

QUALITY OF SLEEP AND PHYSICAL HEALTH ISSUES IN PATIENTS SUFFERING FROM PSYCHIATRIC DISORDERS

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Submitted: March 18, 2019

Accepted: September 11, 2019

ABSTRACT

OBJECTIVE

To assess quality of sleep and associated health issues in psychiatric patients.

STUDY DESIGN

Cross-sectional design.

PLACE AND DURATION OF THE STUDY

The study was conducted in the department of Psychiatry and Behavioral Sciences, D.H.Q Hospital, Faisalabad, Pakistan over the period of six months.

SUBJECTS AND METHODS

Through purposive consecutive sampling, 108 psychiatric patients participated in the study. Data were collected on Demographic variable Performa and Pittsburgh Sleep Quality Index.

RESULTS

Results demonstrated that more than half of the sample was females and married. One sample t-test confirmed that majority of sample had poor quality of sleep ($M = 11.57$, $SD = 4.14$), $t(107) = 13.89$, $p = 0.00$. Further Analysis of Variance showed that psychiatric patients with lung disease and obesity had poor quality of sleep, similarly negative correlation was found between pain and quality of sleep.

CONCLUSION

Research findings concluded that most of the psychiatric patients were females suffering from different types of physical health issues and had poor quality of sleep.

KEY WORDS

Psychiatric disorders, Sleep, Mental health.

INTRODUCTION

For mental health and functioning of a brain, sleep is considered an essential psycho physiological process, as it's an ultimate operating state of the central nervous system, covering up to a third of the human life span¹. Thus poor sleep not only diminishes optimal functioning of the individual in the society, aggravate chronic illnesses, disrupt medical treatment² but also make them susceptible towards psychiatric disorders³. Poor sleep can be defined as short sleep duration, difficulty falling or staying asleep, and/or poor sleep quality⁴. Based on well-documented data on deleterious physical and mental health consequences, poor sleep has become a solemn public health problem⁵.

Literature propose that the effects of poor sleep behavior are growing, and such behaviors occurring over a limited time period prompts changes in mood as well as decrease cognitive performance and attentiveness⁶. More specifically, chronic poor sleep quality have been associated with eminent risks for adverse physiological and psychological outcomes⁷. According to fundamental perspective, sleep problems are usually symptoms of the accompanying psychiatric conditions, affecting mental, emotional, and interpersonal functioning⁸ and influence 50% to 80% of all psychiatric patients⁹.

Consistent with this, sleep difficulties are crucial features of various psychiatric disorders and are included amongst the diagnostic criteria for psychiatric conditions^{10,11}. Amalgamation of scientific evidence demonstrates relationship between poor sleep quality and psychopathology¹². On the analysis of round about 28 epidemiological researches, it was established that psychological disorders are associated with poor sleep quality, and poses a risk for depression, anxiety disorders, substance abuse, and suicide¹³. Other studies have found that Patients with schizophrenia, substance abuse disorder, OCD, and PTSD often report poor sleep quality that in turn worsen their physical and psychological health.¹⁴⁻¹⁷

As evident from the previous literature that poor quality of sleep negatively affects physical health, escalates mortality risk, produces biochemical and hormonal changes and leads to high use of health resources¹⁸. Researchers have found that poor sleep quality can cause health problems such as chronic illness, drowsy driving, fighting, smoking, and somatic pains¹⁹. Similarly longitudinal and cross-sectional studies emphasize that quality and duration of sleep is strongly associated with cardiovascular disease, obesity, hypertension, and diabetes²⁰.

Although sleep disturbances noticeably contribute significantly to a physical and mental health, data evince that they are understudied. Hence the goal of this research

is to investigate the characteristics of sleep problems. The current study focuses on investigating quality of sleep and associated psychiatric disorders and physical health issues. The research highlights the effect of demographic variables (gender, age and qualification), and physical health on quality of sleep and psychiatric disorders. Such data are required to help in the development of effective prevention and treatment of poor sleep quality in patients with psychiatric disorders.

SUBJECTS AND METHODS

Participants

In this cross-sectional research design, 108 patients (42 males and 66 females) diagnosed with psychiatric disorders were selected through purposive consecutive sampling technique from the inpatient facility of Department of Psychiatry & Behavioral Sciences, DHQ/Allied Hospitals, Faisalabad Pakistan in the duration of six months.

Instruments

While collecting data, all ethical considerations were fulfilled and researchers devised consent form to obtain Informed consent from the participants. To record demographic variables, a demographic sheet was used. Further data were collected from psychiatric patients on following scale.

Pittsburgh Sleep Quality Index: Quality of sleep in patients was assessed using the Urdu version of Pittsburgh Sleep Quality Index (PSQI-U)²¹. This 19-item self-administered tool measures sleep quality during the previous month. PSQI has seven modules: sleep latency, sleep disturbances, daytime dysfunction, sleep efficiency, subjective sleep quality, use of sleep medications, and sleep duration. Each module is recorded on a Likert type scale ranging from 0 to 3, yielding a global PSQI score between 0 and 21, with higher scores signifying lower sleep quality. Generally score >5 on PSQI shows poor sleep and the tool is suitable in measuring good and poor sleep.

Procedure

After the approval of research proposal from Ethical Review Committee, PQSI-U was used to measure the quality of sleep in patients suffering from psychiatric disorders. Post graduate trainees and clinical psychologists working in department of psychiatry administered the scale. Diagnoses were made with the help of criteria given in DSM 5, patients suffering from depression, anxiety, bipolar disorder, obsessive compulsive disorder, post-traumatic stress disorder, substance abuse disorder and schizophrenia participated in the study. Data were collected from patients who could respond, read and write. Patients with physical issues were also included. Raw data were entered on SPSS 23 and analyzed through Analysis of Variance (ANOVA), single sample t-test and Pearson Product Moment Correlation.

RESULTS

Results showed that the patients' age ranged from 11 to 65 years old (M=29.33, SD=11.44), young adults were in majority (76.9%) among

them 50% of total sample were between 18-30 years of age and 9.3% of the sample were late adulthood between 45-65 years of age. Out of 108 patients, majority were females (66), while 42 were males, 49 (45.4%) patients were literate, 58 (53.7%) were married, 79 (73.1 %) patients were unemployed. Moreover 47 (43.5%) patients were diagnosed with depression, 20 (18.5%) were diagnosed with bipolar disorder and 14 (12.9%) patients suffered from substance abuse disorder.

Table 1
Descriptive Statistics of Psychiatric Patients with Sleep Disturbances

Variables	Frequency	Percentages
Snoring	21	19.4
Sleep Walking	12	11.1
Pain Medication	25	23.1
Past Psychiatric History	39	36.1
Family History of Insomnia	23	21.3

Patients with psychiatric disorders reported issues of snoring and sleep walking, 25 (23.1%) patients were taking medication for the pain, 39 (36.1%) had positive past psychiatric history and 23 (21.3%) were with positive family history of insomnia (see table 1). Physiological attributes of psychiatric patients with sleep disturbances are mentioned in table 2.

Table 2
Physiological Problems of Psychiatric Patients with Sleep Disturbances

Variables	Frequency	Percentages
Heart Disease	5	4.6
Lung Disease	7	6.5
Neurological Problems	5	4.6
Liver Disease	4	3.7
Hypertension	8	7.4
Diabetes	2	1.9
Obesity	9	8.3
Smoker	26	24.1

Table 3
One-sample t-test for Pittsburgh Sleep Quality Index

Variables	M	SD	df	Comparison Value	95% CI for Mean Difference	t
Pittsburgh Sleep Quality Index	11.57	4.14	107	5.57	4.78-6.36	13.89**

Note. Test Value for Pittsburgh Sleep Quality Index was 6.

Results by one sample t-test confirmed that large range of sample (87.4%) scored above cut off score (i.e. 6) on the PSQI indicating poor quality of sleep (see table 3).

Further analysis (ANOVA) revealed that demographics including age, gender, marital status and education had no significant impact on the quality of sleep in psychiatric patients. Similarly factors like psychiatric diagnosis, snoring, sleep walking, pain, family history of insomnia, heart disease, liver, neurological problems, hypertension, diabetes, and smoking had no apparent significant effect on sleep quality in psychiatric patients.

However results depicted that psychiatric patients with lung disease

and obesity showed statistically significant poor quality of sleep, $F(1,100) = 5.012$, $p = .027$ and $F(1,98) = 5.724$, $p = .019$, than the patients without these conditions on Analysis of Variance (see table 4).

Table 4
Analysis of Variance between Physical Attributes & Quality of Sleep

Dependent Variable	S.S	df	M.S	F	P
Lung Disease	80.52	1	80.52	5.012	.027
Obesity	91.07	1	91.07	5.724	.019

Table 5
Correlation Matrix for all the Variables used in the Study (N = 108)

Variables	2	3	4
1	-.09	-.086	.049
2	--	-.034	-.202*
3	--	--	-.011

Note. 1 = Psychiatric Diagnosis; 2 = Pain; 3 = Past Psychiatric History; 4 = Pittsburg Sleep Quality Index * $p < .05$

Pearson product moment correlation analyses showed that there was no significant relationship between sleep quality and factors like psychiatric diagnosis and past psychiatric history. However a weak negative correlation was found between pain and quality of sleep.

DISCUSSION

Current study focused on examining the quality of sleep in psychiatric patients and its association with multiple demographic variables and physical health issues. The demographic analysis proposes that majority of the psychiatric patients with disturbed sleep were females, in their early adulthood, married and unemployed, this is in line with the previous literature asserting that there is a high prevalence of poor sleep quality in women as compared to men and it tends to escalate gradually with the age¹⁸. Subsequently another study by Zhang and Wing²⁷ found that as compared to males, females are 1.41 times more likely to suffer from sleep problems. The reason could involve high susceptibility of the regulatory structure of the sleep-wake rhythm, hormonal changes, and associated physiological and psychological variations that may intensify sleep related problems²³.

Similarly sufficient evidence infers that disturbed sleep is extremely co-morbid with several psychiatric disorders²⁴. Consequently in another study patients with eating disorders and substance abuse also reported poor quality of sleep¹. Though the findings of the current study confirmed that majority of the sample indicated poor quality of sleep, however results failed to establish significant link between psychiatric disorders, effect of demographic variables and quality of sleep in psychiatric patients. In our case this potential effect may have been entirely overshadowed by the other confounding variables, such as, heterogeneous data, non-availability of ideal setting, and hospitalization of patients. Further, it can be proposed that sleep disturbances in psychiatric illness are so devastating that it nullifies the effects of variables like, snoring, sleep walking, pain medication, past psychiatric history and family history of insomnia. Likewise, as previous researches emphasize significant relationship between sleep problems and medical morbidity. Numerous surveys have indicated that difficulty in falling or staying asleep leads to adverse medical health issues such as metabolic syndrome

(including hypertension), diabetes, osteoporosis, neuro-cognitive morbidity (including attention, concentration and memory) and mortality²⁵. In various cross-sectional and longitudinal studies, researchers found that there is significant association between obesity and sleep disturbances; they stress that chronic sleep deprivation act as a risk factor for gaining weight²⁶. This is also evident from the results of current study suggesting patients with obesity reported poor quality of sleep. Other experimental researches also support the idea by highlighting various pathways linking poor sleep with obesity. In addition to having effect on neuro-hormones and escalating the intake of calories, poor sleep generates feelings of lethargy which can decrease physical activities as well²⁷.

Another factor identified in this research is that psychiatric patients with lung diseases appears to have poor quality of sleep, this finding is also consistent with the preceding researches affirming that patients suffering from chronic pulmonary obstructive disease suffer from poor sleep quality²⁸. Studies suggest that factors like hypoventilation, hypoxemia, cough, phlegm production, and wheezing or uncomfortable breathing causes marked disturbances in sleep thus reducing the sleep quality in patients²⁹.

As expected, our results revealed weak but significant negative relationship between sleep quality and pain. Previously it has been proposed that 50% to 90% of patients with chronic pain report sleep disturbances³⁰. In experimental studies, it has been seen that disruption in sleep can trigger pain related problems, for instance, exacerbating pain experience, pro-inflammatory responses, lower pain tolerance, elevated somatic conditions, and reduced endogenous pain inhibitory control. However improved sleep quality considerably diminishes pain intensity³¹.

CONCLUSION

Findings of the study depicted female patients suffering from psychiatric disorders have significantly poor quality of sleep and are at the risk of developing other medical health issues. Given the adverse effects of prolonged low quality of sleep on mental and physical health of an individual, it is important to enhance our comprehension regarding the pathways underlying these interconnections. Identification of factors which directly or indirectly intensify sleep disturbances in psychiatric patients can prove helpful in the development of specific prevention and intervention plans, which in turn can improve the general well-being of psychiatric patients.

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

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