

A DESCRIPTIVE STUDY TO ASSESS THE QUALITY OF SLEEP AND IDENTIFY THE FACTORS INFLUENCING QUALITY OF SLEEP AMONG PATIENTS ADMITTED IN CRITICAL CARE UNITS OF SELECTED HOSPITALS

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ABSTRACT

Objectives: to assess the quality of sleep and identify the factors influencing quality of sleep among patients admitted in critical care units.

Method: A descriptive study was conducted among 50 critical care units' patients who met the inclusion criteria, who were selected by using purposive sampling technique to assess the quality of sleep. Self-structured questionnaire, Groningen sleep quality scale and modified sleep disturbing scale was used to collect the data. Descriptive and inferential statistics were used to analyze the data.

Results: Findings shows that pain, concern, devices and tubes attached to the patients falling objects, emergency carts are common factor influencing sleep quality. Findings shows that majority of patients 25 (50%) had a good quality of sleep, 23 (46%) of the patients had a fair quality of sleep and 2 (4%) of the patients had a poor quality of sleep before hospitalization. After the hospitalization, majority of patients 21 (42%) had a poor quality of sleep, 16 (32%) of the patients had a good quality of sleep and 13 (26%) of the patients had a poor quality of sleep. This shows that Quality of sleep is good in before the hospitalization and poor in after the hospitalization.

Conclusion: There is necessity to provide information for those medical personnel regarding the factors influencing the sleep, which helps to increase the quality of the sleep among patients admitted in critical care unit.

KEYWORDS: Factors influencing quality of sleep, critical care unit.

INTRODUCTION:

“Sleep is sweet to laboring man “

-John Bunyan

We tend to think of sleep as a time when the mind and body is shutdown. But this is not the case; sleep is an active period in which a lot of important processing, restoration and strengthening occurs. Exactly how this happens and why our bodies are programmed for such a long period of slumber is still somewhat a mystery. Humans like all animals, need sleep along with water, food and oxygen to survive. For humans, sleep is a vital indicator of overall health and wellbeing. The overall state of our “sleep health” remains an essential question throughout our life span.

Quality of sleep and its influence in the daily life of both the healthy and sick people becomes one of the main focuses of concern for the researcher on the functioning of the organism. A quiet environment is a pre-requisite for most of the people to get into sleep. The sleep pattern of persons getting admitted to the hospital can easily be affected by illness or the unfamiliar routines. Both the quality and quantity of sleep can be affected by various reasons such as illness, noise, light, nurse's work and stress etc.

Sleep disturbances affect both physical and mental health. It is characterized by difficulty in awakening, lethargy, restlessness, ptosis of eyelids, agitation, and irritability. Sleep disturbances with repeated arousals and the cause are interrelated and are categorized into patient, staffs and environment related factors. By identifying these factors nurses can recommend the necessary sleep promotional measures and improving quality of sleep in critical care units and there by promoting early recovery.

Staff related factors

- ❖ Staff talks at bedside
- ❖ Steps of nursing care
- ❖ Routine before sleep
- ❖ Doctors interruption
- ❖ Delay nurses
- ❖ Noise

Environment related factors

- ❖ Lighting
- ❖ Doors
- ❖ Ventilation system
- ❖ Patients sounds
- ❖ Falling objects
- ❖ Radio
- ❖ Telephone
- ❖ Alarms
- ❖ Footsteps
- ❖ Emergency carts

Patient related factors

- ❖ Pain
- ❖ Bed
- ❖ Cough
- ❖ Devices and connections in the body
- ❖ Change position
- ❖ Difficulty in breathing
- ❖ Desire for vomiting
- ❖ Too much Sweating
- ❖ Frequent medication
- ❖ Ways of drug administration
- ❖ Annoyance after the visit
- ❖ Bad Dreams (nightmares)
- ❖ Non-desirable Food
- ❖ Frequent pipes entering and leaving the body

OBJECTIVES:

1. To assess the quality of sleep among critical care unit patients.
2. To identify the factors influencing quality of sleep among critical care unit patients.
3. To determine the correlation between the quality of sleep and factors influencing quality of sleep in critical care unit patients.
4. To determine the association between the qualities of sleep and selected demographic variables.

MATERIALS AND METHODS:

To achieve the objectives a descriptive design was adopted. Target population of the study included all the areas of critical care unit in a hospital. Totally 50 patients were selected using purposive sampling technique. This study was conducted in some selected hospital, Coimbatore.

Totally three tools were used to collect the data. Tool 1- Modified interview sheet was developed by Shaban (2008). It consisted of two parts. Part-I it was concerned with socio-demographic characteristics of patients under study. Sleep pattern assessment questionnaire, it was used to assess the quality of sleep during the normal life before hospitalization. Tool 2 - The Groningen sleep quality scale was developed by Hajonides, Haukka and Partonen (2003) to measure the subjective quality of sleep. It was contained of 15 statements which answered by true or false. The quality of sleep was ranged as good (0-5), fair (6-8) and poor (9-14). Tool 3 - Modified Sleep Disturbing Scale: was developed by **Reda and Ibrahim (2000)**. It was used to measure the extent of each factor that influences the quality of sleep.

After obtaining permission from the hospital, the study was conducted. Data was collected through structured interview technique. Critical care patients who fulfill inclusion and exclusion criteria were selected. Purpose of the study was explained, and written consent was obtained from each participant. Instructions were given by the beginning of the interview, an average each participant took 20 – 25 minutes to collect the data.

ANALYSIS AND RESULTS:

I: Description of demographic characteristics

The patients admitted in critical care units who belongs to the age group of less than 30 years were 5 (10%), 31-40 years were 5 (10%), 41-50 years were 5 (10%), 51-60 years were 15 (30%), >60 years were 20 (40%). Gender - The patients admitted in critical care units who belongs to the male gender were 35 (70%) and female gender are 15 (30%). Occupation- The data showed that 13 (26%) patients admitted in critical care units were housewife, 5 (10%) were retired, 31 (62%) were worker, 1 (2%) were employer. Education level - The data showed that 26 (52%) patients admitted in critical care units were having education level up to secondary school, 14 (28%) were university degree, 10 (20%) were illiterate. Marital status- The data showed that 41 (82%) patients admitted in critical care units were married, 5 (10%) were single, 4 (8%) were widow. Residential areas- The data showed that 28 (56%) patients admitted in critical care units were from urban, 22 (44%) were rural.

II: The quality of sleep pattern before and after hospitalization.

Findings shows that majority of patients 25 (50%) had a good quality of sleep, 23 (46%) of the patients had a fair quality of sleep and 2 (4%) of the patients had a poor quality of sleep before hospitalization. After the hospitalization, majority of patients 21 (42%) had a poor quality of sleep, 16 (32%) of the patients had a good quality of sleep and 13 (26%) of the patients had a fair quality of sleep. This shows that Quality of sleep is good in before the hospitalization and poor in after the hospitalization. This was supported by the study conducted by **Mai Elsayed Mohsen** to identify the factors associated with sleep pattern disturbance among 86 patients of critical care unit, on which sleep quality after hospitalization is poor.

III: The correlation between the quality of sleep and factors influencing quality of sleep.

Findings shows that There is a significant positive correlation with the quality and patient related factors ($r= 0.513$), There is a positive correlation with the quality and staff related factors ($r= 0.31$) and There is a positive correlation with the quality of sleep and environmental related factors ($r= 0.316$).

Table 1 - Correlation between quality of sleep and factors influencing sleep.

Groningen sleep quality Score	Patient related factors			Environment related factors			Staff related factors		
	Mean	S. D	R	Mean	S. D	r	Mean	S. D	r
	7.4	8.047	0.513	6.32	7.54	0.32	2.28	3.098	0.31

IV. Association between quality of sleep and demographic variables:

The chi- square value calculated for the age is 0.16 which is less than table value that is 3.84 and for gender calculated value was 2.23 which is less than table value, like occupation, education, marital status and residents calculated value were less than table value. Which means there is no significant association between the quality of sleep and demographic variables.

Table 2 - Association between quality of sleep and demographic variables

S. No	Demographic variables	Good/Fair sleep		Poor sleep		Df	Chi-square(x ²)		Inference
		F	P (%)	F	P (%)		Calculated value	Tabulated value	
1	Age a. <50 b. ≥50	15 14	30% 28%	10 11	20% 22%	1	0.16	3.841	Not significant
2	Gender a. Male b. Female	22 06	44% 12%	13 09	26% 18%	1	2.23	3.841	Not significant
3	Occupation a. Unemployed b. Employed	09 20	18% 40%	09 12	18% 24%	1	0.7389	3.841	Not significant
4	Education a. Illiterate b. Literate	07 22	14% 44%	03 18	06% 36%	1	0.738	3.841	Not significant
5	Marital status a. Married b. Single	23 06	46% 12%	18 03	36% 06%	1	0.34	3.841	Not significant
6	Residents a. Urban a. Rural	17 12	34% 24%	11 10	22% 20%	1	0.192	3.841	Not significant

DISCUSSION:

Adequate sleep is essential to restore biological functions. During sleep body produces growth hormone for the renewal of epithelial and neuron cells. REM sleep is associated with improved blood flow to the brain, increased cortical activity, oxygen consumption, and release of nephrine. So, it is needed for restoration of brain tissue and thus the restoration of cognitive function as memory and learning. Metabolic rate decreases by 5- 25% during night sleep. Body conserves energy during sleep and for the brain.

In present study shows that majority of the people 25 (50%) had good quality of sleep before the hospitalization but after the hospitalization majority of the people had poor quality of the sleep.

Another study conducted to identify the factors associated with sleep pattern disturbance among 86 patients of critical care unit, who were selected by convenient sample technique in Port Said hospital in Egypt. Three tools were used for data collection are interviewing questionnaire sheet, Groningen sleep quality scale and modified sleep disturbing scale. Results of the study showed a highly statistically significant correlation between the quality of sleep pattern before and after hospitalization [$p=0.000$] There is a poor-quality sleep and disruptions are common problems among patients in critical care units. The most effective factors that affects sleep quality of the patients are pain and difficult breathing and critical care environment such as alarms and lights.

This study and as well as other studies cited shows that there is a necessity to identify the factors and to provide information regarding to the health personnel to minimize the factors that affecting the quality of sleep of the patient.

Conclusion:

Nurses have more responsibility on creating knowledge among other nurses, how to reduce the staff and environmental factors and also while doing the procedure how to reduce the patient related factors that affect their quality of sleep. By facilitating booklets, hand- outs and charts regarding the way to minimize the factors that affecting patient quality of sleep. A good sleep of critical care unit patients is essential for good health and recovery from illness.

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