

A Descriptive Study to Assess the Quality of Sleep and Sleep Hygiene among Patients Diagnosed with Neurotic Disorders attending OPD, LGBRIMH, Tezpur and to Develop a Sleep Hygiene Education Protocol

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Abstract: *Stress is among the important factors threatening mental health and occurrence of daily stress would affect individuals' physical and mental health and in the long term, can lead to neurotic and stress related disorders.* Many experts believe that people learn insomnia and can also learn how to sleep better. Good sleep hygiene is the term used which includes some practices like - maintaining a regular sleep - wake schedule, using the sleeping bed only for the purpose of sleep or sexual activities, keeping the bedroom environment soothing and calm and free from any distractions like bright lights, noise, electronics etc. An individual may have a poor quality of sleep due to some improper practices of sleep hygiene. *A non - experimental approach, descriptive research design was used in the present study to accomplish the objectives. Purposive sampling technique was used to obtain the adequate size of the sample. The study population comprises the diagnosed patients of neurotic and stress related disorders attending OPD of LGBRIMH, Tezpur. Forty - seven (47) patients diagnosed with neurotic and stress related disorders were selected for the study. Socio - demographic and clinical proforma and standardized tools: Pittsburgh Sleep Quality Index (PSQI) and Sleep Hygiene Index (SHI) Scales were used for data collection. Statistical analysis was done using descriptive and inferential statistics with the help of SPSS software version 20. The result showed that the mean Sleep Hygiene Index score was 24.57 ± 7.42 with a range between 13 - 47. And upon analysis it was found that among the participants 61.7% (29) were having SHI Score < 25 which indicates good sleep hygiene. The Pittsburgh Sleep Quality Index scores showed that majority of the participants 85.1% (40) were having PSQI Score of 5 - 21 indicating poor quality of sleep. It was also found that there was a significant association between domicile ($\chi^2 = 4.748$, $p = 0.029$) and sleep hygiene. Pearson correlation showed that there was significant correlation between sleep hygiene and quality of sleep of the participants ($r = 0.550^{**}$, $p = 0.000$) at 0.01 level of significance.*

Keywords: Quality of sleep, sleep hygiene & neurotic disorder

1. Introduction

Stress is among the important factors threatening mental health and occurrence of daily stress would affect individuals' physical and mental health and in the long term, can lead to neurotic and stress related disorders. Therefore in the field of mental health care system, a gradual shift in the focus from medication as only treatment for psychiatric problems to effective use of psychotherapies along with pharmaceutical treatment has been observed. **As the disorder is related with brain so it not only makes the individual anxious or obsessed with some repetitive thoughts but also affects the sleep of the individual. A poor sleep quality always affects the individual's both physical and mental health. Sleep disturbance is a cardinal sign of mental illness. Many experts believe that people learn insomnia and can also learn how to sleep better. Good sleep hygiene is the term used which includes some practices like - maintaining a regular sleep - wake schedule, using the sleeping bed only for the purpose of sleep or sexual activities, keeping the bedroom environment soothing and calm and free from any distractions like bright lights, noise, electronics etc. An individual may have a poor quality of sleep due to some improper practices of sleep hygiene.**

Objectives

- 1) To assess the socio - demographic and clinical proforma of patients diagnosed with neurotic disorders.
- 2) To assess the quality of sleep of patients diagnosed with neurotic disorders.
- 3) To assess the sleep hygiene of patients diagnosed with neurotic disorders.
- 4) To find out the association between selected socio demographic variables and quality of sleep among patients diagnosed with neurotic disorders.
- 5) To find out the association between selected socio demographic variables and sleep hygiene among patients diagnosed with neurotic disorders.
- 6) To find out the correlation between quality of sleep and sleep hygiene among patients diagnosed with neurotic disorders.
- 7) To develop a protocol on sleep hygiene.

2. Methodology

A non - experimental approach, descriptive research design was used in the present study to accomplish the objectives. Purposive sampling technique was used to obtain the adequate size of the sample. The study population comprises the diagnosed patients of neurotic and stress related disorders attending OPD of LGBRIMH, Tezpur. Fourty -

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seven (47) patients diagnosed with neurotic and stress related disorders were selected for the study.

Tools used:

1) Socio - Demographic Proforma:

A self - structured socio demographic proforma was developed by the researcher for the purpose of assessing the sample characteristics. The socio - demographic proforma includes age, gender, marital status, religion, educational status, occupation and monthly family income. This tool was validated by experts and suggestions were incorporated.

2) Clinical Proforma:

A self - structured clinical proforma was developed for the purpose of assessing the sample clinical characteristics. Clinical proforma includes total duration of illness, total duration of treatment, diagnosis, history of any substance use, adherence to medication and follow - up status of the patients. This tool was validated by experts and suggestions were incorporated.

3) Sleep Hygiene Index (SHI):

It is a 13 - item self - administered index developed by Mastin et al. to assess the presence sleep hygiene behaviors. It is a 5 point likert scale which indicates frequency of behaviors (5 - always, 4 - frequently, 3 - sometimes, 2 - rarely, 1 - never). The items summed up provided a global score of sleep hygiene ranging from 13 - 65 where higher scores are indicative of more maladaptive sleep hygiene status. The reliability of the scale is 0.71, $p < 0.01.6^4$ Beforehand permission was obtained from the developer through mail for using the tool.

4) Pittsburgh Sleep Quality Index (PSQI):

It is a self - report questionnaire developed by Buysse and his colleague at the University of Pittsburgh. It was intended to assess sleep quality and disturbances over a 1 - month time interval. The measure consists of 19 items creating 7 components which consists of subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication and daytime dysfunction. Each item is weighted on a 0 - 3 interval scale. The global PSQI score is then calculated by totaling the seven component scores, providing overall score ranging from 0 - 21 where score of less than equal to 5 indicates good sleep quality and score of more than 5 indicates poor sleep quality. The reliability of the tool is 0.83.6⁵ Beforehand permission was obtained from the developer through mail for using the tool.

3. Results/ Discussion

Table 1: Frequency and parentage distribution of discrete socio - demographic variables of patients with neurotic disorders, n=47

Variables	Frequency (f)	Percentage (%)
Gender	Male	23 48.9%
	Female	24 51.1%
Marital status	Unmarried	8 17%
	Married	35 74.5%
	Divorced	1 2.1%
	Widow/Widower	1 2.1%

Religion	Separated	2	4.3%
	Hindu	22	46.8%
	Islam	24	51.1%
Educational status	Christian	1	2.1%
	Primary	10	21.3%
	High School	29	61.7%
	Higher Secondary	5	10.6%
	Graduate	2	4.3%
Occupation	Other	1	2.1%
	Unemployed	5	10.6%
	Homemaker	19	40.4%
	Daily Wager	4	8.5%
	Private Job	4	8.5%
	Govt. Service	1	2.1%
	Business	5	10.6%
Domicile	Others	9	19.1%
	Urban	17	36.2%
	Rural	30	63.8%

Table 1 showed frequency and percentage distribution of discrete socio - demographic variables of patients with neurotic disorders attending OPD, LGBRIMH, Tezpur. Studied upto graduation level and 2.1% (1) was other.

Occupational status showed that 10.6% (5) were unemployed, 40.4% (19) were homemaker, 8.5% (4) were daily wager, 8.5% (4) were having private job, 2.1% (1) was having govt. service, 10.6% (5) were having business and 19.1% (9) were involved in other occupation.

In domicile it showed that 36.2% (17) were from urban and 63.8% (30) were from rural domicile

Table 2: Range, mean and standard deviation of continuous socio - demographic variables of patients with neurotic disorders, n=47

Variables	Range	Mean	Standard Deviation
Age	19 - 58	36.11	10.294
Monthly Income	8, 000 - 45, 000	15191.49	5674.65

Table 2 showed range, mean and standard deviation of continuous socio - demographic variables of patients with neurotic disorders. Mean and standard deviation of age of persons with neurotic disorders was 36.11 ± 10.294 years and monthly income was 15191.49 ± 5674.65 rupees.

Table 3: Frequency and parentage distribution of discrete clinical variables of patients with neurotic disorders, n=47

Variables	Frequency (f)	Percentage (%)
Any history of substance use	Yes	25 53.2%
	No	22 46.8%
Medication status	Regular	33 70.2%
	Irregular	14 29.8%
Follow up	Regular	33 70.2%
	Irregular	14 29.8%

Table 3 showed the frequency and percentage distribution of discrete clinical variables of persons with neurotic disorders.

It was found that 53.2% (25) had history of any substance use and 46.8% (22) did not have any history of substance use

In medication status majority 70.2% (33) were on regular medication and 29.8% (14) were on irregular medication.

In follow up it was found that majority 70.2% (33) were on regular follow up and 29.8% (14) were on irregular follow up.

Table 4: Range, mean, median and standard deviation of continuous clinical variables of patients with neurotic disorders, n=47

Variables	Range	Mean	Median	Standard Deviation
Total duration of illness (in months)	4 - 228	51.77	24	54.33
Total duration of treatment (in months)	1 - 156	24.57	-	7.42

Table 4 showed the range, mean, median and standard deviation of continuous clinical variables of patients with neurotic disorders. It was found that the mean, standard deviation and median of total duration of illness of persons with neurotic disorders were 51.7 ±54.33 months, 24 and mean and standard deviation of total duration of treatment was 24.57±7.42 months.

Table 5: Mean and standard deviation of sleep hygiene index of patients with neurotic and stress related disorders, n=47

Variable	Range	Mean	Standard deviation
Sleep Hygiene Index Score	13 - 47	24.57	7.421

Table 8a: Association of Sleep Hygiene Index with the selected discrete socio - demographic variables of persons with neurotic disorders, n=47

Variables		Sleep Hygiene Index Score		χ ² Value	P value	Fisher's exact test	df	Significant at 0.05 level
		<25	>25					
Gender	Male	11	12	3.670	0.055	-	1	NS
	Female	18	6					
Marital status	Once married	27	13	3.821	-	0.089	1	NS
	Never married	2	5					
Religion	Hindu	10	12	4.874	0.08	-	2	NS
	Others	19	6					
Educational status	Upto High School	25	11	3.902	-	0.076	1	NS
	Above High School	4	7					
Domicile	Urban	7	10	4.748	0.029	-	1	S
	Rural	22	8					

*S - significant NS=Not significant

The data presented in table 8a showed the chi square test in terms of Sleep Hygiene Index with selected discrete socio - demographic variables of persons with neurotic disorders. Considered socio - demographic variables were gender, marital status, religion, educational status and domicile. It was found that there was significant association between

Table 5 showed that in patients with neurotic and stress related disorders mean score of sleep hygiene index was 24.57±7.421. Range of Sleep Hygiene Index was 13 - 47.

Table 6: Frequency and percentage distribution of Sleep Hygiene Index score of the participants, n=47

Sleep Hygiene Index Score	Frequency (f)	Percentage (%)
<25 (Good sleep hygiene)	29	61.7%
>25 (Poor sleep hygiene)	18	38.3%

Table 6 showed that a total of 29 (61.7%) participants were having SHI Score <25 which indicates good sleep hygiene and 18 (38.3%) were having SHI Score >25 indicating poor sleep hygiene.

Table 7: Frequency and percentage distribution of Pittsburgh Sleep Quality Index (PSQI) score of the participants, n=47

PSQI Score	Frequency (f)	Percentage (%)
0 - 4 (Good sleep quality)	7	14.9%
5 - 21 (Poor sleep quality)	40	85.1%

Table 7 showed that majority of the participants 85.1% (40) were having PSQI Score of 5 - 21 which indicates poor quality of sleep and 14.9% (7) were having PSQI Score 0 - 4 indicating good quality of sleep.

domicile (χ²= 4.748, p= 0.029) and sleep hygiene. None of the other chi square values were found to be significant. For the variables which cell calculus were less than 5 and having 2×2 contingency table Fisher's exact test was computed and considered.

Table 8b: Association of Sleep Hygiene Index with the discrete clinical variables of persons with neurotic disorders, n=47

Variables		Sleep Hygiene Index Score		χ ² value	P value	df	Significant at 0.05 level
		<25	>25				
Any history of substance use	Yes	17	8	0.896	0.344	1	NS
	No	12	10				
Medication Status	Regular	21	12	0.175	0.675	1	NS
	Irregular	8	6				
Follow - up	Regular	21	12	0.175	0.675	1	NS
	Irregular	8	6				

* S - significant NS=Not significant

The data presented in the table 8b showed the chi square test in terms of Sleep Hygiene Index with selected discrete clinical variables of persons with neurotic disorders.

Considered clinical variables were any history of substance use, medication adherence and follow up. None of the chi square values were found to be significant.

Table 9a: Association of Sleep Quality with the discrete socio - demographic variables of persons with neurotic disorders, n=47

Variables		PSQI Scores		χ^2 value	P value	Fisher's exact test	df	Significant at 0.05 level
		0 - 4	5 - 21					
Gender	Male	2	21	1.365		0.416	1	NS
	Female	5	19					
Marital status	Once married	6	34	0.02		1	1	NS
	Never married	1	6					
Religion	Hindu	2	20	6.538		0.136	1	NS
	Others	5	20					
Educational status	Upto High School	6	30	0.381		1	1	NS
	Above High School	1	10					
Domicile	Urban	1	16	1.706		0.396	2	NS
	Rural	6	24					

* S - significant NS=Not significant

The data presented in the table9a shows the chi square test in terms of Sleep Quality with selected socio - demographic of patients with neurotic disorders. Considered demographic variables were gender, marital status, religion, education and domicile. No significant association was found between the

selected demographic and clinical variables with quality of sleep. For the variable with cell calculus less than 5and having 2x2 contingency table Fisher's exact test was computed and considered.

Table 9b: Association of Sleep Quality with the discrete clinical variables of persons with neurotic disorders, n=47

Variables		PSQI Scores		χ^2 value	P value	Fisher's exact test	df	Significant at 0.05 level
		0 - 4	5 - 21					
Any history of substance use	Yes	3	22	0.353		0.690	1	NS
	No	4	18					
Adherence to medication	Regular	6	27	0.945		0.652	1	NS
	Irregular	1	13					
Follow - up	Regular	6	27	0.945		0.652	1	NS
	Irregular	1	13					

*S - significant NS=Not significant

The data presented in the table 9b showed the chi square test in terms of Sleep Hygiene Index with selected discrete clinical variables of persons with neurotic disorders. Considered clinical variables were any history of substance use, medication adherence and follow up. None of the chi square values were found to be significant.

and there was no correlation between monthly income and sleep hygiene of the participants.

Section IV: Correlation between the continuous socio - demographic and clinical variables with sleep hygiene and quality of sleep of patients with neurotic disorders

Table 10b: Correlation of Sleep Hygiene Index with the continuous clinical variables of persons with neurotic disorders n=47

Variables	Pearson correlation coefficient (r)	P value	*S/NS at 0.05 Level
Total duration of illness	- 0.238	0.107	NS
Total duration of treatment	- 0.150	0.315	NS

*S=Significant NS=Not Significant

Table 10a: Correlation of Sleep Hygiene Index with the continuous socio - demographic variables of persons with neurotic disorders n=47

Variables	Pearson correlation coefficient (r)	P value	*S/NS at 0.05 Level
Age	- 0.174	0.241	NS
Monthly income	0.215	0.147	NS

*S=Significant NS=Not Significant

The data presented in Table 10a showed the correlation between Sleep Hygiene Index Scores and continuous socio - demographic variables - age and monthly income of the participants. And upon analysis it was found that there was negative correlation between sleep hygiene and age of the participants (r= - 0.174, p=0.241) but it was not significant

The data presented in Table 10b showed the correlation between Sleep Hygiene Index Scores and continuous clinical variables - total duration of illness and total duration of treatment. And upon analysis it was found that there was negative correlation between sleep hygiene and total duration of illness (r= - 0.238, p=0.107) and duration of treatment (r= - 0.150, p=0.315) of the participants but the correlation was not significant.

Table 11a: Correlation of Sleep Quality with the continuous variables of persons with neurotic disorders n=47

Variables	Pearson correlation coefficient (r)	P value	*S/NS at 0.05 Level
Age	0.147	0.324	NS
Monthly income	0.021	0.887	NS

*S=Significant NS=Not Significant

The data presented in Table 11a showed the correlation between sleep quality and continuous socio - demographic variables - age and monthly income of the participants. And upon analysis it was found that there was no correlation between sleep quality and continuous socio - demographic variables - age and monthly income of the participants.

Table 11b: Correlation of Sleep Quality with the continuous clinical variables of persons with neurotic disorders n=47

Variables	Pearson correlation coefficient (r)	P value	*S/NS at 0.05 Level
Total duration of illness	- 0.050	0.738	NS
Total duration of treatment	- 0.051	0.733	NS

*S=Significant NS=Not Significant

Table 12: Correlation between Pittsburgh Sleep Quality Index scores and Sleep Hygiene Index scores of the participants n=47

Variables	Pearson correlation coefficient (r)	P value	*S/NS at 0.01 Level
Sleep Hygiene Index Score	0.550**	0.000	S**
Pittsburgh sleep Quality Index Score			

*S=Significant NS=Not Significant

The data presented in Table 12 showed the correlation between sleep Hygiene Index Scores and Pittsburgh Sleep Quality Index Scores of the participants. And upon analysis it was found that there was significant correlation between sleep hygiene and quality of sleep ($r=0.550^{**}$, $p=0.000$) at 0.01 level of significance.

4. Conclusion

From the findings of the study it can be concluded that the quality of sleep is significantly poor in patients diagnosed with neurotic and stress related disorder but the sleep hygiene is good. And there was a significant correlation between sleep hygiene and quality of sleep. Present study findings can be taken into consideration while taking care of the patients diagnosed with neurotic and stress related disorder for better outcome.

5. Future Scope

The study can be done in different settings. The same study can be done on a large sample for more valid generalization.

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The data presented in Table 11b showed the correlation between sleep quality continuous clinical variables - total duration of illness and total duration of treatment of the participants. And upon analysis it was found that there was negative correlation between sleep quality and total duration of illness ($r= - 0.050$, $p=0.738$) and duration of treatment ($r= - 0.051$, $p=0.733$) of the participants but the correlation were not significant.

Section V: Correlation between sleep hygiene and quality of sleep of patients with neurotic and stress related disorders.

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