loudly	160 (44%)	-	18 (5%)	184 (51%)
Feel too cold	297 (82%)	9 (3%)	18 (5%)	38 (10%)
Feel too hot	30 (8%)	-	17 (5%)	315 (87%)
Have bad dreams	129 (36%)	-	9 (2%)	224 (62%)
Have pain	33 (9%)	-	9 (3%)	320 (88%)
Taken Medicine to help you sleep	299 (83%)	6 (2%)	13 (3%)	44 (12%)
Trouble Staying Awake	141 (39%)	16 (4%)	15 (4%)	190 (53%)
Loud snoring	161 (45%)	5 (1%)	-	196 (54%)
Long pauses between breaths while asleep	131 (36%)	6 (2%)	14 (4%)	211 (58%)
Legs twitching or jerking while you sleep	44 (12%)	-	18 (5%)	300 (83%)
Episodes of disorientation or confusion during sleep	30 (8%)	-	22 (6%)	310 (86%)

Table 3: Sleep Quality and Problem to keep up enough Enthusiasm

Problem to keep up enough Enthusiasm			
No problem at all	Only a very slight problem	Somewhat of a problem	A very big problem
125 (35%)	21 (6%)	30 (8%)	186 (51%)
Rate your Sleep Quality			
Very Good	Fairly Good	Fairly Bad	Very Bad
126 (34.8%)	54 (14.9%)	39 (10.8%)	143 (39.5%)
Bed Partner or Roommate			
No bed partner or roommate	Partner/roommate in other room	Partner in the same room but not same bed	Partner in the same bed
153 (42%)	37 (10%)	12 (3%)	160 (45%)
Other restlessness while you sleep			
Anger & Memory	NA	Sleep in the Day	NA
148 (41%)	214 (59%)	104 (29%)	258 (71%)
Medication			
Not Taking	Prescribed	Over the Counter (OTC)	
299 (83%)	12 (12%)	20 (5%)	

Discussion

The results showed that in the past month, the majority of the study participants were usually gone to bed at 9:00 pm to 12:00 am 284 (79%), 5:00 pm to 8:00 pm 37 (11%), 1:00 am to 4:00 am 37 (10%). Most of the participants were gotten up in the morning usually timing 6:00 am to 8:00 am 195 (54%), 1:00 am to 5:00 am 139 (38%), 9:00 am to 11:00 am 28 (8%). In the link of these findings, one of the study (2021) exposed that bed timing at 9:00 pm to 12:00 am (38%), 1:00 am to 6:00 am (62%), morning wakeup timing from 7:00 am to 9:00 am (53%), 10:00 am to 11:am (30%), > 11:00 am to > noon (17%). It was showed that during the past month how many minutes usually took participants to fall asleep every night > 60 minutes 212 (58%), 16 to 30 minutes 103 (29%), < 15 minutes 47 (13%). In contrast, the same study (2021) conducted in the Kuwaiti adult population showed that ≤15 minutes (29.7%), 16 to 30 minutes (25.3%), 31 to 60 minutes (23.6%), and > 60 minutes (20.5%) and also displayed that in the past month, most of the participants were gotten sleep hours per night <5 h 147 (40.6%), 5-6h 100 (27.6%), 6-7h 103(28.5%), >7h 12 (3.3%). In connection, a comparative cross-sectional study conducted in Rawalpindi Pakistan showed that the study participants slept < 6 h/night (43%) and > 6h/night (57%). This study was also showed that the last month's study participants could not gotten sleep within 30 minutes three or more

times a week 249 (69%), not during the past month 73 (20%), once or twice a week 29 (8%), less than once a week 11 (3%). Similarly, one of the studies of Jordon (2021) presented that not during the past month (38%), three or more times a week (24%), less than once a week (20%), once or twice a week (18%). Waking up in the middle of the night or early morning, three or more times a week 267 (73.8%), not during the past month 46 (12.7%), once or twice a week 42 (11.6%), less than once a week 7 (1.9%). Table -16 presented that the night getup for use the bathroom three or more times a week 260 (72%), once or twice a week 43 (12%), not during the past month 44 (12%), less than once a week 15 (4%). In link with the previous study of Nepal (2021) revealed that waking up in the middle of the night or early morning not during the past month (47%), less than once a week (29%), once or twice a week (20%), three or more times a week (7%), get up to use the bathroom not during the past month (44%), once or twice a week (28%), less than once a week (21%), three or more times a week (7%)

Results showed that Cannot breathe comfortably three or more times a week 258 (71%), not during the past month 88 (24%), coughing or snoring loudly three or more times a week 184 (51%), not during the past month 160 (44%), feeling too cold not during the past month 297 (82%). In connection one of the studies (2022) was conducted among Indian

Students, publicized that not during the past month (77%), less than once a week (13%), once or twice a week (7%), three or more times a week (3%) cannot breathe comfortably and cough or snore loudly. Feel too cold, not during the past month (51%), less than once a week (25%), once or twice a week (14%), three or more times a week (10%). It was also mentioned that feeling too hot three or more times a week 315 (87%), Bad dreaming three or more times a week 224 (62%), not during the past month 129 (36%). In the connection one of the cross-sectional studies (2020) presented that feel too hot not during the past month (62%), less than once a week (15%), once or twice a week (12%), three or more times a week (11%), have bad dreams not during the past month (49%), less than once a week (24%), three or more times a week (14%), once or twice a week (13%).

Regarding pain showed that three or more times a week 320 (88%), and other reasons 258 (71%), sometimes sleep in the day 85 (24%), 1 - 2 hours' sleep in the day 19 (5%). In comparison to this one of the studies (2023) was conducted on sleep quality and related factors among the adult population in China, revealing pain and discomfort (8.3%) and other reasons (4.9%). The prescribed medication was 12% and 5% were OTC medication taken by the study participants for help in sleep. In contrast, one study (2020) in India showed that (7% of) the study population used sleep medication to help the sleep.

Trouble staying awake, three or more times a week (53%), not during the past month (39%). It was also mentioned that during the past month problems to keep up enough enthusiasm, a very big problem (51%), no problem (35%). In contrast one of the study (2022) conducted in the Egypt among general population explored that trouble staying awake, Not during the past month (71%), less than once a week (15%), once or twice a week (10%), Three or more times a week (4%), problem to keep up the enthusiasm to get things done, No problem at all (9%), only a very slight problem (22%), somewhat of a problem (44%), a very big problem (25%), rate of your oversleep quality by Very good (12%), fairly good (52%), fairly bad (18%), very bad (18%).

It was displayed that the majority of the participants were partners in the same bed 160

(45%), no bed partner or roommate 153 (42%), partner/roommate in another room 37 (10%), partners in the same room but not same bed 12 (3%). In similar one of the studies (2024) of Saudi Arabia showed that No bedtime partner or roommate (54%), partner in same room but not same bed (37%), partner in same bed (7%), partner/roommate in other room (2%), Loud snoring, not during the past month (69%), Less than once a week (19%), Once or twice a week (7%), Three or more times a week (5%).

It was also concluded that participant took long pauses between breaths while asleep, three or more times a week 211 (58%), not during the past month 131 (36%), once or twice a week 14 (4%), less than once a week 6 (2%). In connection with the cross-sectional study (2022) among young adults of the Indian population, revealed that (15%) of study participants took long pauses between breaths and loud snoring while asleep, and 38% of participants experienced episodes of legs twitching and jerking while asleep. Participants were episodes of disorientation or confusion during sleep, three or more times a week 310 (86%), other restlessness while you sleep not any 214 (59%) anger & memory issue 148 (41%). In contrast one of the studies (2024) publicized regarding the episodes of disorientation or confusion during sleep, not during the past month (62%), regarding other restlessness while you sleep, not during the past month (67%), less than once a week (15%), once or twice a week (10%), three or more times a week (8%)

Conclusion

This study concluded that most of the participants were suffering from unhealthy sleeping conditions because of their life style and during data collection it was also observed that environmental condition was also depends on their sleep quality. So, it was necessary that environmental modification and health promotion programs must be conducted at community level that peoples of community must be know that how can they will be improved standard of lives.

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