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Sleep quality and predictors of sleep disturbances among adult patients admitted in a selected hospital, Mangaluru.

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Abstract

Sleep has an important role in maintaining health. Being active and energetic inversely related to the quality of sleep. We can say that sleep is an important parameter to measure health and vitality. Sleep disturbance is common among patients admitted in the hospital. A new place, new people, pain and various amounts of discomfort, fear, hospital routines and many more parameters can disturb the sleep of those patients admitted in the hospital. The patients admitted in the general wards get almost no choice to postpone their bedside procedures to their preferred time. Somewhere over the line, we need to realize the predictors of sleep disturbance in the hospital environment and take measures to tackle those factors. We need to look at those situations at the patient's point of view and implement changes in our routines. Though nurses write sleep status of each patient at night, their assessment on sleep quality is not measured with any standard tools. This study would help to implement such strategies to take specific actions on those factors which cause sleep deprivation.

Objective of the study: The aim of this study is to assess the quality of sleep and to identify the predictors of sleep disturbance among hospitalized patients.

Methods and materials:A descriptive survey designwas used for this study. The sample consists of 60 adult patients admitted in the medical wards of a selected medical hospital. The subjects were selected by using purposive sampling technique.The tool has been prepared by the investigators keeping in mind those concepts presented by the U.S.National sleep foundation on the quality of sleep**.** The data were obtained by sleep quality index and using a five- point rating scale to assess the predictors of sleep disturbances.

Results: Out of total patients 48.3% of them had fair sleep during hospitalization and 30% of them had poor sleep and only 21.7% of them had good sleep. Most of the sleep distracters (78.3%) found to be at low level, 20% of the sleep distracters were present in moderate level and 1% in high level. **Conclusion**: The present study shows that many patients do have sleep deprivation due to a wide variety of factors. This shows that health personnel need to be extra conscious and cautious in planning the activities for their patients and minimize distractions.

Keywords: Sleep quality, sleep pattern, sleep predictors, sleep distracters, Patients, Adults and Hospital.

Introduction

Every patient admitted in the ward expects to have a comfortable stay and a speedy recovery. It's a common practice in the hospital to focus more on disease entity and pay a less attention to patient's personal feelings and comfort. Sleep is considered as an important parameter to gain vitality; yet, most of the patients get disturbed by the hospital routines and get less sleep. Commencement of routine nursing care starts at 5 am with the expectation of completing

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before the change of shift. Those wards having 40 -50 patients obviously made to wake up early and it can cause sleep disturbance among patients.Somewhere over the line, we need to realize the predictors of sleep disturbance in the hospital environment and take measures to tackle those factors. We need to look at those situations at the patient's point of view and implement changes in our routines.

Materials & Methods

The data were collected from 60 adult patients admitted in the general wards. Ethical consent was taken from the institutional ethics committee before the data collection. The investigator explained the purpose of the study to the subjects by using a detail Subject participation information sheet. Informed consent was obtained from the participants.The tool was formulated by the investigator by using various literatures had 09 items on baseline variables, the Part B was on sleep quality which had 6 items with maximum scores of 15. The tool II was on predictors of sleep disturbances was a 5 point rating scale, this tool had three parts. The first component was related to physical environment which had 4 items .The second component was with 05 items (patient related) and the third component (Hospital facilities) was with 13 items .The entire tool was with 22 items with a possible maximum scores of 110. The tool regarding quality of sleep was tested for internal consistency using Chronbach's Alpha and it was found to be.65. The predictors of sleep distracters was tested for homogeneity using Chronbach's Alpha and it was found to be r =.60 Area I , r =.65 ,Area II, r =.82 .Both the tools found to be reliable.

Study design: Descriptive design

Selection & Description of participants: The data was collected from the patients from three general wards. The data was collected at bedside. The information sheet was given for the participants to read, after that only consent was obtained. No patients were forced to participate and they were assured saying non participation will not cause any changes or differences in due health care.

Criteria for the sample selection:

Inclusion criteria:

- Those patients between age group of 20-40 years of age
- Admitted in the general wards with medical conditions only

Exclusion Criteria for Sampling

- Patients with hypertension and Diabetes Mellitus or any endocrine disorders
- Admitted in the private rooms
- Those who are hospitalized for less than 2 days
- Those who are with sedatives
- Unconscious and disoriented patients
- Those who are not able to read Kannada ,Malayalam or in English

Statistics: SPSS 23 Version was used for analysis

Results

Assessment of sleep quality of adult patients

The study results revealed that 48.3% of the subjects had fair sleep during hospitalization &30% of them had poor sleep and only 21.7% of them had good sleep.

Table 1: Mean, SD, Mean% and SEM scores regarding sleep quality (N=60)

Variable	Mean/ SD	Mean%	SEM	95 %CI	
				Lower	Upper
Overall sleep quality	11.77± 2.07	78.47	.27	11.24	12.30

From the table 2, it can be interpreted that overall sleep quality was fair among hospitalized patients**.** Out of total subjects 57 of them had mean quality sleep index scores of 11.24 to 12.30.

Assessment of Predictors of sleep distracters.

Table 2: Frequency and percentage distribution of predictors of sleep disturbances among adult patients. N =60

Variables	**f**	**%**
Overall predictors of sleep:		
High level of sleep distracters	1	1.7
Moderate level of sleep destructors	12	20.0
Low level of sleep distracters	47	78.3
Physical aspects:		
High level of physical sleep distracters	3	5.0

Variables	f	%
Moderate level of physical sleep distracters	26	43.0
Low level of physical sleep distracters	31	52.0
Patient related factors:		
High level of patient related sleep distracters	2	3.3
Moderate level of patient related sleep distracters	21	35.0
Low level of patient related sleep distracters	37	61.7
Hospital facilities related:		
High level of hospital related sleep distracters	0	0
Moderate level of hospital related sleep distracters	7	11.7
Low level of hospital related sleep distracters	53	88.3

The above statistical table indicates 20% of the sleep distracters were present in moderate level and 1% in high level .From this it can be interpreted that most of the sleep distracters (78.3%) found to be at low level. Around 43% of the physical factors were causing moderate sleep destruction and 35% of the subjects 'personal factors were causing sleep destruction.

Discussion: **Sleep duration:** The current study indicates the Mean sleep duration of the subjects before the hospitalization7.53±1.38/24hrs and during hospitalization is 6.72±1.68. This indicates there was a reduction of at least 1 hour of sleep/day. The study conducted by Jean reported the proportion of people reporting mid-range sleep (6.5 to 8.5hrs/24hrs)[2]. Mai study result found that highly statistically significant correlation between the quality of sleep pattern before and after hospitalization whereas (p=0.000)[3]. From this it can be said that the above studies are on pace with the current study results.

Sleep quality: From the present study it is discerning that 48.3% of them had fair sleep during hospitalization and 30% of them had poor sleep. From the table it also can be stated that only 21.7% of them had a good sleep.

The study conducted in the USA among chronically ill patients, out of total subjects 16.3% had severe sleep problems, 16.8% had moderate and 12.5% had mild sleep problems[4]. The current study, the proportion of the subjects with poor sleep found to be two times more than the study conducted in USA[4]. The study conducted by Kusleikaite*et al* showed that 66.7% of ESRD (End Stage Renal Failure) patients on HD (Hemodialysis) had poor sleep quality[5]. That means two times more than our study results. Kusleikaite says that sleep duration less than 6 hours /night can cause negative health outcomes[5]. The study conducted in a Chinese general hospitalreported poor sleep quality (45·6%) during hospitalization and a reduction in sleep quality after hospitalization (57·4%) [6]. The study by Magdy in Egypt among critically ill patients demonstrated 48% of the patients admitted to the RICU (Reparatory Intensive CARE Unit) had poor sleep quality[7]. The study conducted by MarnJoon Park discerns 86% of the hospitalized patients having disturbed sleep [8]. The study conducted by Pawar in Maharashtra also supports the study, the author of the study has revealed 47.3% of the subjects had insomnia, 26.3% had hypersomnia [9].

Factors causing sleep disturbances:

The overall most of the sleep distracters were found to be at a low level (78.3%), 20% in moderate level and found 1.7% in high level. Overall Mean % 46.59 indicates distracters were at low level.

Hospital related factors: Shoe sound said by 5% of the subjects causing most of the time sleep disturbances and 11.5% said, sometimes sound generated by the shoes disturbed their sleep in the hospital. Regarding bright hospital light, causing disturbances most of the time was revealed by 18.4% of the subjects and 28.3% agree upon causing sleep disturbance sometimes by the presence of bright lights. **Snoring**: 21.7% of the subjects said that snoring heard from the adjacent bed causing sleep disturbances whereas, 10% said always their sleep disturbed by an adjacent patient's snoring habit .**Loud talk:** They were 38.3% of the subjects revealing loud talk by the health personnel disturbing their sleep and same factor is causing always sleep disturbance among 8.4% of the subjects. Around 22% said that **poor bedding** causing poor sleep .

The study conducted by Chinese has shown the using of toilets at night and sound generated from the nurse's shoes are one of the causes for sleep distraction at night[6]. A study conducted by Hilde point out (70.4%) having been awakened by external causes, out of which, (35.8%) concerned hospital staff[10]. The study conducted by Magdy highlights Noise (7.60±1.40) was the main sleep disruptive factor; hospital staff conversations (7.77±1.38) and

medical staff pagers and phones (7.42±1.53) were the maximum noises[7]. Frequent use of light is the second influential factor for sleep disruption (6.82±1.31), followed by nursing interventions and blood sampling[7]. MarnJoon study results on noise in ICU'S revealed the mean equivalent continuous noise level for 24 hours was 63.5 decibel A (DBA), which was far higher than 30 DBA recommended by the World Health Organization for hospital wardrooms. The most common sleep disturbed patient-perceived sources of noise were noise caused by other patients', caregivers and visitors (23.6%), followed by noise, caused by other patients such as snoring or groaning, toilet flushing, medication/food trolleys and phone or TV sound, medical staff, and medical equipment's.

Age and sleep quality: The subjects between 25-30 years of age had better sleep than those subjects above 30 years (23.07 and 20.06 respectively). These findings further obvious in the worst sleep category too, the older adult in large proportion had bad sleep against those who below the age of 30.9 35.3% and 23.07% respectively).

The study conducted by Jean had indicated that as age advances the sleep reduction is obvious, the subjects admitted of 25-35 years had less sleep to that of subjects under 25 years of age[2]. Cengic also said that the younger patients undergoing hemodialysis had better sleep than the older adults[11].

Strengths of the study

1) The study has helped to know the intensity and type of factors causing Sleep disturbance among patients admitted in the hospital
2) It has helped the organization to sensitize the hospital staff on factors contributing sleep disturbances and bring change in their behaviors that can cause sleep disturbances.

Limitations: The study was limited to one time data collection and three wards of the hospital only.

Implication of the study

A present study is a foundation to undertake an exploratory study on clients experience during the hospital stay.

Suggestions:

1) Hospital facilities concern issues causing sleep disturbances can be thought about and could be eliminated from its root.
2) Wheel chair generating sounds, machine alarms, bright lights, shoe sounds can be eliminated by sensitizing the people those engaged in such activities

Ethical clearance: The ethical clearance was obtained from the Institutional Ethics Committee (Ethical Number: FMEC/CCM/36/19 dated 11-3-2019)

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Conflicts of Interest: None

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