

Full Length Research Paper

Effects of nursing hospital routines on the pattern, quantity and quality of sleep among hospitalized patients in Ibadan

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Studies have shown that when sleep is reduced, the individual becomes more irritable, tired and aggressive, more likely to have confused reactions and reduced pain tolerance level. This was a descriptive study designed to determine the effects of nurses' hospital routines on client's sleeping pattern among hospitalized patients in Ibadan. Respondents were selected from five different units that cut across various health conditions using a purposeful sampling method. The data were collected from the respondents using a 34 item questionnaire. The questions were coded and analyzed using frequency distribution, student t-test and Pearson correlation. The result revealed that a mean of 53.1400 of the total number of respondents reported quality sleep pattern before hospitalization compared with the mean of 15.2633 respondents who reported sleep quality during hospitalization which shows that there is a significant difference in sleep pattern before and during hospitalization. This study provided an opportunity for nurses to appreciate the importance of sleep (both in quality and quantity) especially for hospitalized patients as a vital contribution to recovery and the need for a thorough assessment of patients' sleep pattern which is an important indicator of improving health or otherwise when clients are hospitalized.

Key words: Sleep pattern, hospitalization, nursing routine activities.

INTRODUCTION

Sleep is important for promoting recovery of hospitalized patients. Sleep appears necessary for every system of the body to work properly. It is required to provide energy for the physical and mental activities for all humans (Salo et al., 2003). It is one of the most essential needs of the body and mind required for both the healthy and the ill individuals; but for sleep to actually be beneficial to health, it must be adequate in quantity, quality and latency (Richardson et al., 2009). Sleep is a time of reduced consciousness that restores physical and mental wellbeing and occurs at periodic intervals. An old Chinese proverb states: "it is only when one cannot sleep, that one knows how long the night is". This explains the importance of sleep for human functioning.

Just as water and food are essential for human wellbeing, sleep is judged essential for human survival (Brain, 2007). Some experts believe sleep affords the neurons that were used while awake an opportunity to be repaired and restored. Without sleep, neurons may become so depleted in energy or so polluted with by-products of cellular activities that they begin to

malfunction (Salo et al., 2003). Sleep also gives the brain a choice to exercise important neuronal connections that might otherwise deteriorate from lack of activity. Evidences have shown that activities in parts of the brain that controls emotions, decision-making, and social interactions are drastically reduced during sleep (Brain, 2007). Thus, the need for sleep in human beings is universal and basic because sleep serves a restorative function for the body and mind. All individuals, well and ill, require adequate sleep both in duration (quantity) and quality (John et al., 2007).

Normal sleep goes through certain stages and the stages should not be disrupted for normal mental and physiological functioning. Usually, there are five stages/phases of sleep: stages 1, 2, 3, 4 and Rapid Eye Movement (REM) sleep. These stages progress in a cycle from stage 1 to REM sleep, then the cycle starts

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over again with stage 1. An average of 50% of the total sleep time is spent in stage 2, 20% in REM sleep, and 30% in the other stages of sleep. On the other hand, infants spend about half of their sleep time in REM sleep (Brain, 2007).

Studies have shown that when sleep is reduced, the individual becomes irritable, tired, aggressive, confused and has a decreased level of pain tolerance (John et al., 2007). Too little sleep leaves the individual drowsy and unable to concentrate on usual activities. It also leads to impaired memory, reduced physical performance and reduced ability to carry out rigorous brain calculations (Salo et al., 2003). A large number of patients generally experience sleep disturbance in the first few days of admission into the hospital and nurses sometimes refer to these clients as “uncooperative” or “too difficult” (John et al., 2007).

Patients are admitted to the hospital for a variety of reasons, including scheduled tests, procedures/surgery, emergency medical treatment; administration of medication; or even for a good bed rest especially when it is been noticed that the client is not having an adequate rest. Despite these needs for hospitalization, studies have shown that hospitalization is detrimental to obtaining adequate sleep, and the critically ill are particularly vulnerable to sleep disturbance.

Sleeping problems are common in many health disorders and these problems may arise from changes in the brain regions and neurotransmitters that control sleep or from the drugs used to control symptoms of other disorders. In hospitalized patients, sleep deprivation can be as a result of many factors which range from environmental influence, visitation, noise, and this may be worsened by treatment schedules and hospital routines (Lei et al., 2009; John et al., 2007; Montgomery et al., 1999; Furlani et al., 2006; Dogan et al., 2005). Some of these typical hospital routines include checking of vital signs (blood pressure, temperature, heart rate, pulse rate) several times throughout the day and night, medical ward rounds, administration of medications, performance of tests, and serving of meals three times a day and so on. These affect clients psychologically and health-wise; it causes confusion, frustration, and depression. It also causes clients to be more sensitive to pain and may request increased pain medication (Lee et al., 2005; Brain, 2007).

Theoretical framework

Peplau's theory of interpersonal relations was used for this study. Hildegard Peplau developed the theory of interpersonal relations in Nursing as dated back to 1952. She drew her theory from developmental, interactionist, and human needs theories. The theory is based on the premise that the relationship between client and nurses is the focus of attention, rather than

the client as the only unit of attention.

Objectives of the study

1. To examine the difference in the sleeping pattern of clients before and during hospitalization.
2. To explore the effect of hospital routines on clients' sleeping pattern.

Significance of the study

This study will help to identify the consumers' preferred view of nursing interventions that negatively influences sleep quality and quantity among hospitalized patients. Nurses' awareness of the importance of sleep to the health and speedy recovery of the hospitalized patients is thus improved and the risks involved if and when adequate sleep is not achieved is identified thereby enhancing a positive review of the importance and right timing of these routine activities.

METHODOLOGY

Study setting and design

This study was both an exploratory and descriptive study aimed at describing and assessing the effects of hospital routine on in-patient's sleeping pattern. The sample size for this study was 210 patients which was the total number of patients on the selected units which represented all medical and surgical specialties. The target populations for the study were all the patients admitted for care and treatment in the oncology, orthopedic, neurologic, obstetrics and gynecology units of the hospital.

Study population

The study population included male and female patients who were eligible based on the length of admission (minimum of 10 days on admission), age (adult), level of consciousness (alert, orientated patients who were not psychotic and not on sleep-altering medications). A self-developed pre-tested questionnaire containing 34 questions was used to elicit information from the respondents after a thorough explanation had been given by the researcher and participants' informed consent sought and gained as they were also assured of the confidentiality of their responses. The questions thoroughly explored their socio-demographic data and also the perceived effects that the various nursing interventions have on their sleep pattern before and during hospitalization. The literate patients were guided to fill the questionnaire themselves while the non-literate were interviewed based on the content of the questionnaire. These data were collected over a period of two weeks.

Table 1. Distribution of respondents by age.

Age	No. of respondents	Percentage
20-30 years	48.0	31.0
31-40 years	20.0	13.4
41-50 years	21.0	14.0
51-60 years	33.0	22.8
61 years and above	28.0	18.8
Total	150	100

Table 2. Distribution of respondents by sex.

Sex	No. of respondents	Percentage
Male	74	49.3
Female	76	50.7
Total	150	100

Table 3. Distribution of the respondents by the time they usually go to bed (prior hospitalization).

Usual bed-time	No. of respondents	Percentage
5-8 p.m	8	5.4
9 p.m - 12 a.m	142	94.6
Total	150	100.0

Table 4. Distribution of respondents by the time it takes them to fall asleep at night.

Time (minutes)	No. of respondents	Percentage
1-15 min	90	60.0
16-30 min	51	34.0
31-45 min	3	2.0
46 min and above	6	4.0
Total	150	100.0

DATA ANALYSIS AND PRESENTATION OF RESULTS

Data collected were analyzed using descriptive statistics methods such as percentage distribution while the stated hypotheses were tested to estimate the degree of relationship using the student t-test and Pearson correlation. It should also be noted that Nigerian time was used in this study.

The results were divided into two parts; the first part dealt with the demographic data of the respondents while the second part dealt with the research hypotheses generated in this study.

Table 1 which shows the distribution of respondents by age indicated that the respondents were drawn from various age groups ranging from 20 years to 60 years

and above. Table 2 shows that male and female clients were equally represented in this study. Table 3 shows that the usual hours of sleep are 9-12 pm. In Table 4, the distribution of the time it takes clients to fall asleep at night is presented. Table 5 shows that majority of the respondents gets up between 4-6 am, that is, early in the morning. Table 6 shows a summary of the result of T-Test analysis showing difference between patient's sleep pattern before and during hospitalization. Table 7 shows a summary of the relationship between patient's sleep pattern during hospitalization and process of recovery.

DISCUSSION

From the result, it was evident that almost all the

Table 5. Distribution of respondents by the time they usually get up in the morning.

Wake up time (hour)	No. of respondents	Percentage
4-6 a.m	127	84.7
7-10 a.m	22	14.7
11 a.m and above	1	0.6
Total	150	100.0

Table 6. Summary of result of T-Test analysis showing difference between patient's sleep pattern before and during hospitalization.

Sleep pattern	N	Mean	S.D	t- cal	t- tab	df	p
Sleep pattern before	150	53.1400	7.6545	50.958	1.96	298	0.00
Sleep pattern during	150	15.2533	4.9320				

Table 7. Summary of the relationship between patient's sleep pattern during hospitalization and process of recovery.

Variable	N	Mean	S.D	R	df	Significance (P<0.05)	Remark
The perceived extent to which sleeping pattern during hospitalization has affected client's recovery process	150	53.1400	7.65448	0.071	150	0.50	Less significant
	2.0667	0.83277					

respondents had a good sleep pattern before hospitalization as majority of them could actually tell when they usually sleep, when they wake up and the number of hours of sleep they get at night which ranged from 6-10 h before hospitalization. Also, in the previous month prior hospitalization, it was shown that only 0.7% of respondents indicated not getting to sleep within 30 min of trying, and they also indicated that at home, sleep is only disturbed by little factors.

In exploring respondents sleep pattern during hospitalization, information given showed that 78% of the respondents strongly agreed with the fact that they get more sleep when at home than at the hospital. Further exploration of the effects of important routine nursing activities on the disruption of their sleep in the hospital showed that 63.3% strongly agreed to medication administration, wound dressings (54.7%), while others such as bed bath, positioning and repositioning of clients, collection of samples for examination also come in as factors.

From the study, sleep was significantly noticed to be reduced both in quantity and quality among clients during hospitalization. Furlani and Ceolim (2006) also found this more among women with gynecological and breast cancer. They found out that among twenty-five subjects that participated in the study, 80% complained of bad sleep during hospitalization. Also according to the study carried out by Virginia (1981) among children

in a hospital, she found out that sleep disruptions do occur frequently during hospitalization.

The pattern of sleep disturbance was mainly in the form of delay in falling asleep, mid- sleep awakening and shorter duration of sleep episodes during the day and at night. Patients reported a poor feeling of restfulness in the morning and complained of serious fatigue whenever they are being woken up for any procedure.

This study showed that irrespective of the client's stay in the hospital, they are not likely to get used to the change of environment enough to have as much sleep as they do at home, and as majority of the patients themselves put it "hospital can never be like home, neither could you get a relaxed sleep in the hospital like home". Patients' responses were that sleep disturbance made them irritable, restless and fatigued. These factors if prolonged may impair the recovery process of these patients.

IMPLICATION FOR NURSING PRACTICE

From this study, it was discovered that majority of patients reported a change in their sleep pattern both in quality and in quantity, and patients who have had a sleepless night with their sleep been disrupted may become irritable in the morning and because the night nurses had not reported the sleep disturbance, such a

patient may be branded “difficult” or “cranky” or such other terms by the morning nurses. Lack of proper assessment of sleep often resulted in improper management of sleep disturbance and the nurses may not have noticed this. Therefore, there is need for nurses to be more observant and include in their night time report the duration of patients’ sleep. There is also a need to more thorough during sleep history taking on admission and a repetition of it weeks or months of a patient’s stay in the ward. These history and observations should be adequately documented and reported.

Finally, due to the fact that nurses are the supervisors and managers of care rendered to any patient in the ward, there is a need to be knowledgeable in assessment of sleep pattern and also to serve as advocates for proper timing of activities and procedures of the health team in order to aid the patient’s recovery.

RECOMMENDATIONS

There is a need for nurses to actively promote sleep in patients as part of their nursing interventions by developing nursing care plans that not only address the acute care needs of patients but also promote sleep both in good quantity and quality. Both the medical and nursing personnel or teams should evaluate the interruption of sleep for routines and if not absolutely necessary at that particular time, routine procedures should be postponed till when the patient is up but with an exception to procedures/medications which must be carried out at specific times. This will allow the patients the opportunity for adequate sleep.

It is also important that the hospital authorities provide a sleep chart to adequately record patients’ sleep pattern both in quality and quantity before and during hospitalization.

Hospital environment (nurses especially) should be as friendly as possible that will promote good nurse-client relationship thereby helping the patients to verbalize disruptions of any kind.

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