

**ORIGINAL ARTICLE**

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

# SAMREEN AFZAL', IRUM SIDDIQUE', IMTIAZ AHMAD DOGAR', GULL ZAREEN•, IMRAN KHAWAJA', MUHAMMAD WAQAR AZEEM6, NICHAT HAIDER'

'MS(C.Psych). Department of Psychiatry & Behavioral Sciences Faisalabad Medical University, Faisalabad. Pakistan

'FCPS, Faisalabad Medical University, Department of Psychiatry & Behavioral Sciences, District Headquarters Hospital, Faisalabad, Pakistan 'FCPS, Faisalabad Medical University, Department of Psychiatry & Behavioral Sciences, District Headquarters Hospital, Faisalabad, Pakistan 'MPhil (Psych),University of Management and Technology, Lahore

'MD, Sidra Medical & Research Center, Department of Psychiatry, Weill Cornell Medical College. Doha. Qatar 'MD, Sidra Medical & Research Center, Department of Psychiatry, Weill Cornell Medical College. Doha, Qatar

'PhD.(C.Psych), Department of Psychiatry & Behavioral Sciences, District Headquarters Hospital, Faisalabad, Pakistan

**CORRESPONDENCE: SAMREEN AFZAL,** E-mail: [afzal.samreen@gmail.com](mailto:afzal.samreen@gmail.com)

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**ABSTRACT**

# OBJECTIVE

To assess quality of sleep and associated health issuesin psychiatricpatients.

# 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 sixmonths.

# SUBJECTSANDMETHODS

Through purposive consecutive sampling, 108 psychiatricpatientsparticipatedin the study.Data were collected on Demographic variable Performa andPittsburghSleepQualityIndex.

## 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 andquality of sleep.

## CONCLUSION

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

# KEYWORDS

Psychiatric disorders.Sleep,Mental health.

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## INTRODUCTION

For mental health and functioning of a brain, sleep is considered an essential psycho physiological process,asit'sanultimate operating stateof the centralnervous system, covering up to a third of the human life span'. Thus poor sleep not only diminishes optimalfunctioning of the individual in the society,aggravate chronicillnesses,disrupt medical treatment' 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 quality'. Based on well-documented data on deleterious physical and mental health consequences, poor sleep has become a solemn public health problem'.

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 attentiveness'. More specifically, chronic poor sleep quality have been associated with eminent risks for adverse physiological and psychological outcomes'. According to fundamental perspective, sleep problems are usually symptoms of the accompanying psychiatric conditions, affecting mental, emotional, andinterpersonal functioning' andinfluence50%to 80%of all psychiatric patients•.

Consistent with this, sleep difficulties are crucial features of various psychiatric disorders and are included amongst the diagnostic criteria for psychiatric conditions "·". Amalgamation of scientific evidence demonstrates relationship between poor sleep quality and psychopathology". On the analysis of round about 28

epidemiological researches, it was established that psychological disorders are associated withpoor sleep quality, and poses a risk for depression, anxiety disorders, substance abuse, and suicide". Other studies have found that Patients with schizophrenia, substance abuse disorder, OCD, and PTSD often report poor sleep qualitythatin turnworsentheir physicaland psychologicalhealth.""

As evident from rhe previous literature that poor quality of sleep negatively affects physical health,escalates mortality risk, produces biochemical andhormonal changes and leads to high use of health resources". Researchers have found that poor sleep quality can cause health problems such as chronic illness, drowsy driving, fighting, smoking, and somatic pains'•. Similarly longitudinal and cross-sectional studies emphasizethatquality and duration of sleep is strongly associated withcardiovascular disease,obesity,hypertension.and diabetes"'.

Although sleep disturbances noticeably contribute significantly to a physical and mental health, data evince thatthey are understudied. Hence thegoal of thisresearch

*PAGE 13*



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 demographlc variables (gender, age and qualification), andphysical healthon quality of sleep andpsychiatric disorders. Such data are required to help in the development of effective prevention and treatment of poor sleep quality in patients withpsychiatric disorders.

## SUBJECTS AND METI-IODS

### Participants

In thiscross-sectional research design,108 patients(42males and 66 females)diagnosed withpsychiatricdisorderswereselected through purposive consecutive sampling techn1que 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 participant:,.To record demographic variables. a demographic sheet wasused.Further datawerecollected frompsychiatric patients on followingscale.

***Pittsburgh Sleep Quality Index:***Quality of sleepin patients was assessed using the Urdu version of Pittsburgh Sleep Quality Index (PSQl·U)".This19·item self·administeredtoolmeasuressleepquality during the previous month. PSQI has seven modules: sleep latency, sleep disturbances, daytime dysfunction, sleepefficiency, subjective sleep quality, use of sleep medications, and sleep duration. Each moduleisrecorded on a Likerttype scale ranging fromO to3,yielding a global PSQI score between O and 21, withhigher scores signifying lowersleep quality.Generally score>5 on PSQIshowspoor sleep and the tool issuitable in measuring goodandpoorsleep.

### Procedure

After the approval of research proposal from Ethical Review Committee, PQSl·U was used to measure the quality of sleep in patients suffering frompsychiatric 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,readandwrite.Patientswithphysical issueswerealso included. Raw data were entered on SPSS 23 and analyzed through Analysis of Variance (ANOVA), single sample Hest and Pearson Product MomentCorrelation.

## RESULTS

Resultsshowed that the patients' agerangedfrom 11 to 65years old (M=29.33, SD=l1.44), young adults were in majority (76.9%) among

them 50%of totalsamplewerebetween 18·30 years of ageand9.3% of the sample werelateadulthoodbetween45-65yearsof 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%) werediagnosed withbipolar disorder and 14 (12.9%) patients suffered from substance abuse disorder.

Table I

Descriptive Srntlstks of Psychiatric Patients with Sleep Disturbances

|  |  |  |
| --- | --- | --- |
| **V•rlables** | **fn.>qutncy** | **Percentages** |
| Snoring | 21 | 19.4 |
| Sleep Walking | 12 | I I.I |
| Pai.n Mcdiaition | 25 | 23.1 |
| Past Psychiatric History  Family Hi$tory of lmmmnia | 39  ,\_-, | 36.1  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 disturbancesarementioned in table 2.

**Table 2**

Physiological l'robJcms ofT'S)'Chhnric Patients with Sleep Disturbances

|  |  |  |
| --- | --- | --- |
| **\'arlables** | **Freq11e11cy** | **Percentages** |
| Heart Disease.- | *5* | 4,6 |
| Lung Disease | 7 | 6.5 |
| Neurological Problems | *5* | 4.6 |
| Live\_r Disease | 4 | 3.7 |
| Hyperteru;ion | 8 | 7.4 |
| Diabetes | 2 | 1.9 |
| Obesity | 9 | 8.3 |
| Smoker | 26 | :!4.1 |

Table 3

Onc·sarnple Hcs1 for Pittsburgh Sleep Quality l.ndcx

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Varblbl..** | **M** | **SD** | **dl** | **C9mparison Value** | **95%CJ for Mean**  **Different•** |  |
| Pittsburgh Sleep Quality Index | *II.S7* | 4.14 | 107 | 5.57 | 4.78-6.36 | I3.89\*\* |

*Nor,\_ \_ Te,tt J,afuc for PNrsbur,:h Sleep Quality lndes* wa.t*6,*

Results by one sample t-test confirmed that large range of sample (87.4%) scored abovecutoff score(i.e. 6) on the PSQIindicating poor quality of sleep(seetable 3).

Furtheranalysis (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 qualityIn psychiatricpatients.

However results depicted thatpsychiatric patientswithlung disease





and obesity showed statistically significant poor quality of sleep, F(l,100) = 5.012, p = .027 and F(l,98) = 5.724, p = .019, than the

patients without these conditions on Analysis of Variance (see table

4).

Tobie 4

Analvsis ofVariaoce between Physical Attributes & Quality of Sleep

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Dependent V rlable** | ***s.s*** | ***df*** | ***M.S*** | ***F*** | ***p*** |
| Lung Disease | 80.52 | I | 80.52 | 5.012 | .027 |
| Obesity | 91.07 | I | 91.07 | 5.724 | .019 |

Table S

Correla1ion Matrix for all the Variables used in the Study (N~108)

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **l** | **3** | **4** |
| I | -.09 | -.086 | .049 |
| 2 | .. | -.034 | ·.202\* |
| 3 | - | .. | -.01I |

***Nnte.*** *I* = ***P.\ychiarric: Diagnn.fi.,·; 1* = *Pain* ; *.1* = *Pa.vi Psycl,iatric llistory,­***

*.f- 1'111sb11rg Sleep Quality Index \*p<.05*

Pearson product moment correlation analyses showed that there wasno significant relationship between sleepquality and faCTors like psychiatric diagnosis and past psychiatric history. However a weak negativecorrelationwasfoundbetweenpainandqualityof sleep.

## DISCUSSION

Current study focused on exammmg 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 isin line withtheprevious literature asserting that there is a high prevalence of poor sleep quality in women as compared to men and it tends to escalates gradually with theage18. Subsequently another study by Zhang and Wing" found that as compared to males, femalesare 1.41 times morelikely 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 sleeprelated problems".

Similarly sufficient evidence infers that disturbed sleep is extremely co-morbid with several psychiatric disorders". Consequently in another study patients with eating disorders and substance abuse also reported poor quality of sleep'. Though the findings of the current studyconfirmed 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 sleepin psychiatric patients.In ourcasethispotential 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 sleepdisturbancesin psychiatric illnessaresodevastating thatit 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 mortality". 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 asariskfactor for gaining weighf!.Thisisalsoevident from the results of current study suggesting patients with obesity reported poor quality of sleep. Other experimental researches also supportthe idea by highlighting variouspathways 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 whichcandecrease physicalactivitiesaswell".

Another factor identified in this research is that psychiatric patients withlungdiseases appearsto have poor quality of sleep,thisfinding is also consistent with the preceding researches affirming that patientssuffering fromchronic pulmonary obstructivedisease suffer from poor sleep quality". Studies suggest that factors like hypoventilation, hypoxemia, cough, phlegm production, and wheezing or uncomfortable breathing causes marked disturbances in sleep thusreducing the sleepquality in patients".

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 painreport sleep disturbances'°. 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 qualityconsiderably diminishespainintensity".

## CONCLUSION

Findings of the study depicted female patients suffering from psychiatric disorders havesignificantly 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.Identificationof factors which directly or indirectly intensifysleep disturbances in psychiatric patientscanprove 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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| --- | --- | --- | --- | --- |
| Sr. | Author **Name** | AHlliatlon of Author | Contrlbu11on | **Signature** |
| 1 | **Samreen Afzal** | Deparlment of Psychiatry& Behavioral Sciences FMU, Faisalabad | Data collection and compirafion |  |
| **2** | Or. lrumSiddique | Department of Psyclliatry & Behavloral Sciences FMU. Faisalaba | Data collection and  **compilation** |  |
| **3** | **Prot.** lmUaz  **Allmad Cogar** | Oeparlment of Psychiatry& Behavioral Sciences FMU, Faisalabad | CooceptuafizaUon of studysupervision |  |
| **4** | **Ms.Gull Zareen** | UMT,Lahore | Datacollection and analysis |  |
| **5** | **Or. lmran**  **Khawaja** | Sidra Medical &Research Center D81lartmenl of Psychiatry, Ualar | Data analysis and results | *Jr* |
| **6** | Or.**M.Waqar Azeem** | SirlraMedical &Research Center Oepa ment of Psychiatry. Oatar | Data analysisand results | *r-1-*-*w ,.* |
| 7 | Or. Nlgha1  **Halder** | Department of Psychiatry& Behavioral Sclenc s FMU, Faisalabad | Data analjSISand results | I' |

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