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Sleep Quality and Its Relation with Depression, Anxiety and Stress of Hospitalized Psychiatric Patients

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Abstract:
Background: *Sleepqualityis an important factor for health.Sleep quality is directly related to and affecting the overall health state and increased risk of psychological disorders. Aim: the objective of this study was to assess relationship between sleep quality and depression, anxiety and stress in hospitalized psychiatric patients. Subjects and method: a descriptive correlational research design was used to conduct this study; a total sample of 100 psychiatric patients was recruited from inpatient units of Mental Health and Addiction Treatment Hospital at Minia Governorate. Demographic and clinical data were driven from all patients then Pittsburg sleep quality index was utilized to estimate sleep quality and DASS (Depression, anxiety and stress scale) was filled out for depression, anxiety and stress. Results: From all psychiatric patients (47%) of them had extreme level of depression, (68%) of patients had extreme level of anxiety and (42%) of them had stress. Most of patients (94%) had poor sleep quality. A strong significant correlation was found between depression, anxiety, and sleep quality while no statistically significant correlation between sleep quality and stress. Conclusion: thecurrent study findings reflect that many of hospitalized psychiatric patients were suffering from poor sleep quality. It seems that sleep quality was related to depression and anxiety but there was no significant association between sleep quality and stress. Recommendations: More efforts should be undertaken to identify possible different factors that can be related to poor sleep quality during hospitalization. A compelling need for further researches regarding nursing interventions aimed at improving sleep quality of hospitalized patients.*
Keywords*: Sleep quality, Hospitalized psychiatric patients, Depression, Anxietyand Stress.*

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I. Introduction

Sleep, just as eating and drinking is essential for human survival. It promotes and maintainsoptimum physiological and psychological function. The human body cannot function without it(Delaney, 2016).Furthermore, sleep can be defined as a "periodic, reversible state of cognitive and sensory disengagement from the external environment" (Kamdar et al., 2011).An adequate amount of high quality sleep is required for optimum physical and psychological functioning. In fact, lack of sleep has been listed as a potential source of harm to a person's health and wellbeing (Pilkington, 2013).

The prevalence of sleep complaints and sleep disturbances is high in neuropsychiatric disorders across the life span (Spiegelhalder et al., 2013 and Benca et al., 1992). Both of sleep and mental health have a complex relationship. Sleep has been shown to play an integral part in mental wellness. In addition, sleep disturbances contribute to poor mental health (Byrd et al., 2014).

Insomnia can be described as the subjective disruption of the quantity or quality of sleep, affects 6-70% people worldwide (Ohayon, 2002).Insomnia is associated with adverse cognitive outcomes including (confusion, depression, anxiety and decreased memory, etc.), falls/accidents, and decreased quality of life (Bonnet and Arand, 2006).Thus sleep quality defects can cause disorder of a person's feelings, thoughts, and motivation. It is well known that patients sleeping problems cause tension, increased pain, and contributes in many difficulties of the daily activities of patients. Although the functions and mechanisms of sleep are not clearly understood, it is generally accepted that it is necessary for the maintenance of good health and well-being (Maryam et al., 2017).

Sleep quality is an important factor for health. Many researches support that insufficient sleep can lead to more accidents (Lombardi et al., 2010). Psychiatric patients frequently experience poor sleep quality and sleep problems (DeNiet et al., 2008). There are different studies showed evidence that sleep quality is associated with poor mental health status and well-being (Kaneita et al., 2009).

However, there are two causes to assess sleep quality namely difficulty to fall asleep and illness associated with the presence of poor sleep quality. People's feelings, ideas, and motivation are negatively affected by sleep problems (Costa &Ceolim 2013).

Although the associations between sleep quality and anxiety and depression have been observed, the mechanism for these associations has not been well understood. Perceived stress has been associated with both poor sleep quality and anxiety and depression in psychiatric patients (Lee et al., 2013, Wallace et al., 2017and Beiter et al., 2015).

The hospital environment is a place where it is difficult to have good sleep quality. This tendency of having poor sleep quality in hospitals is due to three factors which are; environmental as noises and lightening, physiological as pain and psychological as depression, stress and anxiety. (Dogan et al., 2005 and Reid, 2001).

It was shown that sleep disturbances were also frequently reported by hospitalized patients. Accordingly, there were various precipitants for sleep disturbances in inpatients, which include: psychiatric disorders as the most important factor for sleep problems and, anticipatory anxiety for surgical or diagnostic procedures (Tranmer et al., 2003 and Dogan et al., 2005).

The term "sleep quality" entails certain difficulties in definition and in distinguishing it from insomnia. The term covers a number of aspects such as latency and total sleep time, number of awakenings and sleep efficiency, among others(Krystal &Edinger, 2008).Accordingly, sleep quality is directly related to and has a strong effect on the overall health state, quality of life and increased risk of psychological disorders, especially depression(Amagai et al., 2004, Buysse et al., 2008 and Paunio et al., 2009).

II. Significance of the study

A study was conducted to assess quality of sleep among forty six psychiatric inpatients of London psychiatric hospital. In this sectional survey study, Pittsburg Sleep Quality Index was used to collect data. Among that (78%) of patients were poor sleepers(Donaldson &Chintapanti, 2009).Finally, the reported results in a clinical population estimated that the prevalence of poor sleep quality is higher as was found in over 90% of anxious and depressed patients (Royuela&Macias,1997).Despite numerous researches reports on the factors affectingquality of sleep, relatively few researches have examined the extent of the associations between sleep quality and symptoms of anxiety,depression and stress among hospitalized psychiatric patients. Therefore, data generated from this study will help in determining the possible level of sleep quality among psychiatric inpatients of Minia psychiatric hospital, and based on this, establishing whether there was a relationship between sleep quality and depression, anxiety and stress.

III. Aim of the study

The study aimedto assess the relationship between quality of sleep and depression, anxietyand stressamonghospitalized psychiatric patients in Minia psychiatric hospital.

IV. Research question

To fulfill the aim of this study, the following research question was formulated:

- Is there a relation between quality of sleep and depression, anxiety and stress of hospitalized psychiatric patients?

V. Subjects and method

Research design:

A descriptive correlational research design was utilized to carry out this study.

Setting:

The study was conducted at inpatient unitsof Minia Hospital for Mental Health and Addiction Treatment, this hospital is affiliated to ministry of health located in New Minia City. It consists of two floors, the first floor for the outpatient clinics, pharmacy and female inpatient unit. The second floor includes administrations, male inpatient unit, addiction treatment department and nursing office, the hospital capacity is 53 beds for both genders. This hospital serves Minia governorate.

Sample:

A total sample of one hundred psychiatric patients from the previously mentioned setting get involved in the study, the data were collected between the period of January 2017 to June 2017. Sample was chosen according to the following criteria:

Inclusion criteria:

- The patients were18 years and more.
- The patients was controlled and at stable condition during the assessment.

Exclusion criteria:

- Mental retardation
- Comorbid diagnosis of substance abuse.
- Organic brain diseases.

Tools of the study:

Data were collected through utilization of the following tools:

Tool (1): Socio-demographic and clinical data questionnaire:

A structured interview questionnaire sheet was developed by the researcher to coverthe following data: age, sex, educational level, marital status, residence, occupation,diagnosis and disease duration.

Tool (2): Depression, Anxiety and Stress Scale 42 (DASS42):

The original DASS was developed by Lovibond and Lovibond (1995). It composed of a 42-item questionnaire within which 14 items were dedicated to each subcategory, namely depression, anxiety and stress which designed to measure the negative emotional states. To complete the DASS, the client chooses a response to each of the corresponding statements in each of the three subscales. Each statement is scored 0–3, with higher scores indicating greater levels of depression, anxiety, and stress. Response choices were (0) "Did not apply to me at all", (1) "Applied to me to some degree or some of the time", (2) "Applied to me to a considerable degree or a good part of time" and (3) "Applied to me very much or most of the time". The total score for this scale ranges from 42-126. The higher score for each subcategory indicates negative emotional status.

Tool (3): The Pittsburgh Sleep Quality Index (PSQI):

The PSQIis a self-questionnaire designed by Buysse et al. (1989) for assessing the subjective quality of sleep of the psychiatric patients. It has seven separate domains: (1) "subjective sleep quality"; (2) "sleep latency"; (3) "sleep duration"; (4)"habitual sleep efficiency"; (5) "sleep disturbances"; (6) "use of sleep medication"; and (7) "daytime dysfunction over the last month". Score of each item is allocated on a likert scale from zero to three. The total score range from zero to twenty one. High score indicated poor quality of sleep. Patients with a score less than 5 have good sleep quality. However, those with a score more than 5 indicated poor sleep quality.

Validity and reliability of tools:

The internal consistencies of the questionnaires were calculated using Cronbach's alpha coefficients.Cronbach's alpha coefficient of 0.00 indicates no reliability and a coefficient of 1.00 indicates perfect reliability. The Cronbach's alpha of the questionnaires was 0.91 and 0.84 for Depression, anxiety and stress scaleand the Pittsburgh sleep quality index respectively, indicate good reliability.

Procedure

A review of the current and past related literature on the various aspects of the study using recent books and available journals to be acquainted with the research problem and to give a clear picture about the subject and to select the appropriate tools for measuringthe study variables. An official permission was granted from the director of mental health and addiction treatment hospital in Minia governorate after explanationof the nature &purpose of the study. The aim of the study was explained by the researcher through direct personal communication with the patient for getting their approval prior starting their participation in the study to gain their cooperation as well as voluntary participation and confidentiality were assured. The researcher collected data through interviewing patients for 2 days/ week from 10 AM to 2 PM. The interview took about 30 minutes with every patient to collect all data of the study tools.

Pilot study:

A pilot study wasdone to evaluate the clarity and applicability of the tools as well as the actual time needed to fulfill each questionnaire, based on the results of the test study. It was carried outon 10 patients. The sample which was included in the pilot study was excluded from thetotal study sample.

Ethical considerations:

After obtaining an official approval from the research ethics committee of the Faculty of Nursing, Minia University. Also written consent was obtained from patient right committee in the hospital. The purpose

of the study was explained for every interviewed psychiatric patient. The patient has the right to agree or refuse participating in the study without any rational. A written formal consent was obtained from educated patients and oral one obtained from uneducated patients, after the researcher introduce herself to them and explain the aim and nature of the study. The patients were informed about proper confidentiality of the obtained information, and it will be used only for a research purpose and there is no risk for their participation. Code numbers were created and kept by the researcher for each participant.

Statistical analysis:

The collected data were coded, categorized, and analyzed by using the Statistical Package for the Social Science (SPSS) version (20).Quantitative data were expressed as frequency and percentage. Numerical data were described by mean and standard deviation (mean & SD).For relational statistics, ANOVA test andPearson correlationtest were used. Probability (p-value) less than 0.05 was considered significant and less than 0.001 was considered highly significant.

VI. Results

Table (1): Frequency distribution of the studied sample according to socio demographic data (n=100)

Variables	Total N=100	
	No	%
Age		
▪ Group A (18< 20 yrs.)	38	38%
▪ Group B (20< 40 yrs.)	41	41%
▪ Group C (40yrs. and up to more)	21	21%
Mean & SD 33.3±8.8		
Sex:		
Male	73	73%
Female	23	23%
Residence		
Urban	57	57%
Rural	43	43%
Education		
Illiterate	11	11%
Read and write	11	11%
Primary	13	13%
Preparatory	3	3%
Secondary	49	49%
University and above	13	13%
Marital status		
Married	29	29%
Divorced	18	18%
Single	48	48%
Widowed	5	5%
Occupation		
House wife	25	25%
Farmer	16	16%
Employee	16	16%
Manual work	34	34%
Others	9	9%

Table (1): This table shows the distribution of patients according to their demographic characteristics. As regard to sex, males recorded generally higher frequency of the studied patients than females, males represented (73%) of patients, (41%) of patients ranged between 20 to 40 years, and more than half of them live in urban areas (57%). In addition, (49%) of the patients were secondary educated while only (3%) of them were preparatory educated. And (48%) of them were single.

Table (2): Frequency distribution of the studied sample according to clinical data (n=100)

Variables	Total N=100	
	No	%
Diagnosis		
Mood disorders (mania)	10	10%
Mood disorders(depression)	15	15%
Schizophrenia	75	75%
Disease duration		
Less than one year	18	18%
1-less than 5 years	23	23%
5-10 years	37	37%
More than 10 years	22	22%

Table (2) illustrates thatthe majority of patients (75%) have schizophrenic disorders and only (10%) of them have mood disorders-manic episode. As regard disease duration, it was observed that (37%) of patients suffered from the disease five to ten years ago.

Table (3): Frequency distribution of levels of depression, anxiety and stress among studied sample (n=100)

Variables	Normal		Mild		Moderate		Severe		Extreme	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Depression	5	(5%)	3	(3%)	15	(15%)	30	(30%)	47	(47%)
Anxiety	1	(1%)	1	(1%)	7	(7%)	23	(23%)	68	(68%)
Stress	7	(7%)	9	(9%)	19	(19%)	42	(42%)	23	(23%)

Table (3): This table reveals that (47%) of psychiatric patients had extremely level of depression and only (3%) had low level of depression. Concerning to level of anxiety, it was found that (68%) of patients had extremely level of anxiety followed by (23%) had severe level of anxiety. Regarding to level of stress, (42%) of them had severe level of stress.

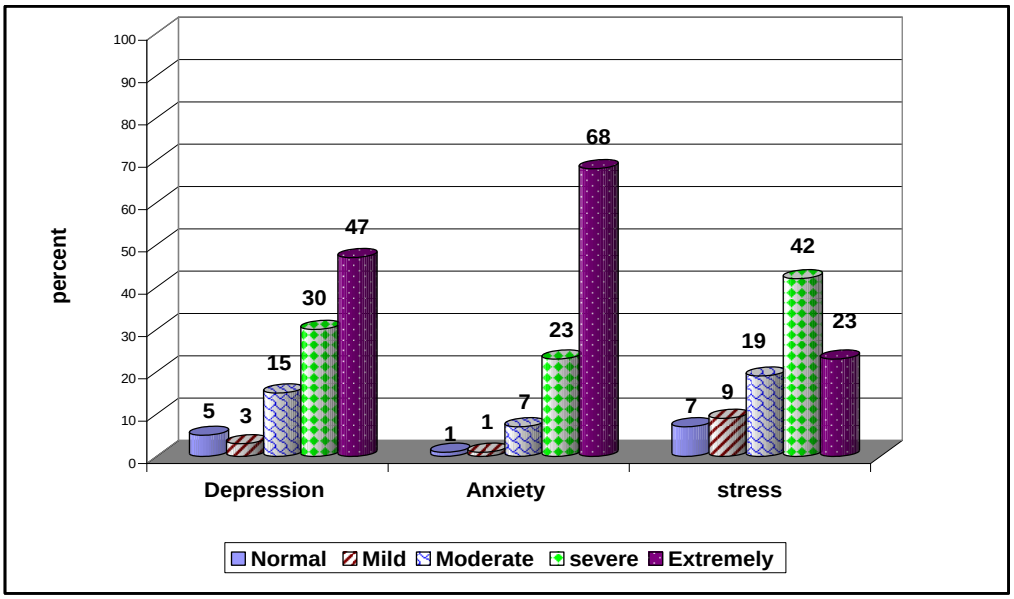

Figure (1): Distribution of the studied patients according to depression, anxiety and stress levels

Table (4): Frequency distribution of the studied sample according to sleepquality components (n=100).

Variables	No	%
Component 1(subjective sleep quality)		
Very good	13	13%
Fairly good	17	17%
Fairly bad	29	29%
Very bad	41	41%
Component 2(sleep latency)		
≤ 15 minutes	11	11%
16-30 minutes	7	7%
31-60 minutes	9	9%
>60minutes	73	73%
Component 3 (sleep duration)		
>7 hours	29	29%
6-7 hours	6	6%
5-6 hours	39	39%
<5 hours	26	26%
Component 4(sleep efficiency)		
>85%	25	25%
75-84%	18	18%
65-74%	15	15%
<65%	42	42%
Component 5 (sleep disturbance)		
Not during the past month	9	9%
Less than once a week	82	82%

Variables	No	%
Once or twice a week	9	9%
Three or more times a week	0	0%
Component 6(use of sleep medication)		
Not during the past month	2	2%
Less than once a week	2	2%
Once or twicea week	19	19%
Three or more times a week	27	27%
Component 7(day time dysfunction)		
Not during the past month	3	3%
Less than once a week	7	7%
Once or twicea week	41	41%
Three or more times a week	49	49%

Table (4): This table demonstrates that (41%) of patients reported a very bad subjective sleep quality followed by (29%) of them scored fairly bad subjective sleep quality. Regarding to sleep latency, the majority of the patients (73%) take more than 60 minutes to fall asleep each night. Thirty nine percent (39%) of patients has actual sleep hours ranged between 5-6 hours at night and (82%) of the patients had sleep disturbances that occur less than once a week. Moreover, (27%) of them use sleep medication three or more times per a week. In addition, about half of the patients (49%) had day time dysfunction frequently per a week.

Table (5): Frequency distribution of sleep quality levels among studied psychiatric patients (n=100).

Sleep quality scores	Total N=100	
Variables	No.	%
Good quality of sleep	6	(6%)
Poor quality of sleep	94	(94%)
Range	2-20	
Mean ±SD	13.8±4.5	

Table (5): This table illustrates that the most of the patients (94%) had poor quality of sleep, while those who had good quality of sleep only was represented by (6%) of patients.

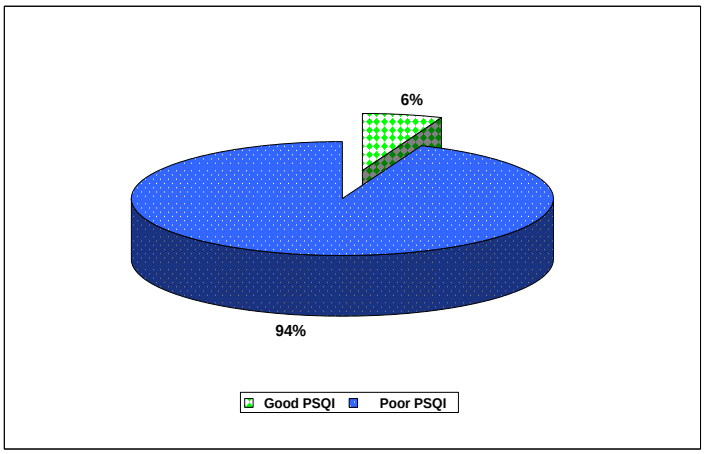

Figure (2): sleep quality levels among studied psychiatric patients

Table (6): Correlation between sleep qualitylevels and depression, anxiety, stress levels (n=100).

Variables	Sleep quality scores	
	r	P
Depression	0.23	0.01*
Anxiety	0.21	0.03*
Stress	0.17	0.08

Table (6): As observed from the table, there is a strong positive significant correlation between depression, anxiety and sleep quality of psychiatric patients r = 0.23, at p = 0.01 & r = 0.21, at p = 0.03 respectively. While there is no statistical significant correlation between sleep quality and stress.

Table (7): Relationship between socio demographic data and sleep qualitylevels among studied sample (n=100).

Sociodemographic Variables		Total No	Sleep quality scores				X^2	P
			Good n-6		Poor n-94			
			No.	%	No.	%		
Age	18-20 yrs.	38	3	(50%)	35	37.5%)	1.7	0.4
	20-40 yrs.	41	3	(50%)	38	40.4%)		
	40 yrs. and up to more.	21	0	0	21	(22.3%)		
Sex:	Male	73	4	(66.7%)	69	(73.4%)	0.12	0.7
	Female	23	2	(33.3%)	25	26.6%)		
Residence	Urban	57	4	(66.7%)	53	(56.3%)	0.2	0.6
	Rural	43	2	(33.3%)	41	(43.6%)		
Marital status	Single	48	5	83.3%)	43	45.7%)	3.3	0.3
	Married	29	1	(16.7%)	28	29.7%)		
	Divorced	18	0	0	18	19.1%)		
	Widowed	5	0	0	5	(5.3%)		
Occupation	House wife	25	2	(33.3%)	23	(24.5%)	3.1	0.5
	Farmer	16	0	0	16	(17%)		
	Employee	16	0	0	16	(17%)		
	Manual work	34	3	(50%)	31	(33%)		
	Others	9	1	(16.7%)	8	(8.5%)		

Table (7): As shown in this table, the findings revealed that no significant relations between levels of sleep quality and all sociodemographic characteristicsinclude age, sex, residence, marital status and occupation except educational level of studied sample.

Table (8): Relationship between educational level and sleep quality levels among studied sample (n=100).

Variables		Total No	Sleep quality scores				X^2	P
			Good n-6		Poor n-94			
			No.	%	No.	%		
Educational level	Illiterate	11	1	(16.7%)	10	10.6%)	21.6	0.001*
	Read and write	11	0	0	11	(11.7%)		
	Primary	13	1	(16.7%)	12	12.8%)		
	Preparatory	3	2	(33.3%)	1	(1.1%)		
	Secondary	49	2	33.3%)	47	(50%)		
	University and above	13	0	0	13	13.8%)		

Table (8) shows that there is highly statistically significant differences between sleep quality levels of patients regarding to their educational level with p = 0.001

Table (9): Relationship between diagnosis and sleep quality levels among studied sample (n=100).

Variables		Total No	Sleep quality scores				X^2	P
			Good n-6		Poor n-94			
			No.	%	No.	%		
Diagnosis	Mood disorders (mania)	10	0	0	10	(10.6%)	2.1	0.3
	Mood disorders (depression)	15	0	0	15	(16%)		
	Schizophrenia	75	6	(100%)	69	(73.2%)		

Table (9) shows that there is no statistically significant relation between sleep quality levels of patients regarding to their diagnosis (p=0.3).

VII. Discussion

Sleep is an essential part of the normal human circadian rhythm anda basic human need. It is essential for maintenance of physical and mental functions of the body (Sasmita et al., 2015).A number of research findings suggest that insomnia and non-restorative sleep are highly frequent in patients with psychiatric disorders. It is assumed that as the result of the severity of illness and additional stress factors the poor sleep quality of patients with neuropsychiatric disorders is even worse during hospitalization (Lei et al., 2009 and

Park&Kim, 2016). Due to the major relevance of sleep quality and health, the objective of this study was to find out the relationship between quality of sleep, depression, anxiety and stress levels among hospitalized psychiatric patients.

In relation to levels of depression, anxiety and stress, the present study results revealed that nearly half of psychiatric patients had extreme level of depression; more than two thirds of patients reported extreme level of anxiety, these findings were considered the highest level reported by patients. This could be attributed to; admission to psychiatric inpatient units is frequently associated with a high level of anxiety. In addition, it was known that psychiatric illness was causing the greatest level of anxiety and stress that related to the natureof these illnesses. Other some factors may contribute in rising or provoking level of stress and anxiety of hospitalized psychiatric patients as feeling of loneliness, hopelessness, worry, anger, and sadness are always experienced by patients and being hospitalized isolate patients from daily life activities, make them far away from home and not able to perform marital and family roles. While (42%) of patients had severe level of stress.

In relation to distribution of sleep quality components in patient, the present study showed that the majority of patients reported bad subjective sleep quality and a high percentage of sleep latency in patients who take more than one hour to fall asleep each night. This may be due to the highest level of anxiety reported by patients in this study and consistent time of sleep as a part of ward routine in hospital which differ completely from patient's behaviors of sleep at home. Moreover, most of them had schizophrenic disorders that make the patients preoccupied by thoughts, fears, and various perceptual disturbances. Also, most of patients had sleep disturbances and about half of them reported frequent day time dysfunction perweek. This finding is nearly agreed with (Dogan et al., 2005) who studied sleep quality in hospitalized patients in Turkey, the high component scores of PSQI was found in subjective sleep quality, sleep habits, sleep disturbances and use of sleep medications. This result could be due to various factors as the specific features of illness, hospital environment and its features, treatment and nursing applications.

The current study demonstrated that most of patients (94%) had poor sleep quality, while only (6%) of them had good quality of sleep. This result may be attributed to, the severity of illness and additional stressful factors are clearly associated with poor sleep quality in patients with psychiatric disorders which even worse during hospitalization. Other hospital related factors influencing sleep quality and make the patients were experiencedchanges in their sleep behaviors in hospital. Firstly, environmental factorswhich include poor room ventilation, light, noise, neighbor patients, and treatment during sleeping hours. On the other hand, individual factors such as pain, gender, age and thoughts or worries related to illness play a significant role in affecting patient's sleeping quality, which may stand as an obstacle for the early recovery.

This finding of the current study is in agreement with Muller et al. 2016 who found that nearly two thirds of psychiatric patients experience poor subjective sleep quality during hospitalization. Moreover, various previous studies in the literature postulated that, a high prevalence of sleep disturbances was shownrepeatedly in patients with different neuropsychiatric disorders during all stages of illness (Breslau et al., 1996 and Jones &Benca, 2015).A similar pattern was seen in a study conducted by Prietro-Rincon et al., 2006 who reported that the most of patients (91.22%) hospitalized in the psychiatric hospital of Maracaibo were classified as poor sleepers.

Concerning the association between quality of sleep and depression, anxiety and stress levels among psychiatric patients, the current study results found a strong positive significant correlation between depression, anxiety levels and sleep quality. This finding is nearly agreed with Madrid-Valero et al., 2017 who mentioned that the prevalence of poor sleep quality in patient suffering from symptoms of anxiety or depression is much higher compared to overall population. This finding is also broadly consistent with Mayers et al., 2009 who found a statisticalsignificant association between sleep quality and depression as well as anxiety in a clinical sample. While, there was no statistical significant correlation between sleep quality and stress. This result disagrees with those of (Baniasadiet al., 2017) who stated that patients with poor sleep quality had severe depression and anxiety than patients who have good sleep quality.

An interesting new finding of our study is the fact that no significant differences between sleep quality and age, sex. In contrast, (Madrid-Valero et al., 2017) found that the prevalence of poor sleep quality is higher in woman and increases gradually with age. Moreover, the present study revealed that there were no statistically significant differences between sleep quality and marital status, residence and occupation. These results aren't consistent with Ozkan et al., 2015 who found a significant correlation between the total PSQI scores and marital status, between the place of residence and occupational-professional status. The presence of different results regarding the relationship between sleep quality scores and socio-demographic variables can be explained by the fact that sleep quality can differ individually. Also, it is observed in various literatures that sleep quality is influenced by many individual and environmental factors.

As regardseducational level, there was a high significant difference between sleep quality score and education. This is supported by (De Niet et al., 2008,Okuji et al., 2002, Nancy et al., 2009and Vgontzas et al., 2008) who provided an evidence that long duration of illness, low level of education, being retired, diagnosis of

depression, and irregular use of a psychiatric drug are the factors influencing sleep disorders. In a study conducted by Jolfaei et al., 2014 who studied quality of sleep for hospitalized patients in Rasoul-Akramhospital was showed a non-significant relation between demographic factors and sleep quality. This supported the current study results. However, the studies are hardly comparable due to different assessment methods, settings, and samples.

Also the results of the current study revealed that there was no statistically significant difference between sleep quality levels of patients regarding to their diagnosis. The previous finding was supported by (Muller et al., 2016) who conducted data about subjective sleep and sleep duration of patients in a psychiatric hospital, more than two thirds of all patients reported subjective sleep quality during hospitalization without significant differences between the diagnostic groups.

VIII. Conclusion

Based on the findings of the current study it was concluded that, patients with chronic psychiatric disorders reported high prevalence of poor quality of sleep during hospitalization. Also, the findings reporteda significant positive relationship between sleep quality and depression, anxiety levels, but no significant relationship between sleep quality and stress level.

IX. Recommendations

Based on the findings of the current study, it was recommended that:

- More researches are needed to identify possible different factors that can be related to poor sleep quality during hospitalization.
- Further studies regarding nursing interventions are necessary forimproving the sleep quality of hospitalized psychiatric patientswhich may improve outcomes, overall health and quality of life in a vulnerable population, as well as additional plan aimed to reduce the factors that negatively affect this improvement.

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