A STUDY TO ASSESS THE SLEEP PROBLEMS AMONG NEURO NURSES OF SCTIMST, TRIVANDRAM

PROJECT REPORT

Submitted in partial fulfillment of the requirements

For the

DIPLOMA IN NEURO NURSING

Submitted By

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Code No: 6208

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY, TRIVANDRUM, 695011

November 2011

CERTIFICATE FROM SUPERVISORY GUIDE

This is to certify that Miss: Reena Annie Cheriyan has completed the project work on "A STUDY TO ASSESS THE SLEEP PROBLEMS AMONG NEURO NURSES OF SCTIMST, TRIVANDRAM. Under my supervision for the partial fulfillment for the Diploma in Neuro nursing in the University of Sree Chitra Tirunal Institute For Medical Sciences and Technology. It is also certified that no part of this report has been included in any other thesis for processing any other degree by the candidate.

Saramma P.P

Thiruvananthapuram
November 2011

Dr: Saramma P. P
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CERTIFICATE FROM THE CANDIDATE

This is to certify that the project on “A study to assess the sleep problems among neuro nurses of Sree Chitra Tirunal institute For Medical Sciences And Technology, Trivandrum” is a genuine work done by me, under the guidance of Dr. Saramma P. P, PhD, Senior Lecturer in Nursing, SCTIMST, Trivandrum. It is also certified that this work has not been presented to any other university for award of degree, diploma or other recognition.

Thiruvananthapuram
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APPROVAL SHEET

This is to certify that Miss. Reena Annie Cheriyan bearing code no: 6208 has been admitted to the Diploma in neuro nursing, in January 2011 and she has undertaken the project entitled, “A study to assess the sleep problems among neuro nurses of Sree Chitra Tirunal Institute For Medical Sciences And Technology, Trivandrum” which is approved for the Diploma in neuro nursing, awarded by the Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, and is found satisfactory.

Place:

Date:

Examiners

(1)_____

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Guide

(1) _____

(2) _____

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ABSTRACT

Topic; A study to assess the sleep problems among neuro nurses in of Sree Chitra Tirunal Institute For Medical Sciences And Technology.

Background ; Nurses are the principal group of health care personnel in all health care settings. The lack of restful sleep can affect the ability to carry outworks in ICU or ward. All types of insomnia can lead to daytime drowsiness, poor concentration, and inability to feel refreshed and rested in the morning. Aim: The objective of the study was to assess the sleep problems among the neuro nurses, assess the relation between sleep problems and the selected demographic variables and to prepare an informational guide sheet to maintain a good sleeping pattern.

Method: This study was conducted in NSICU, NMICU, NSWD, and NMWD of SCTIMST, Trivandrum. 50 nurses were selected for the study. The total period of the study was from August to November 2010. For this study two standardized sleep assessment scales and one, self prepared questionnaire were used. The first tool was sleep med insomnia index scale, which helped to assess how a person feels about their sleep. The next tool was the Epworth's sleepiness scale. It helped to assess the sleepiness of a person. Another self prepared questionnaire also used to assess the problems due to sleep problem.

Result: This study revealed that there was a significant difference of sleep problem with the shift work ($p=0.03$). That is the shift work is affecting the sleep of neuro nurses in SCTIMST. The 58% of the nurses had no sleep problem before and after doing night shift. But the 26% of the nurses had sleep problem after doing night shift. Majority of the nurses (76%) of the nurses had no excessive sleepiness also. In case of health problem most of the nurses had persistent tiredness (58%) and 46% of the nurses had loss of sleep and backache.

CONCLUSION: This study clearly portrays that nearly half of the nurses had no sleep problem. But the shift work is affecting the sleep pattern of neuro nurses in SCTIMST.

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Chapter - 1

1.1 Introduction

''Good laugh and a long sleep are the best cures in the doctor's book''

Irish proverb

Nursing is a profession that typically involves shift work, as nurses are required to provide continuous health care around the clock. Shift work disturbs natural circadian rhythms, and so nurses tend to suffer with sleep disorders (Berger & Hobbs 2006). Female nurses have also been shown to have generally worse health and sleep problems than male nurses (Admi et al. 2008)

Sleep is a naturally recurring state characterized by reduced or absent consciousness, relatively suspended sensory activity, and inactivity of nearly all voluntary muscles. Sleep is also a heightened anabolic state which helps in the growth of the immune, nervous, skeletal and muscular systems.

The purposes and mechanisms of sleep are only partially clear. Sleep is often thought to help conserve energy, but actually decreases metabolism only about 5–10%. Physiologically it is a complex process of restoring and renewal for the body. Sleep is not a passive process, it is important in many physiological processing of experiences and consolidation of memories.

Sleep stages

In human beings, sleep is divided into two broad types: rapid eye movement (REM) and non-rapid eye movement (NREM or non-REM) sleep. Each type has a distinct set of associated physiological, neurological, and psychological features. The American Academy of Sleep Medicine (AASM) further divides NREM into three stages: N1, N2, and N3, the last of which is also called delta sleep or slow-wave sleep (SWS).

Sleep proceeds in cycles of REM and NREM, the order normally being N1 → N2 → N3 → N2 → REM. There is a greater amount of deep sleep in stage N3.

The stages of sleep were first described in 1937 by Alfred Lee Loomis and his coworkers, who separated the different electroencephalography (EEG) features of sleep into five levels (A-E). Sleep stages and other characteristics of sleep are commonly assessed by polysomnography in a specialized sleep laboratory. Measurements taken include EEG of brain waves, electrooculography (EOG) of eye movements, and electromyography (EMG) of skeletal muscle activity. In human beings each sleep cycle lasts from 90 to 110 minutes on average, and each stage may have a distinct physiological function.

The Human Biological Clock

Sleep timing is controlled by the circadian clock and sleep-wake homeostasis. The circadian clock—an inner timekeeping, temperature-fluctuating, enzyme-controlling device—works in tandem with adenosine, a neurotransmitter that inhibits many of the bodily processes associated with wakefulness. Adenosine is created over the course of the day; high levels of adenosine lead to sleepiness. In a person sleepiness occurs as the circadian element causes the release of the hormone melatonin and a gradual decrease in core body temperature. The timing is affected by one's chronotype. It is the circadian rhythm that determines the ideal timing of a correctly structured and restorative sleep episode. Human sleep needs can vary by age and among individuals, and sleep is considered to be adequate when there is no daytime sleepiness or dysfunction. Moreover, self-reported sleep duration is only moderately correlated with actual sleep time as measured by actigraphy and those affected with sleep state misperception may typically report having slept only four hours despite having slept a full eight hours.

Table 1.1 causes of sleep disorders.

CAUSES OF SLEEP DISORDERS
• Physical illness • Depression • Anxiety or stress • Poor sleeping environment such as excessive noise or light • Caffeine • Alcohol or other drugs

- Use of certain medications
- Heavy smoking
- Physical discomfort
- Daytime napping
- Counterproductive sleep habits:
- Early bedtimes
- Excessive time spent awake in bed

More than 100 different disorders of sleeping and waking have been identified. They can be grouped in four main categories:

- Problems with falling and staying asleep
- Problems with staying awake
- Problems with sticking to a regular sleep schedule,
- Unusual behaviors during sleep.

Table 1.2 categories of sleep disorders.

TYPE OF SLEEP PROBLEM	**EXAMPLE**
PROBLEMS WITH FALLING AND STAYING ASLEEP.	Delayed sleep phase syndrome Hypnotic-dependent sleep disorder Stimulant-dependent sleep disorder
PROBLEMS WITH STAYING AWAKE	Narcolepsy Sleep apnea Periodic limb movement disorder Restless leg syndrome
PROBLEMS WITH STICKING TO A REGULAR SLEEP SCHEDULE	Irregular sleep-wake syndrome Jet lag syndrome Natural short sleeper Paradoxical insomnia Shift work sleep disorder

SLEEP-DISRUPTIVE BEHAVIORS	Sleep terrors Sleep walking

1.2 Background of the study

Shift work in nurses particularly night shift, disrupts the sleep wake cycle and its synchrony with the light, darkness rhythm and other endogenous biological rhythm such as circadian oscillation of body temperature. Furthermore this working condition determines a phase shift between the nurse's activities and the socio environmental synchronizing stimuli, which affects the alteration between alertness and sleep. Nurses shift work often has a negative impact on health and quality of life. Frequent complaints concerned disturbed sleep and excessive sleepiness.

In nurses, poor sleep quality tends to increase rates of cancer, cardiovascular diseases, digestive diseases (Schernhammeret al. 2006, Lie et al. 2006) and irregular menstrual cycles (Labyak et al. 2002).Poor sleep has also been positively associated with nurses' medical errors (Suzuki et al. 2005) and with driving accidents (Scott et al. 2004), which affect public safety. Consequently, medical errors by nurses are significantly associated with poor mental health (Suzuki et al. 2005). It remains, however, unclear whether nurses' quality of life is primarily influenced by their sleep quality.

The University of California, San Diego psychiatry study of more than one million adults found that people who live the longest self-report sleeping for six to seven hours each night, and sleeping more than 7 to 8 hours per day has been consistently associated with increased mortality. Though this study suggests the cause is probably other factors such as depression and socioeconomic status, which would correlate statistically. It has been suggested that the correlation between lower sleep hours and reduced morbidity only occurs with those who wake after less sleep naturally, rather than those who use an alarm.

Researchers at the University of Warwick and University College London have found that lack of sleep can more than double the risk of death from cardiovascular disease but that too much sleep can also be associated with a

doubling of the risk of death. Short sleep has been shown to be a risk factor for weight gain, hypertension and Type 2 diabetes sometimes leading to mortality.

Furthermore, sleep difficulties are closely associated with psychiatric disorders such as depression, alcoholism and bipolar disorder. Up to 90% of adults with depression are found to have sleep difficulties.

Night-shift nurses in the United States of America (USA) were found to have poorer perceived sleep quality than day-shift nurses (Kunert et; al 2007). In Taiwan, evening shift nurses have a statistically significantly greater risk of worse sleep quality than morning-type nurses (Chung et al.2009). Furthermore, female nurses in Turkey report poorer sleep quality than male nurses (Karagozoglu & Bingol 2008).Thus, sleep disturbances in shift-working nurses may expose them to physical, mental, emotional and social stress. Sleep changes in females affect phases of the menstrual cycle (follicular phase, ovulation, luteal phase and menses), Pregnancy, postpartum recovery and menopause (Baker &Driver 2007)

Furthermore, the inability to adapt to stressful schedules has been shown to affect adversely the job satisfaction of nurses in Taiwan (Yin & Yang 2004, Lai et al. 2008) as well as in other countries (Karagozoglu & Bingol2008, Burch et al. 2009), which may lead to change in career away from nursing. These studies confirm that nurses' poor sleep quality affects their own health. Most professionals do best with about 8 hours of sleep each night until age 60, after which 6 hours may be enough. Even though the elderly need less sleep, almost one half of people over 60 experience some degree of insomnia.

1.3 Need and Significance

Everyone has an occasional sleepless night, and this is not a problem for most people. However at one time or another, most of the nurses have experienced what it's like to have trouble falling asleep, to lie awake in the middle of the night, or feel sleepy and fatigued during the day. When sleep problems are a regular occurrence, when they get in the way of daily routine, it will hamper the ability of the nurses to function. Sleep disorders and other sleep problems cause more than just sleepiness. The lack of restful sleep can affect the ability to carry out works in ICU

or ward. All types of insomnia can lead to daytime drowsiness, poor concentration, and the inability to feel refreshed and rested in the morning.

Critical care nurses are trained to provide specialized nursing care, to make rapid decisions, and to perform advanced assessments and motor skills. Night shift work can lead to sleep deprivation, which in turn can threaten the health and safety of both patients and nurses. Family commitments (household chores, childcare, etc.) and work strain, which can cause difficulty falling asleep, frequent awakening, premature awakening, unhealthy behaviors, such as taking sleep medications, and mood disturbance.

In SCTIMST, night shift will be coming as 8 days in a month. After doing one night shift, with in the 15 days of gap the next night shift will be coming. The nurse usually tells that the effect of the first night shift is not over, before that the next night shift has came. Some of them have to travel a long distance to their home by driving and it may cause accidents due to the lack of sleep during the night shift. In their families most of them are living as nuclear families and have to take care of the children after reaching home. After the night shift it is impossible for them to sleep. So it is very important to assess whether SCTIMST nurses are having sleep problems and to educate them about good sleep hygiene.

1.4 Statement of the problem

A study to assess the sleep problems among neuro nurses of sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum.

1.5 Objectives

The objectives of this study are,

1. To assess the sleep problems among the neuro nurses.
2. To assess the relation between sleep problems and the selected demographic variables.
3. To prepare an informational guide sheet to maintain a good sleep pattern.

1.6 Operational definitions

Sleep problem.

It is the disorder of the sleep patterns of a person. Some sleep problems are serious enough to interfere with normal physical, mental and emotional functioning. It is measured by sleep med insomnia index scale, Epworth sleepiness scale and a self prepared questionnaire.

Neuro nurses.

This refers to the nurses those who are working in neuro medical or surgical department.

1.7 Research methodology

This is a quantitative study using non experimental design.

After obtaining permission from the authorities, data will be collected from the staff nurses working in Neuro medical ICU (NMICU), Neuro surgical ICU (NSICU), Neuro medical ward (NMWD), and Neuro surgical ward (NSWD).

Setting	NMICU NSICU NMWD and NSWD in SCTIMST,
Population	Neuro nurses
Sample size	50
Sampling technique	Purposive sampling

1.8 Tool preparation

The first step in assessing the sleep problems in nurses is to prepare a tool. Self-report is the most reliable way to assess the sleep. Only the person can accurately describe the sleep problems. A number of sleep assessment scales have been developed to assist in the assessment of sleep. For this study two standardized sleep assessment scales and one, self prepared questionnaire will be used. The first tool is sleep med insomnia index scale, which will help to assess how a person feels about their sleep. The next tool is the Epworth's sleepiness scale. It helps to assess the sleepiness of a person. Another self prepared questionnaire also used to assess the problems due to sleep problem.

1.9 Delimitations

Study is limited to the neuro nurses in SCTIMST.

The sample size is limited to 50.

1.10 Organization of the report

The report is divided into six chapters. The first chapter is introduction. The background of the study is outlined, the subject sleep problem among nurses is briefed, the need and the significance of the research problem is stressed, the problem and the objectives stated. An attempt is made to operationally define the terms so as to clarify the problem. A summary of related studies are presented in chapter 2. Chapter 3 deals with the method of the study. Chapter 4 analyses and interprets the findings. Chapter 5 deals with the summary, limitations and the conclusion. The report also included the selected references related to the study.

Chapter - II
REVIEW OF LITERATURE

2.1 Introduction

A review of literature is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and as such, do not report any new or original experimental work.

Most often associated with academic-oriented literature, such as these, a literature review usually precedes a research proposal and results section. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as future research that may be needed in the area.

A well-structured literature review is characterised by a logical flow of ideas; current and relevant references with consistent, appropriate referencing style; and unbiased and comprehensive view of the previous research on the topic.

The literature study relevant to this study is presented in the following directions

2.2.1 Sleep Studies conducted on nurses.

2.2.2 Sleep studies conducted on other worker

2.2 Sleep studies conducted on nurses

Mattsumoto M et al., (1996) conducted a study on the actual conditions of hospital nurses working on three rotating shifts: (results of shift work schedules, feelings of sleep, fatigue, and depression). Studies were performed to clarify (1) the actual conditions concerning rotating shift (2) to evaluate some aspects of the physical and mental health, and (3) sleep profile of hospital nurses working on counter-clockwise shift rotation. Two questionnaire surveys and the sleep inventory were carried out. The subjects in the study were a total of 80 nursing directors in

university and college hospitals. The questionnaire covered 4 categories, such as the schedule most frequently adopted and reasons for using the schedule. The questionnaires were returned by 67 directors (83.8%). The next subjects in the study were 189 nurses working on three-shift work schedules at Asahikawa Medical College Hospital. The items in the questionnaire covered 7 categories. For 152 nurses (97.4%) of those returning the questionnaire, the working schedule consisted of 2 consecutive night shifts and 2 consecutive evening shifts, following a variable number of day shifts. The subjects in the study were 8 healthy nurses working on three rotating shifts at the psychiatric ward of Asahikawa Medical College Hospital. All the subjects recorded their sleep-logs and underwent sleep inventory everyday for 30 consecutive days. In the study, 47 of 66 hospitals (71.2%) adopted rapid and counterclockwise shift rotation. The results of study were as follows: 1) after the first night shift (diurnal sleep), the sleep problems were worst, and the frequency of taking sleep-inducing drugs was highest (12.6%) Feelings of fatigue were the highest level after each of the two night shifts; 3) The older the nurse, the greater the aggravation of both sleep problems and fatigue; 5) Sleep problems after day shifts were worse and score was higher in nurses classified as "night owls" compared to those in nurses classified as "morning people"; and 6) There was no difference between introverts and extroverts in sleep problems or fatigue. The results of study (3) were as follows: 1) in 3 of sleep factors (Sleepiness, Integrated sleep, sleep initiation) there were significant differences among each rotating shift schedule including day off.

Schernhammeret, Lie et al., (2006) conducted a study to evaluate menstrual function, fertility, and pregnancy outcome in nurses working shift work, and to examine the relationship of sleep to menstrual function. Sixty-eight nurses < 40 years old completed a survey evaluating sleep, menstrual function, and pregnancy outcome. Fifty-three percent of the women noted menstrual changes when working shift work. Women noting menstrual changes reported more physiological symptoms ($p < 0.003$), slept approximately one hour less when working nights, and reported lengthened time to fall asleep ($p < 0.01$) when working nights. Findings suggested that sleep disturbances may lead to menstrual irregularities, and changes in menstrual function may be a marker of shift work intolerance.

Johnson Al, K Brown, and Mt Weaver (2010) conducted a study on how sleep deprivation influenced psychomotor performance of nurses who worked the night shift. Psychomotor performance was measured with the d2 Test of Attention, which quantifies attention, concentration, processing speed, and quality of performance. A sample of 289 licensed nurses was tested with the instrument. Fifty-six percent of the sample was sleep deprived. Mean psychomotor performance scores (26.6 for men and 11.4 for women) were above the normative means (44.4 for men and 41.03 for women). A significant (p<. 001) inverse relationship was found between psychomotor performance and hours of sleep. Nurses reported more hours of sleep on a general self-report sleep item than in a sleep diary.

Eriksgottu et al., (2009) conducted a study to describe and compare the self assessed quality of sleep, occupational health, working environment, illness experience and job satisfaction among female nurses working in different combination of shift. A cross sectional design was used with a sample of 348 nurses of Icelandic nurses. A self-administered questionnaire, measuring occupational health, quality of sleep, the illness experience. Job satisfaction and working environment was used. Data were analyzed according to type of shift by using chi- square No difference was find out between participant based on type of shift with regard to the illness experience, job satisfaction and he quality of sleep. Nurses working n rotating shift reported a longer working day, more stressful environmental risk factors, more strenuous work and that they were less able to control their work place. They experienced more severe gastrointestinal and musculoskeletal problems.

Palombo L et al., (2010) conducted a study on health risks associated with night shifts. Thos transversal study was done by means of a self administered questionnaire, evaluated the incidence of mental and physical problems of 58 nurses at the' santa scolastica' Hospital. Results showed that in many cases disturbances were attributable to lack of rest. Shorter and more irregular sleep was associated with age and amount of working hours, together with poor organizational capacities, irregular shifts; upbringing of children and family burdens aggravated this situation. More than half of the nurses replied they slept before starting a night

shift and again when they finished in a dark room, rather than in a silence with the telephone turned off.

Karagozoglu s (2008) conducted a study for the purpose of examining nurse's sleep quality, job satisfaction and the relation between them. The research population was comprised of nurses who work at Inonu University Turgut Ozal Medical Center (Turkey) and the research was conducted with a total of 418 nurses. A personal information form, developed by the researchers based on the information In the literature, and the Pittsburgh sleep quality index (PSQI) and short form Minnesota satisfaction Questionnaire (MSQ), which has been adapted for Turkish and had validity and reliability studies conducted. The result was, total sleep quality mean was 7.28+/- 3.56 and job satisfaction score was 48.05 +/- 11.77 and a weak correlation was found between the 2 tools ($r= -0.25$)($p<.05$). As the nurses sleep quality increased their job satisfaction also increased.

2.3 Sleep studies conducted on other worker

Nakashima m et al., (2011) conducted a study to examine the association between long work hours and sleep disturbance among white-collar workers. They evaluated 1510 male white-collar full-time employees, between the ages of 18 and 59 years, using a comprehensive sleep quality questionnaire, the Pittsburgh Sleep Quality Index (PSQI). All subjects worked in a light metal products factory in Japan. The mean number of monthly overtime work hours was determined using data from the previous 6 months from timecard records. Subjects were divided into five groups based on quintiles of the mean number of monthly overtime work hours: <26 h month (-1); ≥26 but <40; ≥40 but <50; ≥50 but <63; and >63. Leisure time physical activity, drinking habits just before sleep, presence of family/partner and health status were used as confounding factors in the multiple regression model. The prevalence of short sleep hours, impairment of sleep efficiency and daytime dysfunction among seven components of PSQI increased, in a dose-response relationship, with overtime work hours. The prevalence of high global score (>5.5 points) was highest in workers with overtime hours ≥50 h week (-1). The odds ratios after adjustment for confounding factors for high global score using less than 26 h as a reference group were 1.67 for workers with ≥50 h and <63 h, and 1.87 for

workers with 63 h and more. To conclude, the present results suggested that long work hours correlate with reduced sleep quality in a dose-response manner.

Chen et al; (1995) conducted a study to investigate the efficiency of a short-term sleep hygiene education program on working women with poor sleep quality. This pilot study was a prospective and an exploratory intervention study. The intervention was tested on 37 selected working women with poor sleep quality in the community. The Pittsburgh sleep quality index (score >5) was used to identify working women with poor sleep quality. After a pre test to assess sleep quality, researchers implemented a 5 week sleep hygiene education program that addressed good sleep environment /habits, emotional stress, the influence of diet/alcohol / tobacco on sleep, exercise, and alternative therapies. Tests administered midway through the program and after the program completion. Results showed sleep hygiene education to improve participants sleep quality significantly (p <. 001). The sleep quality of the participants improved over both the 3 rd and 5th week education programme.

AbuzhareT et al., (2011) conducted a study on the sleep quality and quantity and their influencing factors in 912 Uigur and 1019 Hui school children (6 to 14 years) who were randomly sampled from 6 cities of Xinjing Province. The questionnaire on children's sleep states and sleep environments was filled in by children's parents. The mean sleep time of Uigur and Hui children was 10.1±1.4 hrs. The sleep time in Uigur children was significantly less than that in Hui children (9.7±1.2 hrs vs 10.4±1.5 hrs; P<0.05). The mean incidence of sleep disorders was 23.56%. The Uigur children had a lower incidence of sleep disorders compared with the Hui children (18.42% vs 28.16%; P<0.001). Ethnic group, sleep latency, use of a swing bed, family history of snore, watching TV before sleeping, hypertrophy of tonsils, eating before sleeping, feeding patterns and recurrent upper respiratory tract infection were the factors associated with the sleep quality and quantity.

Walia H K et al., (2011) conducted a study to assess the relationship between shift work (SW) history and symptom severity of sleep disorders in a sleep clinic. A retrospective chart review of 1,275 employed adult patients referred to a sleep disorder clinic was performed. Patients were categorized as working day shift, fixed evening or night shift, or rotating shifts. Sleep-related symptoms were

assessed across three domains-sleepiness, insomnia, and apnea-related symptoms. The distribution of work shift was 69% day shift, 8% fixed evening or night shift, and 23% rotating shifts. In general, sleepiness and insomnia symptoms were greatest in fixed shift workers. In analyses adjusted for age, sex, education, race, BMI, habitual sleep duration, marital status, education level, alcohol intake, and smoking history, fixed shift workers were 4.8 times (95% CI, 1.9-12.5) more likely to report sleep onset difficulties, 3.3 times (95% CI, 1.2-9.1) more likely to report excessive caffeine intake, and 1.8 times (95% CI, 1.1-3.0) more likely to report drowsy driving as compared to day shift workers. In contrast, rotating shift workers reported more difficulty with sleep onset (OR 2.7; 95% CI, 1.3-5.6) relative to day shift workers. No relationship between work shift and apnea-related symptoms was identified.

Waage S et al., (2009) conducted a study to examine the relationship between age, shift work exposure, shift type, and morningness and sleep/health problems in oil rig shift workers. A total of 199 workers participated. They worked either two weeks of 12-h day shifts (n = 96) or two weeks of swing shifts (n = 103) (one week of 12-h night shifts followed by one week of 12-h day shifts), followed by four weeks off work. The workers filled out questionnaires on demographics, work, sleep, and duration. They found no significant associations between age or years of shift work exposure and any of the sleep, sleepiness, or health parameters. There was a significant association between shift type and sleep duration, showing that swing shift workers had longer sleep duration than day shift. In addition, they found a significant association between the interaction age, shift type, and sleep duration, where sleep duration was negatively associated with age for the swing shift workers and positively associated with age for the day shift workers. There were significant associations between morningness and sleep latency sleep efficiency, and insomnia.

2.4 Conclusion

Virtually l literature related to sleep disorders findings suggested that sleep disturbances may lead to menstrual irregularities, and changes in menstrual function may be a marker of shift work intolerance, some gastro intestinal and musculo skeletal problems. Some studies suggested that as the nurses sleep

quality increased their job satisfaction also increased. Altogether it seemed that not enough research has been done to know the sleep problems among neuro nurses.

Key words.
Sleep disorders.
Sleep problems.

Chapter - 3
METHODOLOGY

3.1 Introduction

This chapter deals with the research approach, setting, the sample and sampling technique, development of tool, description of tool, pilot study, data collection procedure and plan for analysis.

3.2 Research Approach

Descriptive study approach is used.

The objective of the study were,

- To assess the sleep problems among neuro nurses.
- To assess the relation between sleep problems of neuro nurses and the selected demographic variables.
- To prepare an informational guide sheet to maintain a good sleep pattern.

3.3 Setting of the Study

The study is conducted in the neurology department of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram; an institute of national importance established by an Act of the Indian Parliament. It is an autonomous institute under the administrative control of the Department of Sciences and Technology, the Government of India. The neuro department of SCTIMST mainly consists of NSICU, NMICU, Neuro medical ward, Neuro surgical ward, epilepsy ward, stroke ICU and Outpatient department. So many other departments like physiotherapy, speech therapy etc are also there in relation to this department. Compare to other hospitals, Sree Chitra's neuro department is very different in the treatment modalities. The patients with some of the neurological disorders are bedridden. Here relatives of the patients are not allowed to stay with the patients. The whole care will be given by the nurses and the co workers. That much care has to be given to prevent the complications related to the bedridden stage. The neuro nurses of SCTIMST are trying to prevent these complications by giving a comprehensive care. More over that a 3:1 nurse patient ratio is following in neuro ICUs. Mainly three shifts are there. Morning from 7am - 3 pm, evening from

3pm – 8 pm, and night shift from 8pm – 7 am. Night shift will be coming as 8 days in a month. After doing one night shift, with in the 15 days of gap the next night shift will be coming. And also they are not having off on the next day after doing night shift.

3.4 Study Population

The sample was selected from the health care workers in Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram. The size of the sample was fifty. The purposive sampling technique was used to collect the samples. The sample was selected from the staff nurses working in NMICU, NSICU,NMWD, and NSWD. The duration of the study period was from August 2011 to October 2011.

3.5 Inclusion Criteria

Staff nurses working in Neurology department in Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram.

3.6 Exclusion criteria

Staff nurses working in departments other than Neuro department.

3.7 Development of tool

An extensive study and review of literature helped in preparation of the tool. A self prepared validated tool and 2 standerdtsed tools were used as the tool for this study.

3.8 Description of the tool

Part i: - This part contains items such as demographic data that includes age, sex, Marital status, education, place of work, height, weight, BMI, residential area, number of cups of coffee/tea per day and habitual sleep pattern.

Part ii A: Questionnaire to assess the social life and the health problems associated with shift work.

Part ii B Questionnaire to assess the sleep problem

Part II C Questionnaire to assess the sleep problem after night shift.

Part ii D Questionnaire to assess the excessive sleepiness.

3.9 Pilot study

Pilot study was done on September 2011. Five Diploma in neuro nursing students were taken for the pilot study. The pilot study was conducted to find out the feasibility of the study. The questionnaire method was used for this study. After pilot study modification of the tool was done.

3.10 Data collection

The data was collected from staff nurses working in neuro department of Sree Chitra Tirunal Institute for Medical Sciences and Technology. The period of data collection was from August 2011 to October 2011**.**

3.11 Plan for analysis

The investigator developed a plan of analysis after pilot study. The data were coded, entered in excel sheet and analyzed using Epi info Version 3.5.

Chapter - 4

ANALYSIS AND INTERPRETATION OF DATA

4.1 Introduction

Analysis is the process of organizing and synthesizing data so as to answer questions and test hypothesis. This chapter deals with the analysis and interpretation of data collected in the present study. Data collected from 50 nurses in SCTIMST Trivandrum.

4.2 Section 1- Distribution of sample according to demographic data

In this section an attempt is made to study the demographic characteristics of sample's information collected on age, sex, education, marital status, height. weight, BMI, place of work, residential area, and habitual sleeping.

Distribution of sample according to demographic data.

Table 4.1 Distribution of sample by age

Age group	Frequency	Percentage
21-40 years	41	82
41-60 years	9	18
Total	50	100

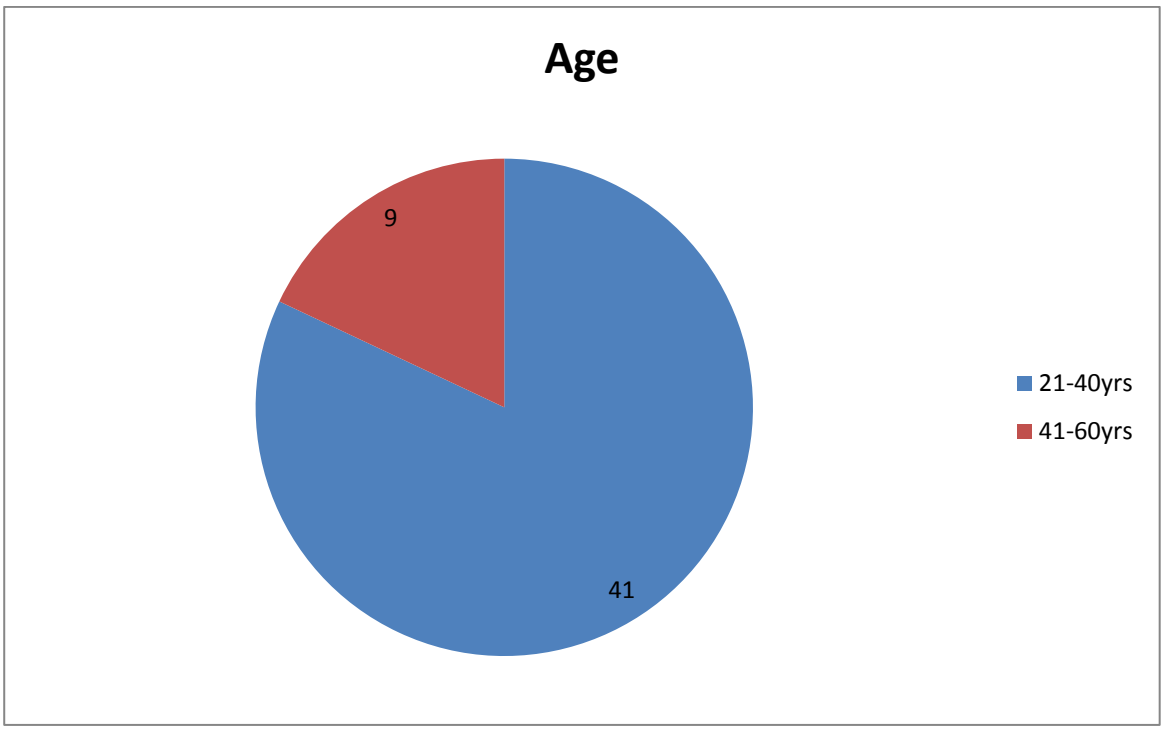


Fig. 4 .1 pie diagram of sample according to age.

The data given in Table 4.1 shows that majority of the nurses (82%) belonged to 21-40 years of age.

4.2 Distribution of sample according to sex

Sex	Frequency	Percentage
Male	10	20
Female	40	80
Total	50	100

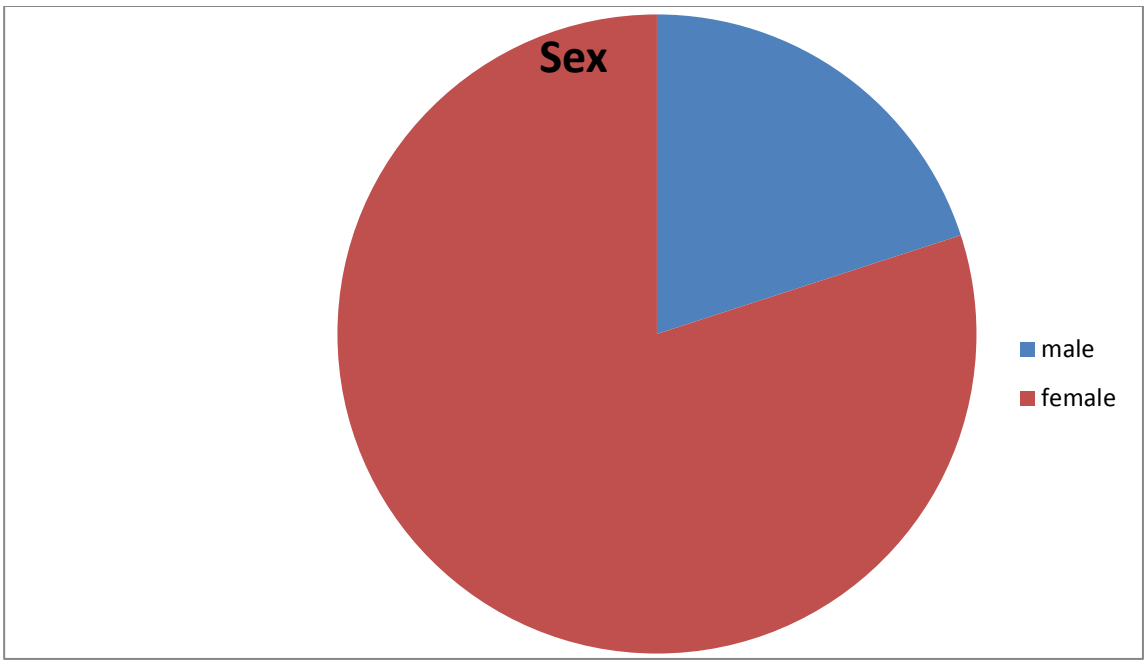


Fig. 4 .2 pie diagram of sample according to sex

The data given in Table 4.2 shows that majority of the nurses (80%) were females.

4.3 Distribution of sample according to marital status

Marital status	Frequency	Percentage
Single	18	36
Married	32	64
Total	50	100

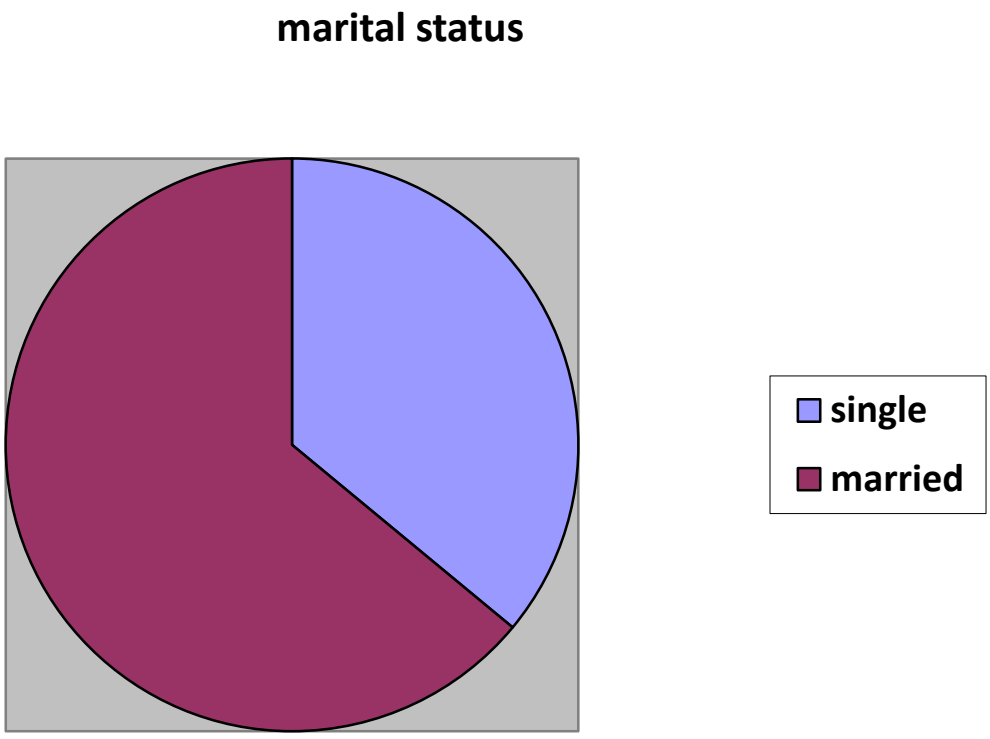


Fig. 4.3 pie diagram of sample according to marital status.

The data given in Table 4.3 shows that majority of the nurses(64%) were married and the 36% were single.

4.4 Distribution of sample according to Education

Education	Frequency	Percentage
GNM	21	42
BSc	17	34
Speciality nurses	12	24
Total	50	100

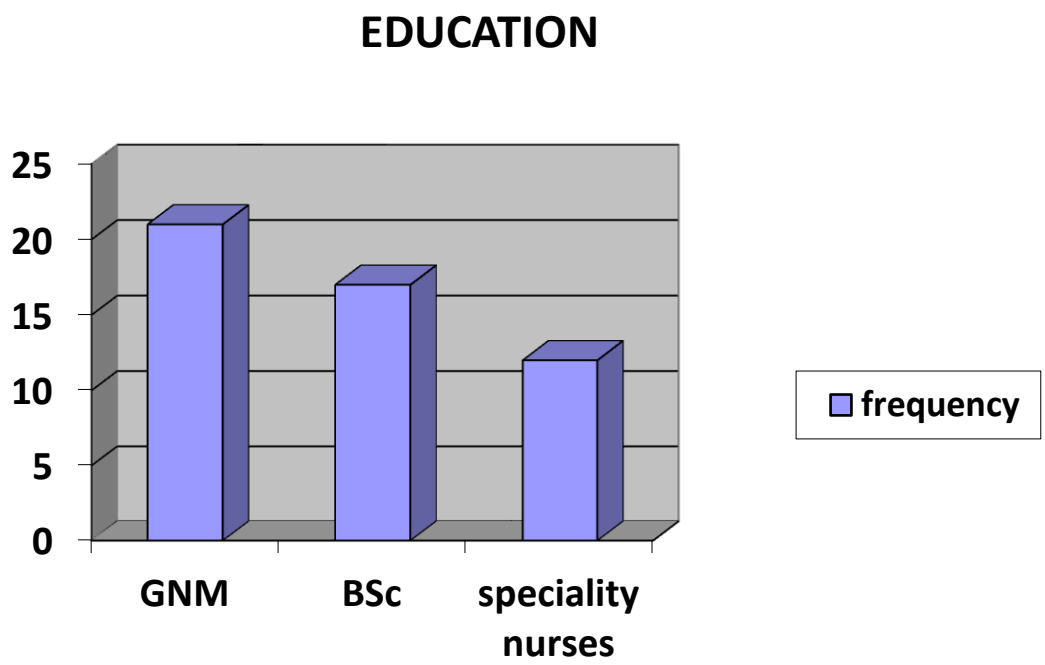


Fig. 4.4 Bar diagram of sample according to education.

The data given in Table 4.4 shows that majority of the nurses (42%) have completed GNM, and 34% completed B. Sc.

4.5 Distribution of sample according of Place of work

Place of work	Frequency	Percentage
NMICU	20	40
NMW	6	12
NSICU	13	26
NSW	11	22
Total	50	100

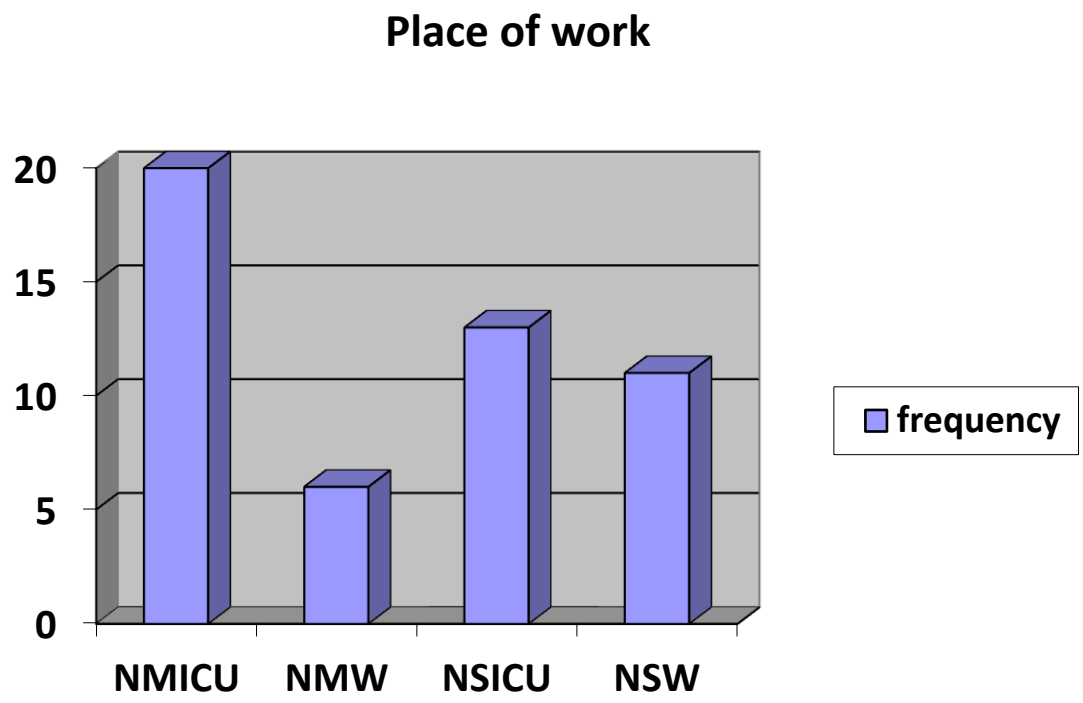


Fig. 4.5 Bar diagram of sample according to place of work.

The data given Table 4.5 shows that majority of the nurses (40%) were working in NMICU and 26% in NSICU.

4.6 Distribution of sample according to B M I

BMI	Frequency	Percentage
Normal	40	80
Over weight	10	20
Total	50	100

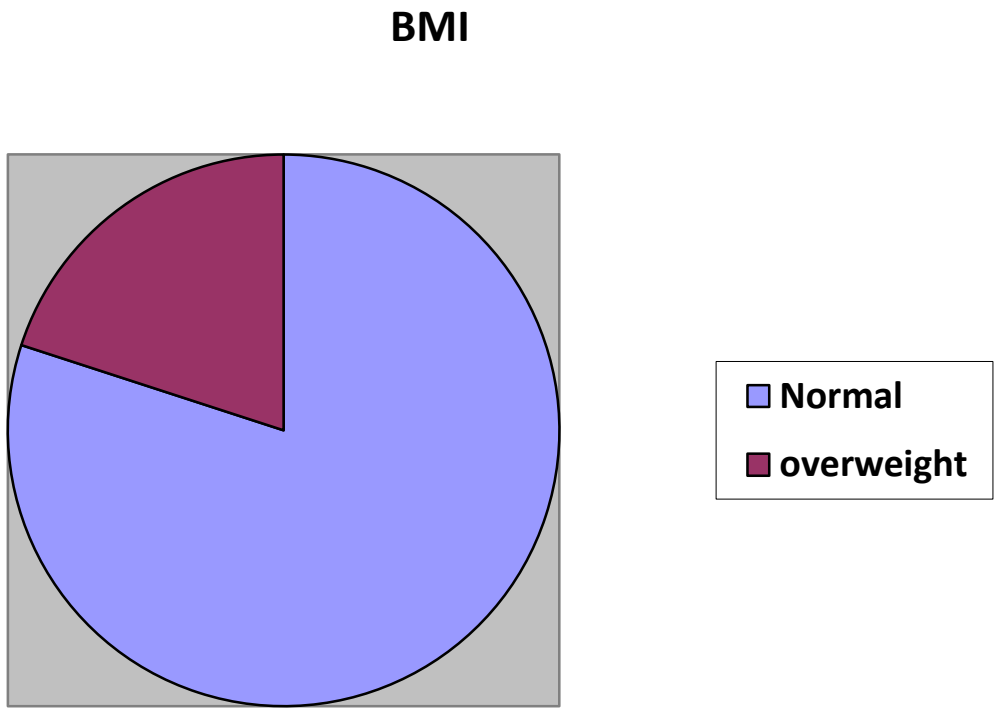


Fig. 4. 6 Pie diagram of sample according to BMI.

The data given in Table 4.6 shows that majority of the nurses (80%) were having normal BMI and only 20% had overweight.

4.7 Distribution of sample according to Residential area

Residential area	Frequency	Percentage
Urban	39	78
Rural	11	22
Total	50	100

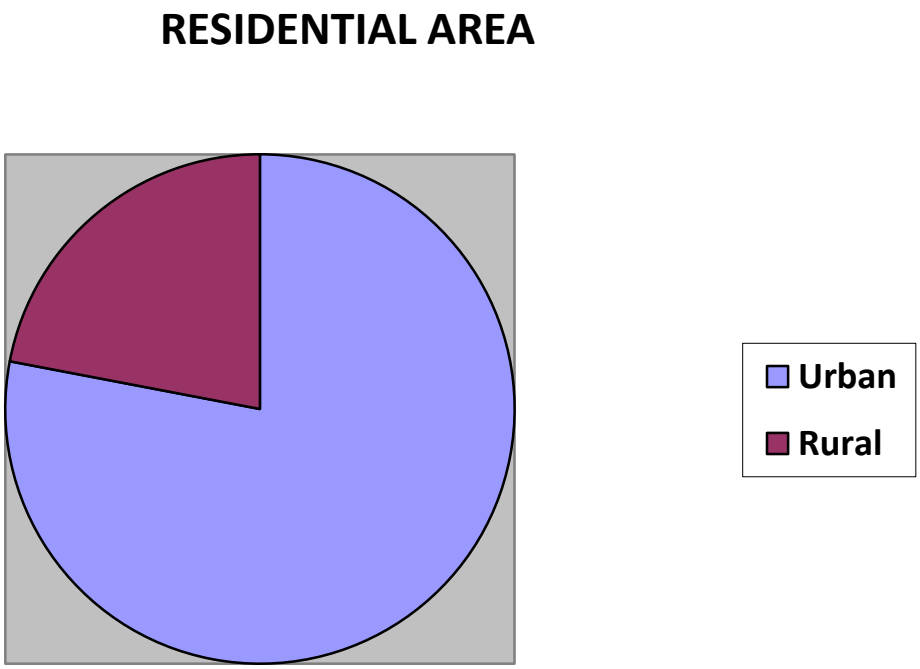


Fig. 4.7 Pie diagram of sample according to Residential area

The data given Table 4.7 shows that majority of the nurses (78%) were living in urban area.

4.8 Distribution of sample according to number of coffee/ tea per day

Number of coffee/ tea per day	Frequency	Percentage
No coffee/ tea per day	4	8
1-3coffee/ tea per day	42	84
4-6 coffee/ tea per day	4	8
Total	50	100

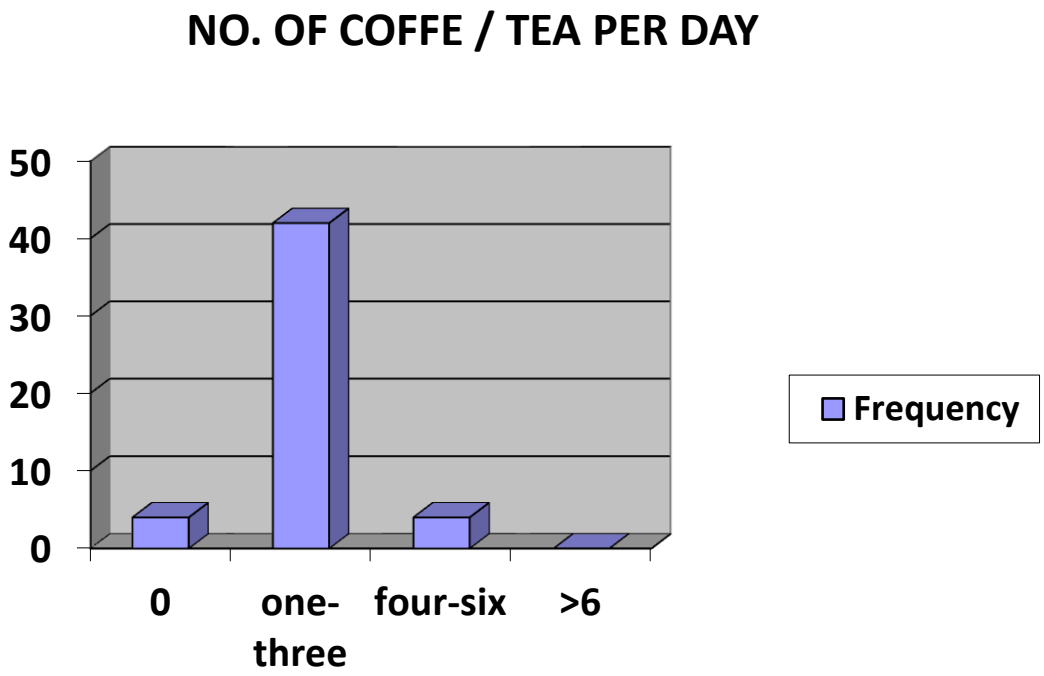


Fig. 4.8 Bar diagram of sample according to number of coffee/ tea per day.

The data given in Table 4.8 shows that majority of the nurses (84%) were taking 1-3 coffee/ tea per day.

4.9 Distribution of sample according to habitual sleep pattern.

Habitual sleeping pattern	Frequency	Percentage
<6 Hours	14	28
7-9 Hours	34	68
>10Hours	2	4
Total	50	100

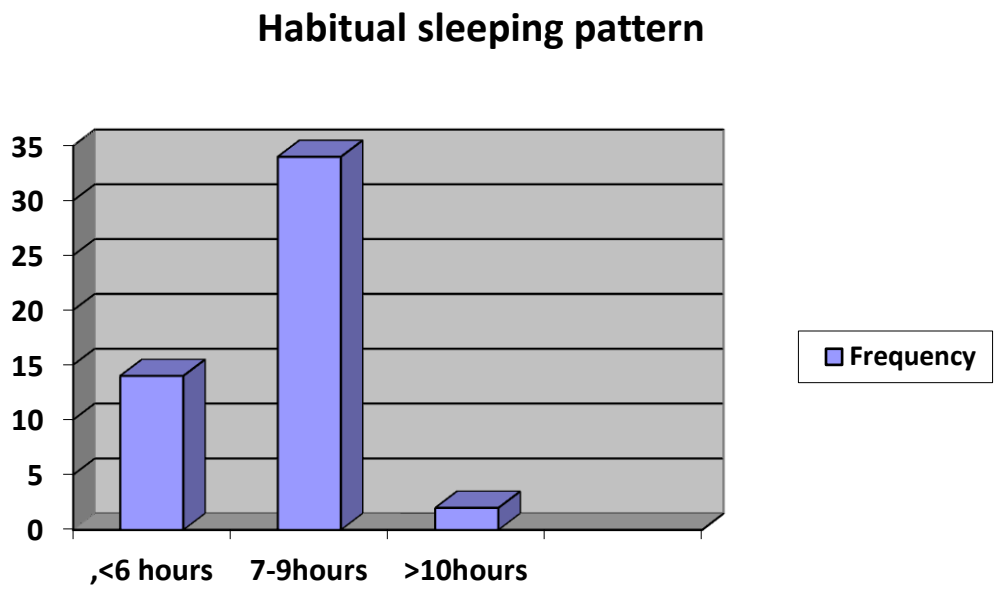


Fig. 4.9 Bar diagram of sample according to Habitual sleeping pattern.

The data given Table 4.9 shows that majority of the nurses (68%) had a sleeping habit of 7-9 hours.

4.10 Frequency and percentage distribution of sleep problem in normal sleep and after night shift.

Classified the sleep problem according to the insomnia sleep index

No sleep problem 0-10

Slight sleep problem 11-20

Moderate sleep problem 21-30

Severe sleep problem 31-40

Sleep problem	Normal sleep (%)	After night shift (%)
No sleep problem	23(46%)	12(24%)
Slight sleep problem	19(38%)	19(38%)
Moderate sleep problem	6(12%)	15(30%)
Severe sleep problem	2(4%)	4(8%)
Total	50(100%)	50(100%)

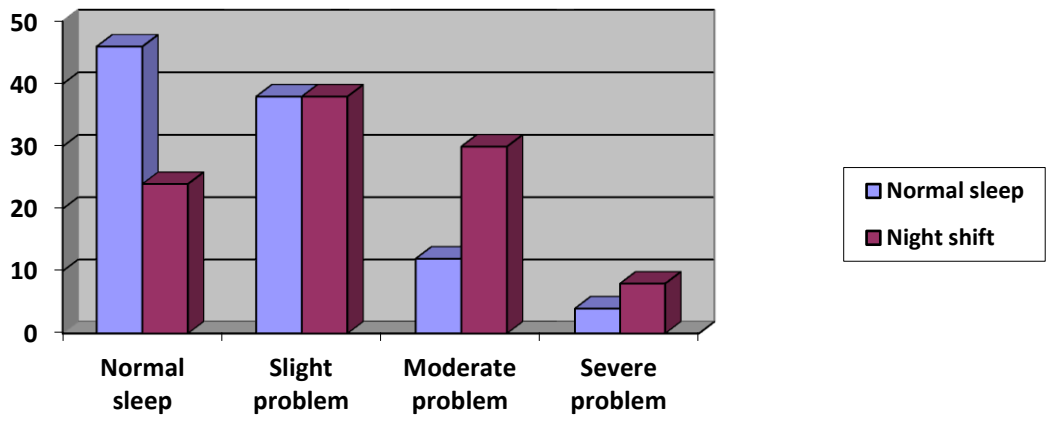


Fig.4 10 Bar diagram of sample according to sleep problem.

The data given inTable 4.10 shows that after the normal sleep, majority of the nurses (46%) had no sleep problem. At that time, after night shift sleep, majority of the nurses (38%) had slight sleep problem.

4.11 Distribution of sample according to sleepiness

Sleepiness	Frequency	Percentage
Normal	38	76
Slight sleepiness	4	8
Sleepy	8	16
Total	50	100

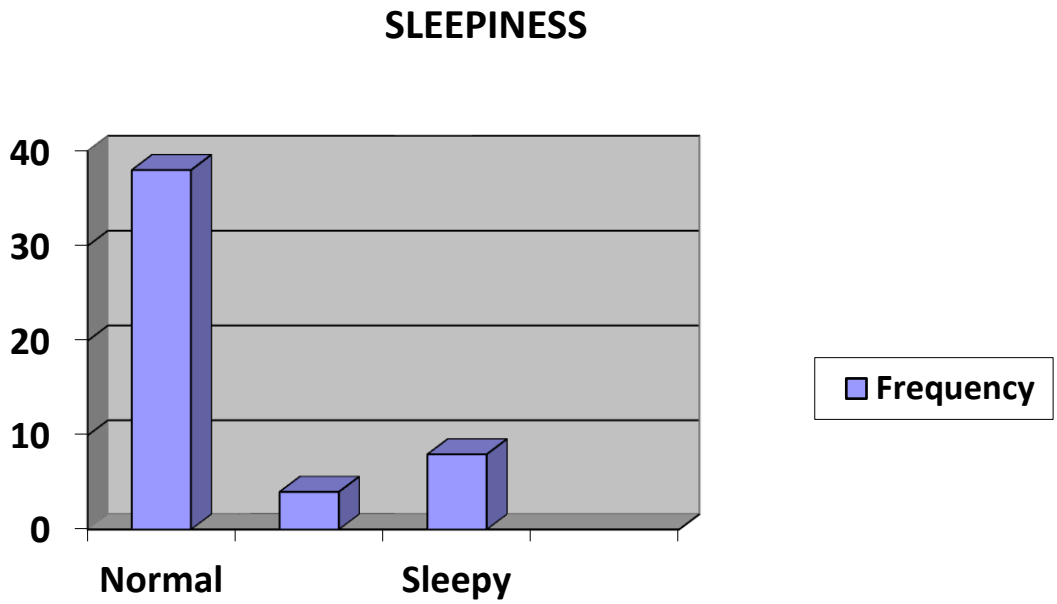
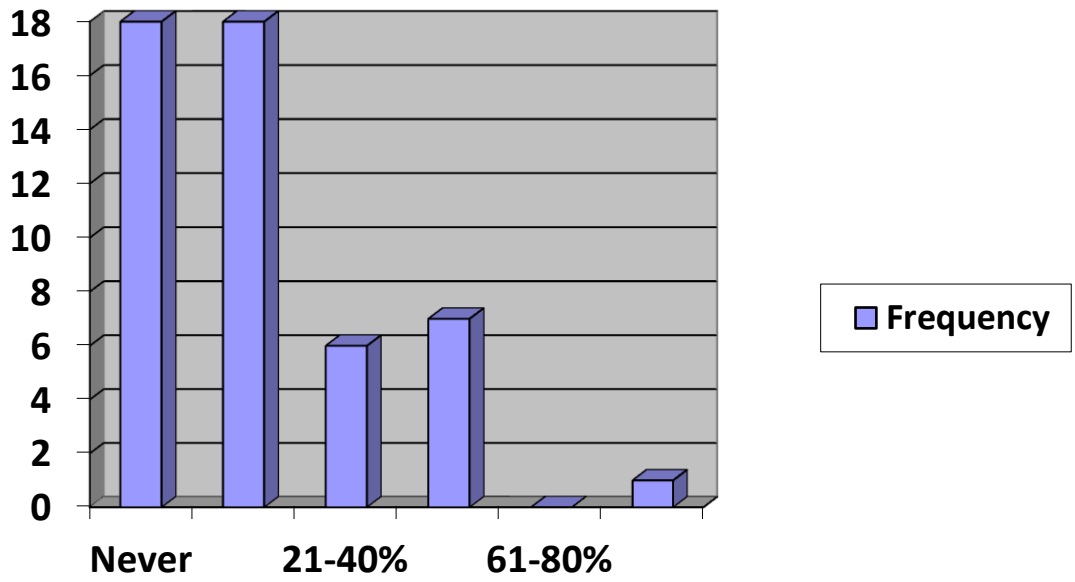


Fig. 4.11 Bar diagram of sample according to Sleepiness.

The data given in Table 4.11 shows that majority of the nurses (76%) were normal.16% of the nurses were sleepy and 8% were having slight sleepiness.

4.12 Does night shift affect your attitude negatively towards nursing?

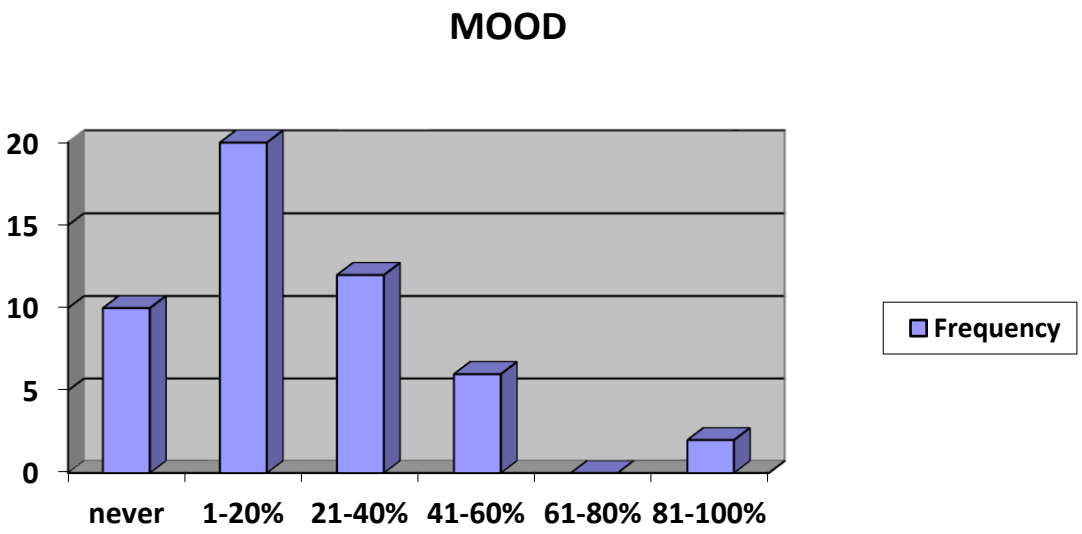
Question 1	Frequency	Percentage
Never	18	36
1-20% of the time	18	36
21-40% of the time	6(	12
41-60% of the time	7	14
61-80% of the time	0	0
81-100% of the time	1	2
Total	50	100



The data given in table 4.12 shows that majority of the nurses (36%) rarely had negative attitude toward nursing due to the night shifts.

4.13 Does shift affect your mood?

Mood	Frequency	Percentage
Never	10	20
1-20% of the time	20	40
21-40% of the time	12	24
41-60% of the time	6	12
61-80% of the time	0	0
81-100% of the time	2	4
Total	50	100



The data given in table 4.13 shows that majority of the nurse's (40%) mood rarely affected due to their shift work.

4.14 Does night shift increases the interpersonal conflict in your family?

Family conflict	Frequency	Percentage
Never	14	28
1-20% of the time	24	48
21-40% of the time	3	6
41-60% of the time	4	8
61-80% of the time	5	10
81-100% of the time	0	0
Total	50	100

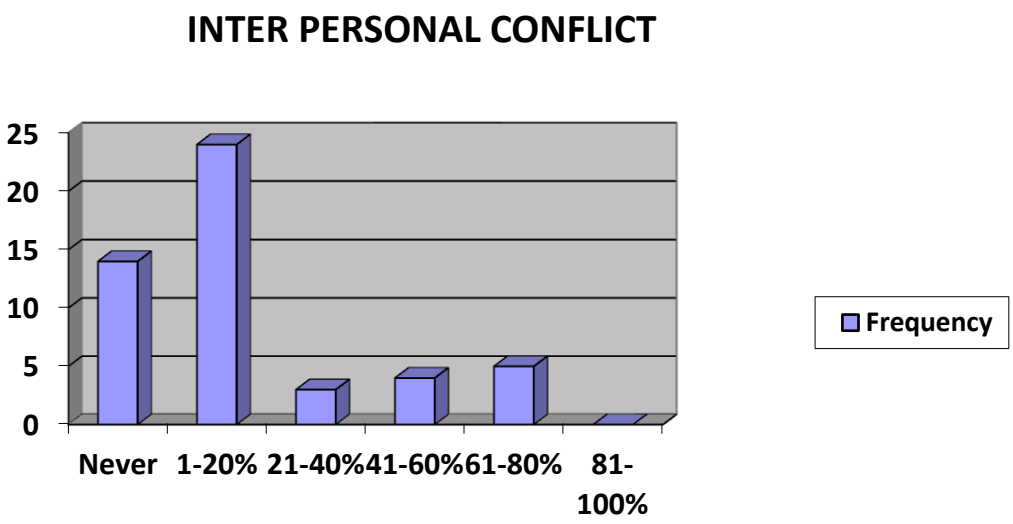


Table 4.14 shows that majority of the nurses (48%) rarely had inter personal conflict in their family due to the shift work.

4.15 Does night shift disturbs your social life?

Social life	Frequency	Percentage
Never	18	36
1-20% of the time	18	36
21-40% of the time	6	12
41-60% of the time	7	14
61-80% of the time	0	0
81-100% of the time	1	2
Total	50	100

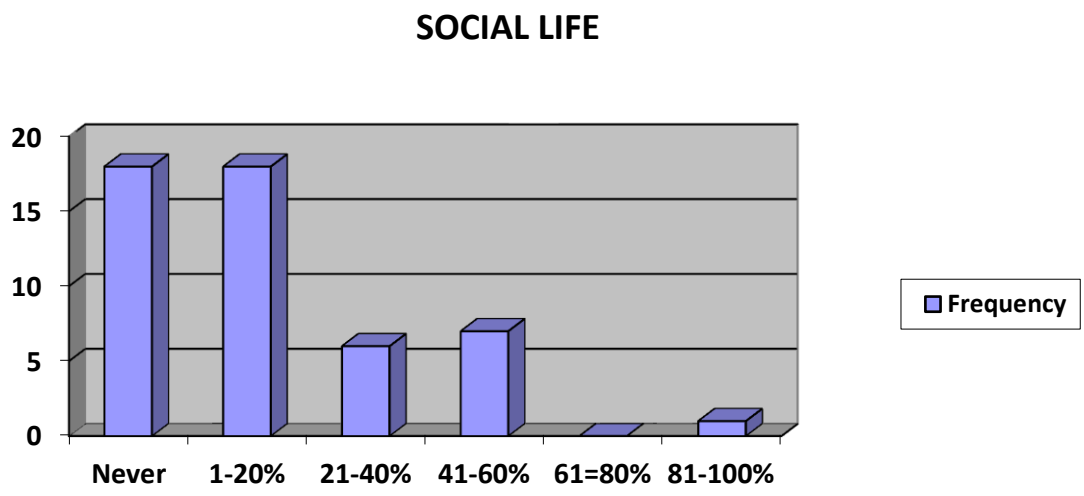


Table 4.15 shows that majority of the nurses (36%) were rarely disturbed in their social life, due to the shift work.

4.16 Shift increases interpersonal conflict in work

Inter personal conflict at work	Frequency	Percentage
Never	25	50
1-20% of the time	18	36
21-40% of the time	6	12
41-60% of the time	0	0
61-80% of the time	1	2
81-100% of the time	0	0
Total	50	100

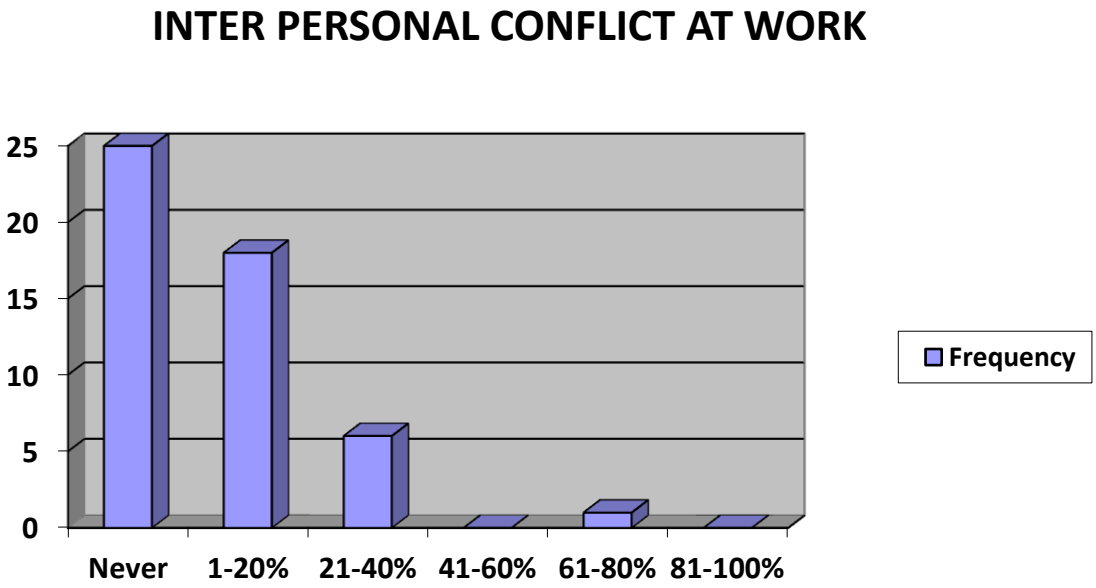


Table 4.16 shows that majority of the nurses (50%) never had inter personal conflict in their work due to the shift work.

4.17 Health problems

Health problem	Frequency	Percentage
Frequent headaches	15	30
Backache	23	46
Persistent tiredness	29	58
Feel ailment	10	20
Loss of sleep	23	46
Muscular strain	13	26
Any other problems	3	6

The data given in table 4.17 shows that, most of the nurses were having persistent tiredness (58%) and 46% of the nurses are having loss of sleep and backache.

Questionnaire to assess the sleep problem.

4.18 How easy is it for you to fall asleep?

Question 1	**Normal sleep**	**After night shift**
No problem	26(52%)	16(32%)
Slight problem	16(32%)	15(30%)
Moderate problem	5(10%)	12(24%)
Moderately severe problem	1(2%)	4(8%)
Big problem	2(4%)	4(8%)
Total	50(100%)	50(100%)

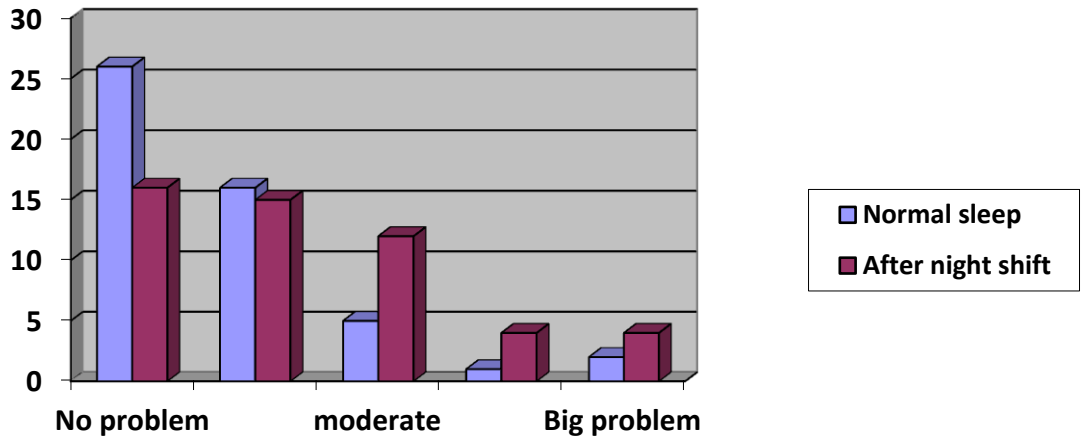


Table 4.18 shows that, majority of the nurses after normal sleep and after night shift had no problem to fall asleep.

4.19 How worried are you that you won't be able to get to sleep

Question 2	Normal sleep	Night shift
No problem	23(46%)	9(18%)
Slight problem	17(34%)	16(35%)
Moderate problem	8(16%)	17(34%)
Moderately severe problem	1(2%)	5(10%)
Big problem	1(2%)	3(6%)
Total	50(100%)	50(100%)

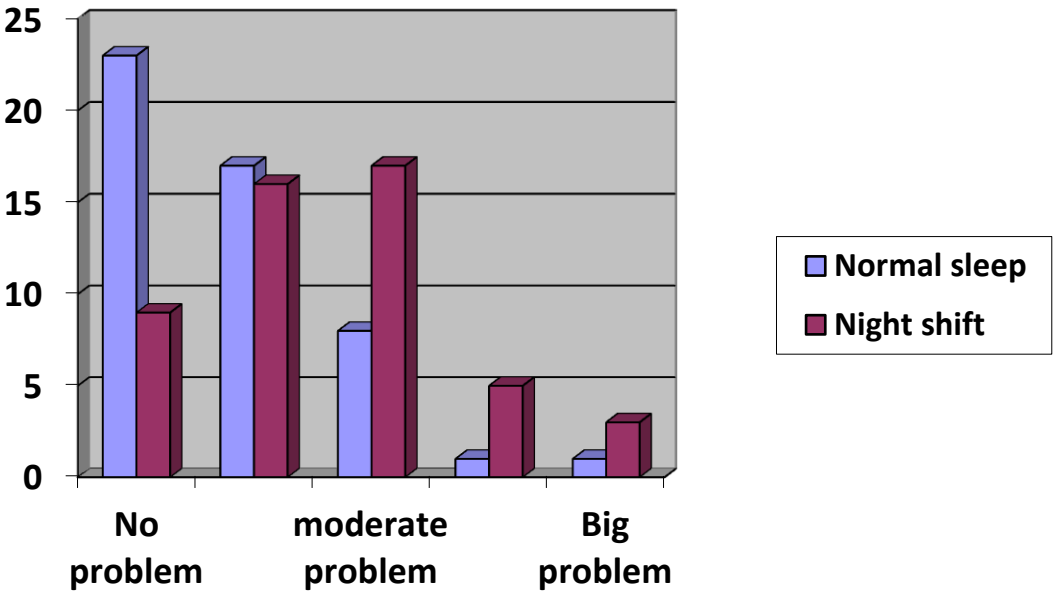


Table 4.19 shows that after the normal sleep, majority of the nurses (46%) had no problem to fall asleep. At the same time, after doing night shift majority of the nurses (35%) had slight problem for getting into sleep.

4.20 Are you easily awakened by sound or noise?

Question 3	Normal sleep	After night shift
No problem	6(12%)	7(14%)
Slight problem	14(28%)	12(24%)
Moderate problem	9(18%)	8(16%)
Moderately severe problem	5(10%)	10(20%)
Big problem	16(32%)	13(26%)
Total	50(100%)	50(100%)

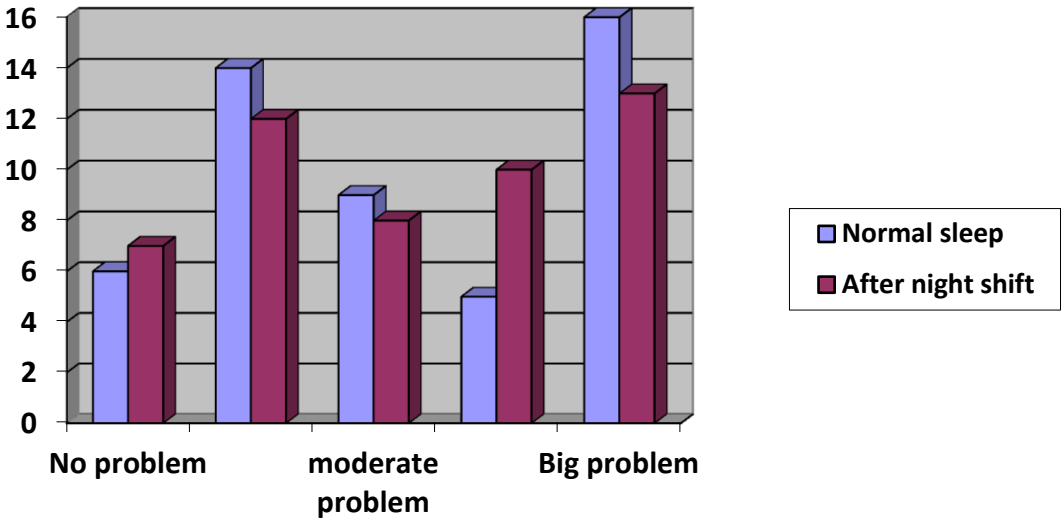


Table 4.20 shows that after the normal sleep and the night shift sleep, majority of the nurses' sleep was greatly affected by the sound/noise.

4.21 When you sleep in a strange place/bed other than your, how much trouble do you have trying to fall asleep?

Question 4	Normal sleep	After night shift
No problem	5(10%)	3(6%)
Slight problem	17(34%)	18(36%)
Moderate problem	13(26%)	17(34%)
Moderately severe problem	7(14%)	7(14%)
Big problem	8(16%)	5(10%)
Total	50(100%)	50(100%)

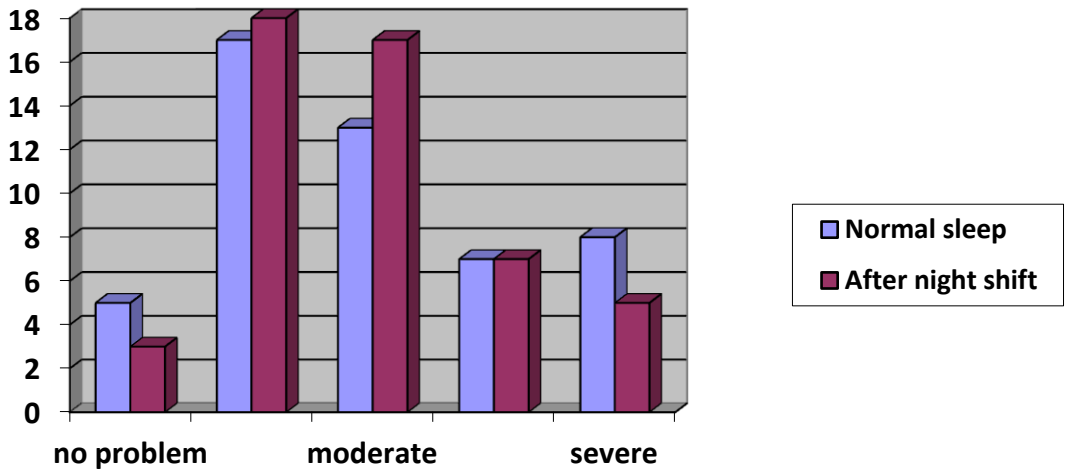


Table 4.21 shows that after both the normal sleep and the night shift sleep, majority of the nurse's had slight problem in falling asleep, in a bed other than theirs.

4.22 Is your sleep disturbed with frequent awakening?

Question 5	Normal sleep	After night shift
No problem	14(28%)	10(20%)
Slight problem	19(38%)	11(22%)
Moderate problem	4(8%)	13(26%)
Moderately severe problem	3(6%)	8(16%)
Big problem	10(20%)	8(16%)
Total	50(100%)	50(100%)

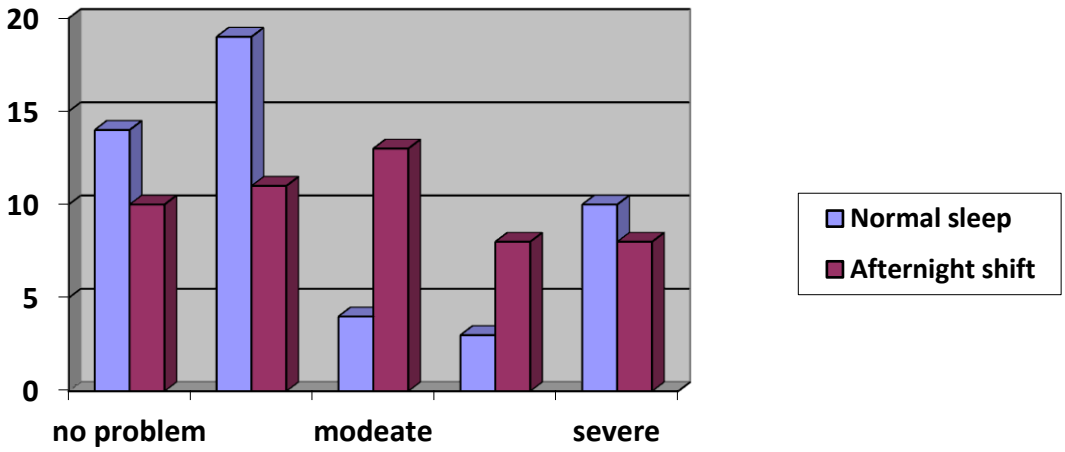


Table 4.22 shows that after the normal sleep, majority of the nurses (38%) rarely had the problem of frequent awakening. At the same time, after doing night shift majority of the nurses (26%) sleep was moderately affected by frequent awakening.

4.23 Can you fall back asleep if you awaken during the sleep?

Question 8	Normal sleep	After night shift
No problem	20(40%)	9(18%)
Slight problem	10(20%)	14(28%)
Moderate problem	10(20%)	10(20%)
Moderately severe problem	6(12%)	9(18%)
Big problem	4(8%)	8(16%)
Total	50(100%)	50(100%)

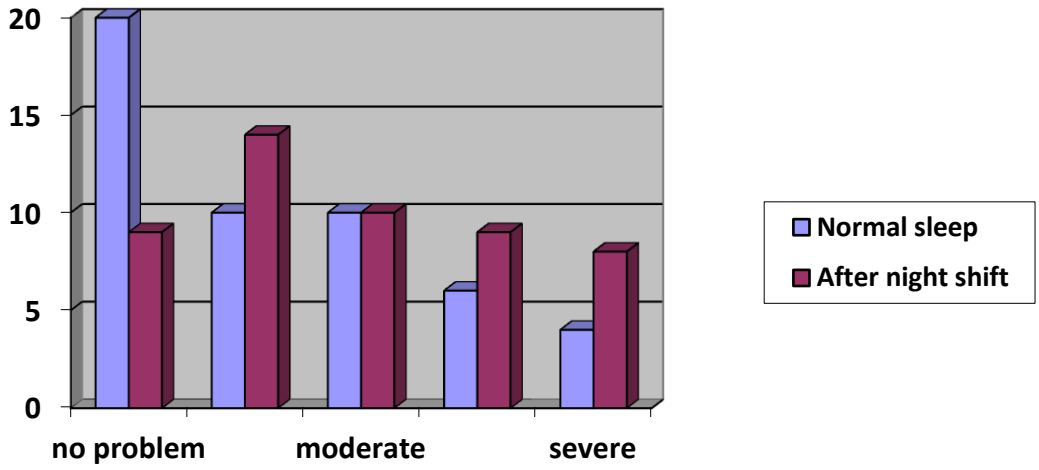


Table 4.23 shows that after the normal sleep, majority of the nurses (40%) could easily fall back to sleep if awakened in between. At the same time, after doing night shift majority of the nurses (28%) had slight problem for getting into sleep if awakened.

4.24 Are you rested the next day after your sleep?

Question 7	Normal sleep	After night shift
No problem	21(42%)	11(22%)
Slight problem	18(36%)	17(34%)
Moderate problem	7(14%)	13(26%)
Moderately severe problem	1(2%)	5(10%)
Big problem	3(6%)	4(8%)
Total	50(100%)	50(100%)

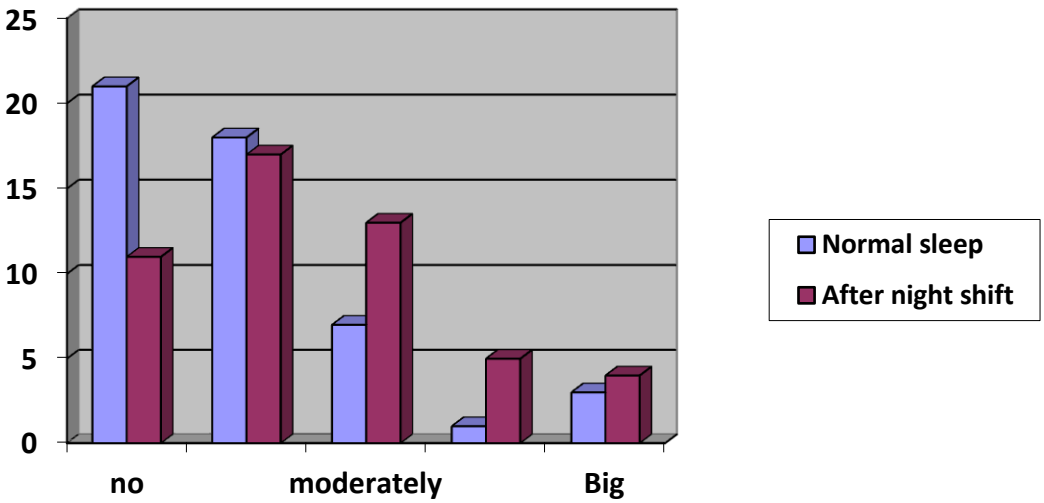


Table 4.24 shows that after the normal sleep and the night shift sleep, majority of the nurses were rarely rested.

4.25 Do you think you are getting enough hours to sleep ?

Question 8	Normal sleep	After night shift
No problem	16(32%)	9(18%)
Slight problem	19(38%)	10(20%)
Moderate problem	11(22%)	17(34%)
Moderately severe problem	1(2%)	9(18%)
Big problem	3(3%)	5(10%)
Total	50(100%)	50(100%)

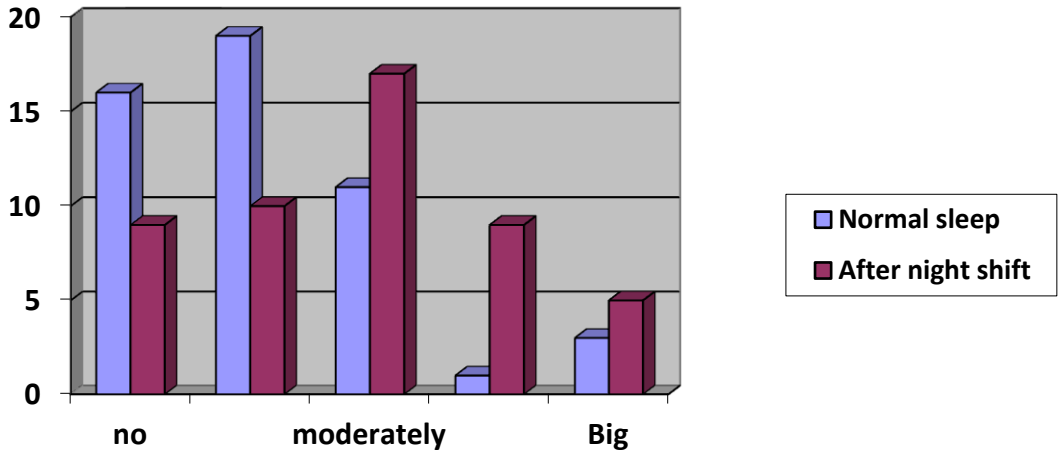


Table 4.25 shows that after the normal sleep, majority of the nurses (38%) getting enough hours to sleep. At the same time, after doing night shift, majority of the nurses (34%) are rarely getting enough hours to sleep.

4.26 How much does the quality of the sleep affected the next day function?

Question 9	Normal sleep	Night shift sleep
No problem	14(28%)	10(20%)
Slight problem	19(38%)	13(26%)
Moderate problem	9(18%)	12(24%)
Moderately severe problem	5(10%)	10(20%)
Big problem	3(6%)	5(10%)
Total	50(100%)	50(100%)

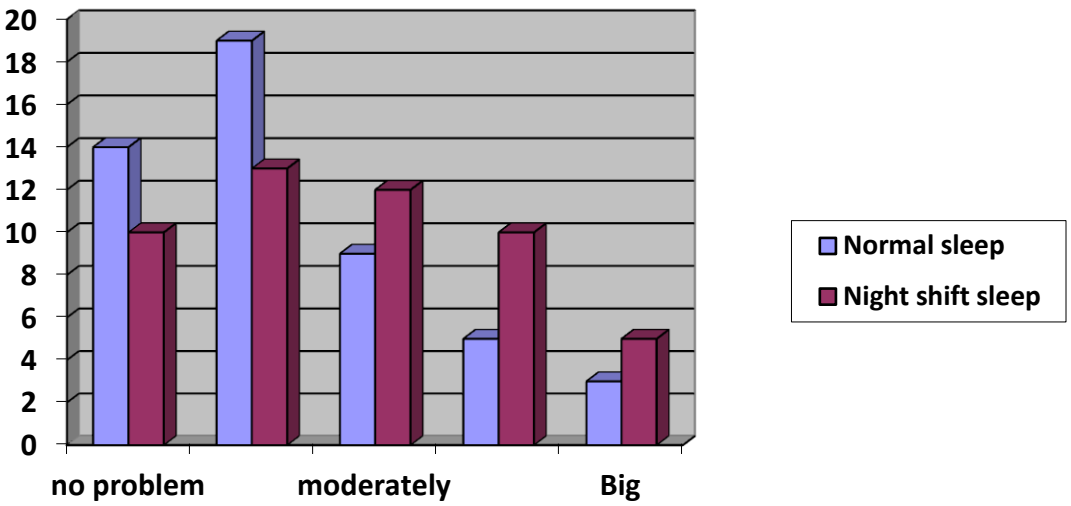


Table 4.26 shows that after the normal sleep and the night shift sleep, majority of the nurses sleep were rarely affected the next day function.

4.27 Over all describe your satisfaction with your sleep?

Question 10	Normal sleep	Night shift sleep
No problem	16(32%)	5(10%)
Slight problem	24(48%)	12(24%)
Moderate problem	7(14%)	17(34%)
Moderately severe problem	1(2%)	11(22%)
Big problem	2(4%)	5(10%)
Total	50(100%)	50(100%)

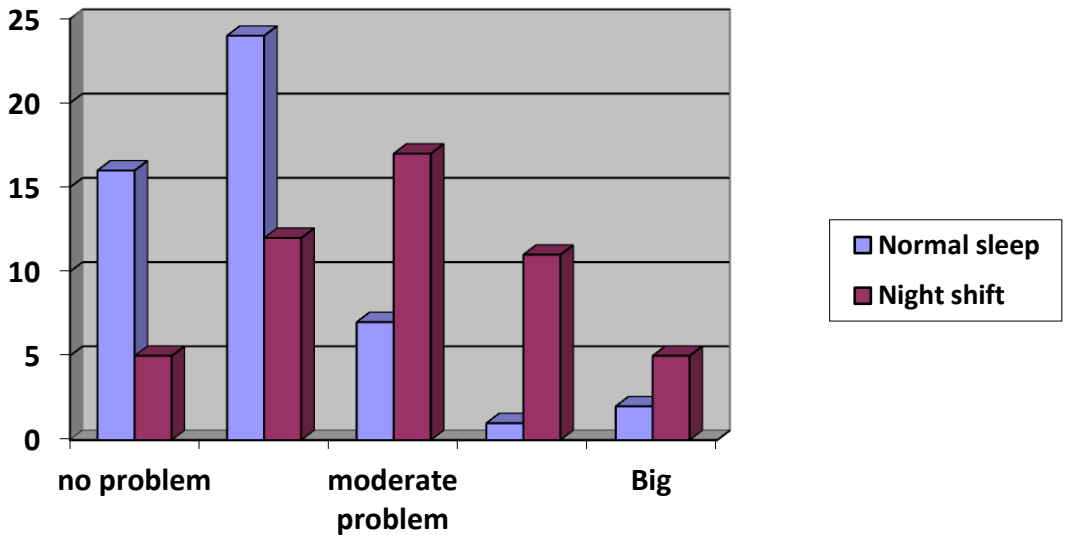


Table 4.27 shows that after the normal sleep, majority of the nurses (48%) had satisfaction in their sleep. At the same time, after doing night shift majority of the nurses (34%) were moderately satisfied by their sleep.

QUESTIONNARE TO ASSESS THE SLEEPINESS

4.28 Sitting and reading.

Question 1	Frequency	Percentage
No chance of dozing	12	24
Slight chance of dozing	19	38
Moderate chance of dozing	16	32
High chance of dozing	3	6
Total	50	100

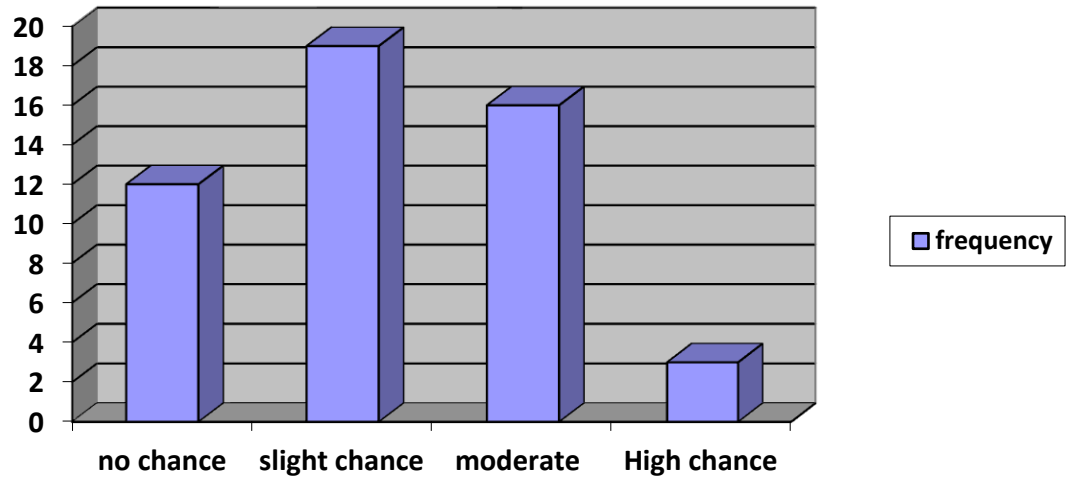


Table 4.28 shows that majority of the nurses (38%) had only slight chance of dozing while sitting and reading.

4.29 Watching T V

Question 2	Frequency	Percentage
No chance of dozing	28	56
Slight chance of dozing	15	30
Moderate chance of dozing	3	6
High chance of dozing	4	8
Total	50	100

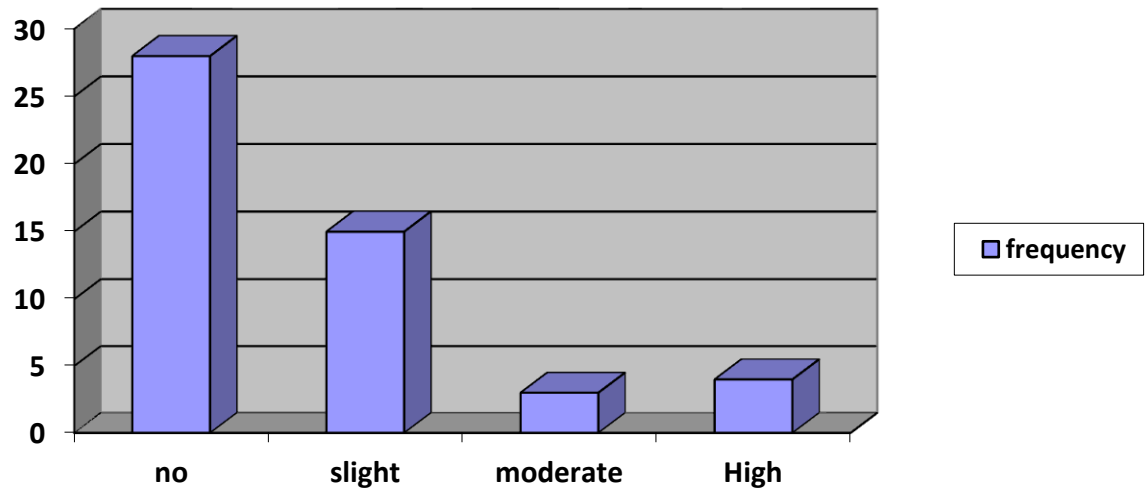


Table 4.29 shows that majority of the nurses (56%) had no chance of dozing while watching TV.

4.30 Sitting inactive in a public place

Question 3	Frequency	Percentage
No chance of dozing	18	36
Slight chance of dozing	20	40
Moderate chance of dozing	6	12
High chance of dozing	6	12
Total	50	100

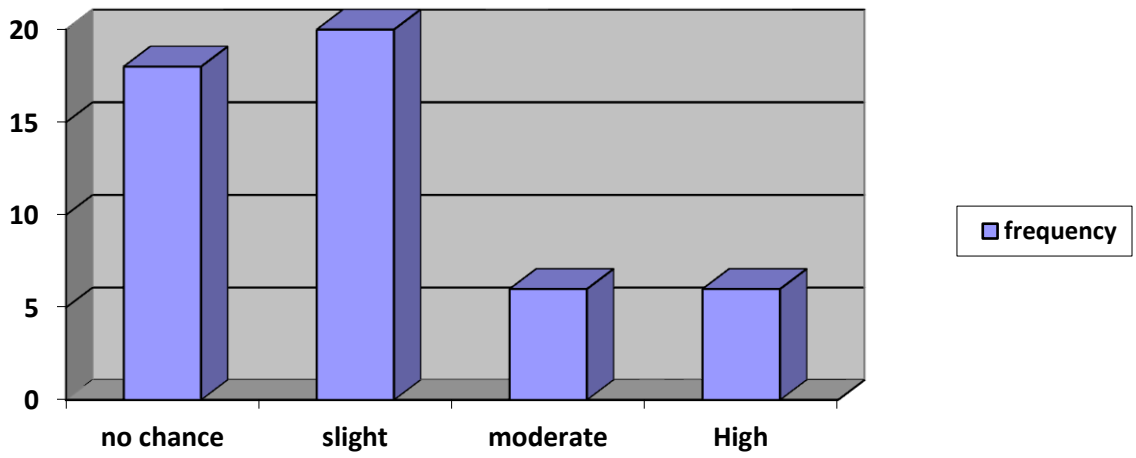


Table 4.30 shows that majority of the nurses (40%) had slight chance of dozing while sitting in public place.

4.32 As a passenger for an hour without a break.

Question 4	Frequency	Percentage
No chance of dozing	17	34
Slight chance of dozing	16	32
Moderate chance of dozing	9	18
High chance of dozing	8	16
Total	50	100

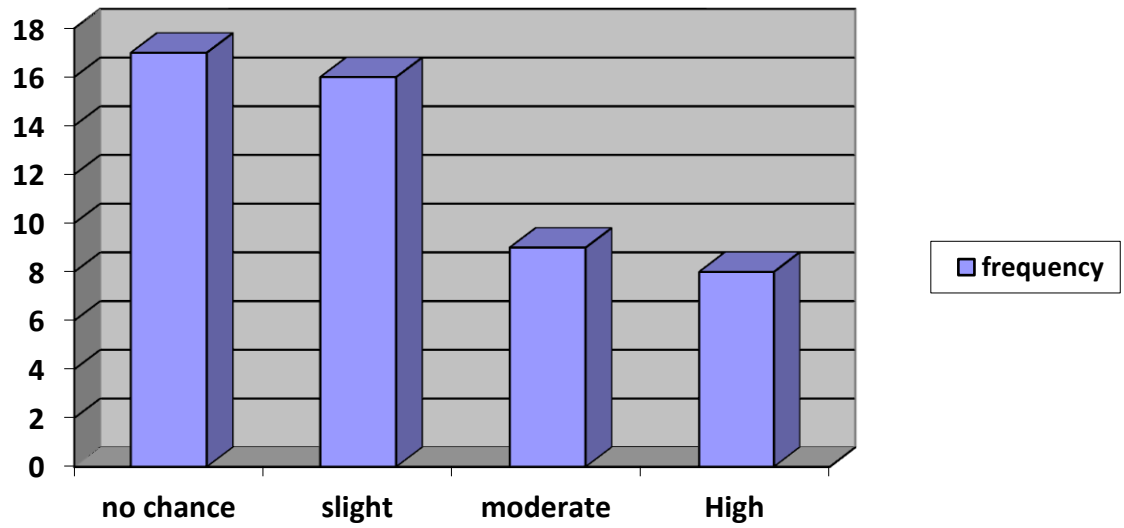


Table 4.32 shows that majority of the nurses (34%) had no chance of dozing while traveling for an hour without a break.

4.33 Lying down to rest in the afternoon when circumstances permit

Question 5	Frequency	Percentage
No chance of dozing	9	18
Slight chance of dozing	17	34
Moderate chance of dozing	8	16
High chance of dozing	16	32
Total	50	100

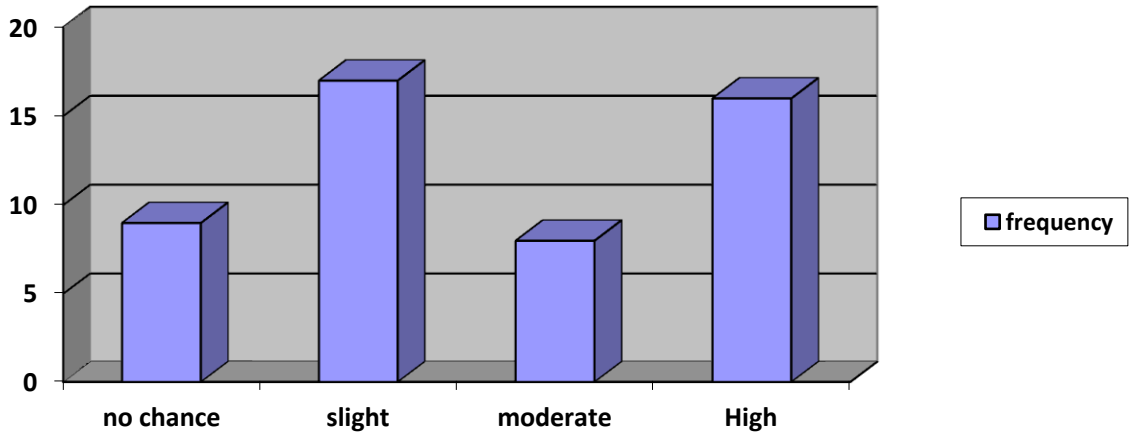


Table 4.33 shows that majority of the nurses (34%) had only slight chance of dozing while lying down to rest in the afternoon when circumstances permit.

4.34 Sitting and talking to someone

Question 6	Frequency	Percentage
No chance of dozing	42	84
Slight chance of dozing	6	12
Moderate chance of dozing	1	2
High chance of dozing	1	2
Total	50	100

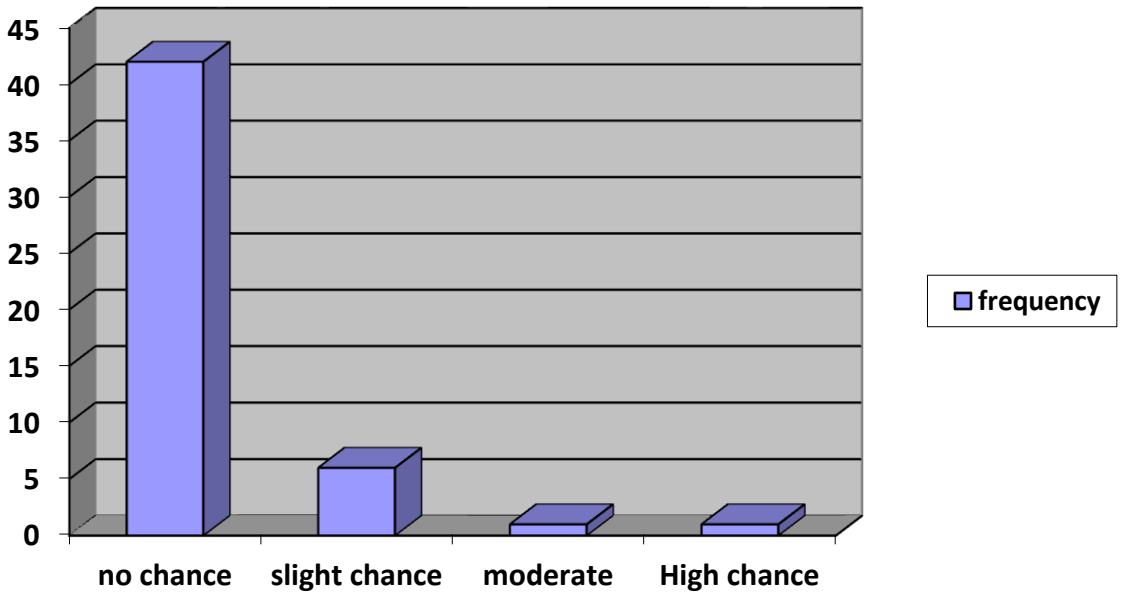


Table 4.34 shows that majority of the nurses (84%) had no chance of dozing while Sitting and talking to someone

4.35 Sitting quietly after a lunch

Question 7	Frequency	Percentage
No chance of dozing	13	26
Slight chance of dozing	20	40
Moderate chance of dozing	8	16
High chance of dozing	9	18
Total	50	100

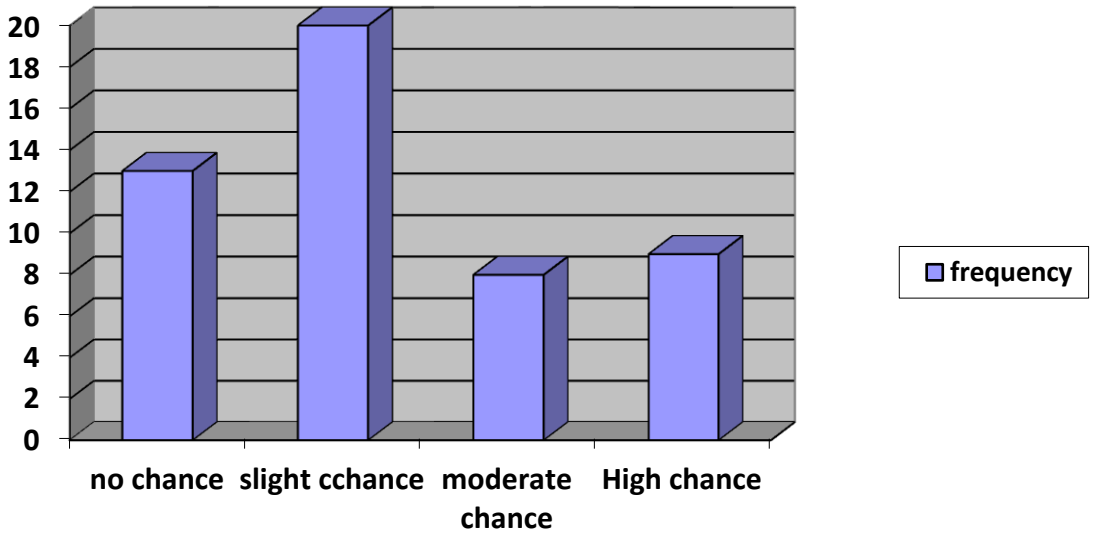


Table 4.35 shows that majority of the nurses (40%) had only slight chance of dozing while Sitting quietly after a lunch

4.36 In a car, while stopped for a few minutes in traffic

Question 8	Frequency	Percentage
No chance of dozing	41	82
Slight chance of dozing	6	12
Moderate chance of dozing	2	4
High chance of dozing	1	2
Total	50	100

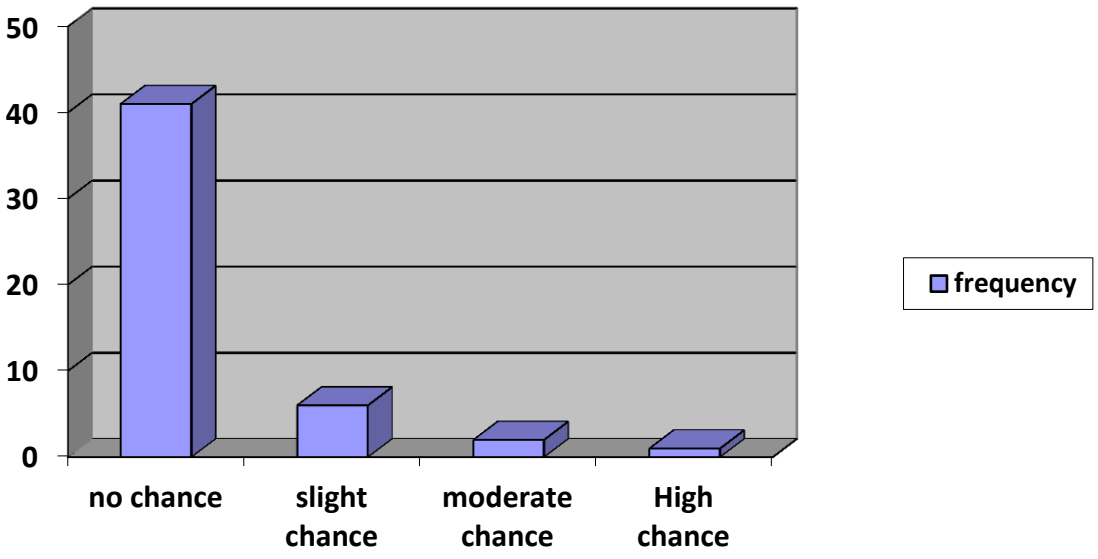


Table 4.36 shows that majority of the nurses (82%) had no chance of dozing while traveling in a car, while stopped for a few minutes in traffic

Table 4.37 Relation of selected variables with normal sleep.

Variables	Normal sleep (No sleep problem)	Normal sleep (Sleep problem)	P value
Age <27yrs >27yrs	 9(33.3%) 13(56.5%)	 18(66.7%) 10(43.5%)	 0.1
BMI Normal Over weight	 17(42.7%) 5(50%)	 23(57.5%) 5(50%)	0.47
Marital status Single Married	 8(42.1%) 14(45.2%)	 11(57.9%) 17(54.8%)	 0.83
Place of work ICU Ward	 16(48.5%) 6(35.3%)	 17(51.5%) 11(64.7%)	 0.37

Table 4.37 shows that by doing chi-square test, there was no statistical difference for the variables like age (p=0.1), BMI (0.47), Marital status (p=0.83) and place of work (p=0.37) with the normal sleep pattern.

Table 4.37 Relation of selected variables with sleep after night shift.

Variables	After night shift (No sleep problem)	After night shift (sleep problem)	P value
Age <27yrs >27yrs	 16(59.3%) 15(65.2%)	 11(40.7%) 8(43.8%)	 0.67
BMI Normal Over weight	 26(65%) 5(50%)	 14(35%) 5(50%)	 0.30
Marital status Single Married	 12(63.12%) 19(69.3%)	 7(36.8%) 12(38.7%)	 0.89
Place of work ICU Ward	 20(60.6%) 11(64.7%)	 13(39.4%) 6(35.3%)	 0.78

Table 4.37 shows that by doing chi-square test, there was no statistical difference for the variables like age (p=0.67), BMI (0.30), Marital status (p=0.89) and place of work (p=0.78) with the sleep after night shift.

Table 4.38 Relation of selected variables with excessive sleepiness.

Variables	No excessive sleepiness	Excessive sleepiness	P value
Age <27yrs >27yrs	 20(74.1%) 18(78.3%)	 7(25.9%) 5(21.7%)	 0.5
BMI Normal Over weight	 31(77.5%) 7(70%)	 9(22.5%) 3(30%)	 0.45
Marital status Single Married	 13(68.3%) 5(84.3%)	 6(31.6%) 6(19.4%)	 0.33
Place of work ICU Ward	 24(72.7%) 14(82.4%)	 9(27.3%) 3(17.6%)	 0.35

Table 4.38 shows that by doing chi-square test, there was no statistical difference for the variables like age (p=0.5), BMI (0.45), Marital status (p=0.33) and place of work (p=0.35) with the excessive sleepiness.

Table 4.39 Relation of excessive sleepiness with normal sleep.

Sleep	Normal sleep	Excessive sleepiness	P value
No sleep problem	16(72.7%)	6(27.3%)	0.63
Sleep problem	22(78.6%)	6(21.4%)	

Table 4.39 shows that by doing chi-square test, there was no statistical difference for the normal sleep with the excessive sleepiness (p=0.63)

Table 4.40 Relation of shift work with the sleep problem.

Sleep	Normal sleep	After night shift	P value
No sleep problem	42(84%)	31(62%)	0.013
Sleep problem	8(16%)	19(38%)	

Table 4.40 shows that by doing chi-square test, there was statistical difference of sleep problem with the shift work.(P=0.013)

Table 4.41sleep problem among the neuro nurses.

Normal sleep	After night shift	Frequency	Percentage
No sleep problem	No sleep problem	29	58
No sleep problem	Sleep problem	13	26
Sleep problem	No sleep problem	2	4
Sleep problem	sleep problem	6	12

Table 4.41 shows that majority of the nurses (58%) had no sleep problem before and after doing night duty. But, 26% of the nurses had sleep problem after the night shift.

Chapter - 5
SUMMARY, CONCLUSION, LIMITATION, DISCUSSION AND RECOMMENDATION

5.1Introduction

This chapter gives a brief account of the present study including conclusion drawn from the findings and possible application of the results. Recommendations for further research and suggestion for improving the present study are also presented.

5.2 Summary

This study was undertaken to assess the sleep problem among neuro nurses.

The specific objectives of this study were,

- To assess the sleep problems among the neuro nurses.
- To assess the relation between the selected demographic variables and the sleep problems.
- To prepare an informational guide sheet to maintain a good sleep pattern.

The experience in neurological unit in Sree Chitra Tirunal Institute for Medical Sciences and Technology, motivated the investigator to take this study on the sleep problem among neuro nurses. For this study mainly two standardized sleep assessment scales were used. The first tool is sleep med insomnia index scale, which will help to assess how a person feels about their sleep. The next tool is the Epworth's sleepiness scale. It helps to assess the sleepiness of a person. Another self prepared tool was used to assess the sleep problems. Data collection done from the month of August 2011 to October 2011, analyzed and interpreted using descriptive and inferential statistics.

5.3 Limitations

- The study was limited to neuro nurses working in SCTIMST, Trivandrum.
- The sample size is limited to 50.

5.4 Major findings of the study

This study revealed that there was a significant difference of sleep problem with the shift work (p=0.03). The 58% of the nurses had no sleep problem before and after doing night shift. But the 26% of the nurses had sleep problem after doing night shift. Majority of the nurses (76%) of the nurses had no excessive sleepiness also. In case of health problem most of the nurses were having persistent tiredness (58%) and 46% of the nurses had loss of sleep and backache.

5.5 Recommendations

Keeping in mind the findings and limitations of the study, the following recommendations were made for future research.

1. Similar study can be repeated in other intensive care units and wards of this institute.
2. Similar study can be repeated by increasing the size of the sample.
3. Study can be done on sleep apnea.

5.6 Discussion

The findings of the study were discussed with reference to the studies. Eriksgottu et al., (2009) conducted a study to describe and compare the self assessed quality of sleep, occupational health, working environment, illness experience and job satisfaction among female nurses working in different combination of shift. A cross sectional design was used with a sample of 348 nurses of Icelandic nurses. A self-administered questionnaire, measuring occupational health, quality of sleep, the illness experience. Job satisfaction and working environment was used. Data were analyzed according to type of shift by using chi- square. No difference was find out between participant based on type of shift with regard to the illness experience, job satisfaction and the quality of sleep. Nurses working on rotating shift reported a longer working day, more stressful environmental risk factors, more strenuous work and that they were less able to control their work place. They experienced more severe gastrointestinal and musculoskeletal problems. In this study investigator found that the shift work increases the sleep problem. Due to the lack of sleep neuro nurses in SCTIMST are

facing so many health problems also. It's affecting their personal and the social day today life.

5.7 Conclusion

A descriptive study was undertaken to assess the sleep problem among neuro nurses in SCTIMST, Trivandrum. The study was conducted in a relatively small sample of 50 nurses. The specific objectives of this study were to assess the sleep problems among the nurses of neuro department, to assess the relation between the selected demographic variables and the sleep problems and to prepare an informational guide sheet to maintain a good sleep pattern. Data collection done from the month of August 2011 to October 2011. Data analyzed and interpreted using descriptive and inferential statistics. This study revealed that there was a significant difference of sleep problem with the shift work (p=0.03). The 58% of the nurses had no sleep problem before and after doing night shift. But the 26% of the nurses had sleep problem after doing night shift. Majority of the nurses (76%) of the nurses had no excessive sleepiness also. In case of health problem most of the nurses had persistent tiredness (58%) and 46% of the nurses had loss of sleep and backache. This study clearly portrays that more than half of the nurses had no sleep problem.

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APPENDIX

QUESTIONNAIRE

1.Sleep problems among Neuro Nurses

Fill up or tick mark the appropriate

Socio demographic data

Name : Age ;

Sex : Male / Female

Marital status : single /married /divorcee/widow

Education : GNM / BSc (N) / PBN / DNN/ MSc(N)

Place of work : NMICU /NMW /NSICU/ NSW

Height :

Weight :

BMI :

Residential area : Urban/ Rural

Number of cups of coffee / tea per day :

Habitual sleep pattern : Hours

Social life

1. Do you currently do shift work?

Yes. No.

2. Have you done shift work in the past?

Yes. No.

3. Does night shift affect your attitude negatively towards nursing?

1 □ Never.

3 □21-40% of the time.

4 □ 41-60% of the time.

5 □61-80% of the time.

6 □81-100% of the time.

4. Does shift affect your mood?

1 □ Never.

3 □21-40% of the time

4 □ 41-60% of the time.

5 □61-80% of the time.

6 □81-100% of the time.

5.Does night shift increases the interpersonal conflict in your family?

1 □ Never.

3 □21-40% of the time

4 □ 41-60% of the time.

5 □61-80% of the time.

6 □81-100% of the time.

6. Does night shift disturbs your social life?

1 □ Never.

3 □21-40% of the time.

4 □ 41-60% of the time.

5 □61-80% of the time.

6 □81-100% of the time.

7. Shift increase inter personal conflict at your work?

1 □ Never.

3 □21-40% of the time.

4 □ 41-60% of the time.

5 □61-80% of the time.

6 □81-100% of the time.

Health problem

8. Which of the following problem do you usually experience following night shift?

1 □ frequent headaches.

2 □ Backache.

3□ Persistent tiredness.

4 □Feet ailment.

5 □Loss of sleep.

6 □ Muscular strain.

Any other problem, please specify.

A QUESTIONNAIRE TO ASSESS SLEEP PROBLEM

SELECT THE ONE APPROPRIATE FOR YOUR SLEEP

0 No problem with my sleep

1 Slight problem with my sleep

2 Moderate problem with my sleep

3 Moderately severe problem with my sleep

4 Big problem with my sleep

1 How easy is it for you to fall asleep?	0	1	2	3	4
2 How worried are you that you won't be able to get to sleep?					
3 Are you easily awakened by sound/noise?					
4 When you sleep in a strange place/bed other than your, how much trouble do you have trying to fall asleep?					
5 Is your sleep disturbed with frequent awakening?					
6 Can you fall back asleep if you awaken during the night?					
7 Are you rested the next day after your night's sleep?					
8 Do you think you are getting enough hours to sleep each night?					
9 How much does the quality of the sleep affected the next day function?					
10 Over all describe your satisfaction with your sleep?					

A QUESTIONNAIRE TO ASSESS SLEEP PROBLEM AFTER NIGHT SHIFT

SELECT THE ONE APPROPRIATE FOR YOUR SLEEP

1 How easy is it for you to fall asleep?	0	1	2	3	4
2 How worried are you that you won't be able to get to sleep?					
3 Are you easily awakened by sound/noise?					
4 When you sleep in a strange place/bed other than your, how much trouble do you have trying to fall asleep?					
5 Is your sleep disturbed with frequent awakening?					
6 Can you fall back asleep if you awaken during the sleep?					
7 Are you rested the next night duty after your day's sleep?					
8 Do you think you are getting enough hours to sleep?					
9 How much does the quality of the sleep affected the next day function?					
10 Over all describe your satisfaction with your sleep?					

A QUESTIONNARE TO ASSESS THE SLEEPINESS

0 = no chance of dozing
1 = slight chance of dozing
2 = moderate chance of dozing
3 = high chance of dozing

SITUATION	CHANCE OF DOZING
Sitting and reading	_____
Watching TV	_____
Sitting inactive in a public place (e.g. a theater or a meeting)	_____
As a passenger in a car for an hour without a break	_____
Lying down to rest in the afternoon when circumstances permit	_____
Sitting and talking to someone	_____
Sitting quietly after a lunch	_____
In a car, while stopped for a few minutes in traffic	_____

SLEEPINESS SCALE

1 - 6	Getting enough sleep!
7 - 8	Score is average
9 and up	Seek the advice of a sleep specialist

SLEEP SCALE KEY

0-10 No problem with sleep

11-20 Slight problem with sleep

21-30 Moderate problem with sleep

31-40 Big problem with sleep

’’Good laugh and a long sleep are the best cures in the doctor's book’’.

Irish proverb

Is it a sleep disorder?

Do you . . .

- feel irritable or sleepy during the day?
- have difficulty staying awake when sitting still, watching television or reading?
- fall asleep or feel very tired while driving?
- have difficulty concentrating?
- often get told by others that you look tired?
- react slowly?
- have trouble controlling your emotions?
- feel like you have to take a nap almost every day?
- require caffeinated beverages to keep yourself going?

If you answered “yes” to any of the previous questions, you may have a sleep disorder.

Improve your sleep hygiene and daytime habits

Try the following simple changes to your daytime and pre-bedtime routine:

- Keep a regular sleep schedule
- Set aside enough time for sleep
- Make sure your bedroom is dark, cool, and quiet.
- Turn off your TV, Smartphone, and computer Set a regular bedtime.
- Wake up at the same time every day**.**
- Fight after–dinner drowsiness**.**

Naturally regulate your sleep-wake cycle

Increase light exposure during the day

- Remove your sunglasses**.**
- Spend more time outside during daylight**.**
- Let as much light into your home/workspace as possible**.**
- Turn off your television and computer**.**
- Don’t read from a backlit device at night (such as an iPod)
- Change your light bulbs**.**
- When it’s time to sleep, make sure the room is dark.
- Use a flashlight to go to the bathroom at night.

Create a relaxing bedtime routine

- Keep noise down**.**
- Keep your room cool**.**
- Make sure your bed is comfortable**.**
- Read a book or magazine by a soft light
- Take a warm bath
- Listen to soft music
- Do some easy stretches
- Wind down with a favorite hobby
- Listen to books on tape
- Make simple preparations for the next day

Eat right and get regular exercise

- Stay away from big meals at night.
- Avoid alcohol before bed.
- Cut down on caffeine.
- Avoid drinking too many liquids in the evening..
- Quit smoking.

Get anxiety and stress in check

Relaxation techniques for better sleep

- Deep breathing.
- Progressive muscle relaxation.
- Visualizing a peaceful, restful place.
- Ways to get back to sleep
- Stay out of your head
- Make relaxation your goal, not sleep.
- Do a quiet, non-stimulating activity.
- Postpone worrying and brainstorming

Know when to see a sleep doctor

If, despite your best efforts at self–help, you are still troubled by any of the following symptoms:

- Persistent daytime sleepiness or fatigue
- Loud snoring accompanied by pauses in breathing
- Difficulty falling asleep or staying asleep
- Unrefreshing sleep
- Frequent morning headaches

- Crawling sensations in your legs or arms at nigh Inability to move while falling asleep or waking up
- Physically acting out dreams during sleep

Having a regular sleep schedule helps to ensure better quality of sleep.