

Effectiveness of Back Massage in Promoting Sleep Pattern of Patients with Congestive Cardiac Failure

Vishwajit Mathpati¹, Regina A. Dias.²

¹Final Year M. Sc. Nursing Student, Institute of Nursing Education JJH campus Mumbai India

²P.G. Guide, Institute of Nursing Education JJH campus Mumbai, India

Abstract: Heart Failure is a common cardiovascular condition with increasing incidence and prevalence. Sleep plays a large role in patients with heart failure. **Objectives:** To identify sleep pattern of patients in the study group & control group. To identify various factors affecting sleep. To compare pre & post intervention sleep pattern of the patients in study group. To compare pre & post intervention sleep pattern in study group & control group. **Methods and Material:** Quantitative experimental research approach The research design selected for the study was Quasi Experimental design (Pretest Posttest Nonrandomized Control Group) which was best suited. **Sampling:** Non-probability purposive sampling method was applied to select 50 congestive cardiac failure patients (subjects) from 35-65 years age group, preferably male. **Findings-**It was seen that all subjects were male and maximum belonged to the older age group (51-65years). In factors affecting sleep; the responses were mixed with to the factors affecting sleep pattern. In study group showed after administration of back massage there was a boost in the number of subject from poor and moderate to good level of sleep which showed the effectiveness of nursing intervention i.e. back massage; **Conclusions-**The study concluded that, there are various factors which affect the sleep pattern of the congestive cardiac failure patients. Back massage is helpful in improving sleep pattern in congestive cardiac failure patients.

Keywords: Effectiveness, back massage, sleep, patients, congestive cardiac failure

1. Introduction

Sleep can be defined as a normal state of altered consciousness during which the body rests; it is characterized by decreased responsiveness to the environment, and a person can be aroused from it by external stimuli.

Matthew and Geraldo conducted research on sleep in heart failure. Depending on the duration of total sleep, two extremes of normal sleeping patterns have been described. Long sleepers are persons regularly and habitually sleep for more than 9 hrs/ night and this pattern of sleep does not cause any symptoms or dysfunction. Short sleepers are persons regularly and habitually sleep for less than 6 hours / night and this pattern of sleep does not cause any symptoms or dysfunction [1].

Sleep plays a large role in patients with heart failure. In normal subjects, sleep is usually in a supine position with reduced sympathetic drive, elevated vagal tone and as such a relatively lower cardiac output and minute ventilation, allowing for recuperation. Patients with heart failure may not experience the same degree of autonomic activity change and the supine position may place a large strain on the pulmonary system. More than half of all heart failure patients have one of two types of sleep apnea: either obstructive or central sleep apnea. Some patients have both types. Obstructive sleep apnea is likely to be a cause of heart failure due to large negative intra-thoracic pressures, apnea related hypoxemia and hypercapnia, terminated by an arousal and surge in systemic blood pressure associated with endothelial damage and resultant premature atherosclerosis. Reversal of obstructive sleep apnea improves blood pressure, systolic contraction and autonomic dysfunction however

mortality studies are lacking. Central sleep apnea with Cheyne Stokes pattern of respiration (CSA-CSR) occurs as a result of increased central controller (brainstem driving ventilation) and plant (ventilation driving CO₂) gain in the setting of a delayed feedback (i.e. low cardiac output). It is thought that this type of apnea is a result of moderately to severely impaired cardiac function and is possibly indicative of high mortality. Treatment of CSA-CSR is best undertaken by treating the underlying cardiac condition which may include with medications, pacemakers, transplantation or continuous positive airway pressure (CPAP). In such patients CPAP exerts unique effects to assist cardiac function and reduce pulmonary edema. Whether CPAP improves survival in this heart failure population remains to be determined [2].

Shinde M concluded that differences on the quality of sleep before and after slow stroke back massage. This shows that there was gradual improvement in the sleep quality after back massage on 3 consecutive days. The back massage has effect on quality of sleep among ICU patients [3].

2. Background of the Study

Sharma and Manchanda found that the prevalence and burden of heart failure will likely continue to increase in developed countries, where better care had improved survival with cardiovascular conditions such as MI and heart failure. Although survival in clinical trials is improving, heart failure remains a lethal condition in the community, with an estimated annual mortality of approximately 21% in men and 17% in women. The epidemiology of heart failure has also been well characterised in Europe. Unfortunately, similar epidemiological data are essentially unavailable from the remaining developing and developed world.

They further narrated the Incidence and prevalence in United States: Heart failure is third most common cardiovascular disease in US affecting 2% of US population or almost 5 million people. The prevalence of heart failure increases with age from less than 1% in 20-39 years old age group to over 20% in people age in the people age 80 or more. The life time risk of developing heart failure is estimated at about 20% in both men and women. The lifetime risk of developing heart failure at the age of 40 years is 11.4% for men and 15.4% for women. More than 500,000 new cases are diagnosed each year. Around 30 to 40% of patients die from heart failure within 1 year after receiving the diagnosis. Heart failure can be disabling and it can severely reduce a patient's quality of life.

The report also included heart failure in India; the incidence and prevalence estimated of heart failure in India are unreliable because of the lack of surveillance is not unique to India. Estimated the burden of heart failure is further hampered by lack of standard definition. The epidemiology of heart failure in India has likely changed from that reported by Dr. Vakil, describing hypertension- coronary (31%), RHD (29%), syphilis (12%) and pulmonary (9%) as the primary causes in 1281 patients hospitalized due to heart failure. Indian economical development, industrialization and urbanization have been accompanied by transition that contributes to the increase in the overall risk of heart failure. First the population of India is ageing due to recent successes against communicable diseases such that the number of people >60 years old will increase from 62 million in 1996 to 113 million in 2016. Heart failure is predominantly a disease of elderly, as the lifetime risk for heart failure with age, so the burden of heart failure is likely to increase with the ageing population. Second, the epidemiological transition reflects changes in disease patterns as societies develop, as first described by Omran in 1971, and amended by Olshansky and Ault in 1986 and Yusuf et al in 2005[4].

3. Need for the Study

Nursing professionals can no longer ignore sleep disturbance in post-operative cardiac surgery patients. Appropriate therapeutic regimens and trials need to be explored. Studies have revealed that therapeutic back massage is one of the most meaningful means for mental relaxation, pain reduction and is very much useful in promoting sleep. Sleep is a basic human need[5]. Rest and sleep are essential for health.

It is a universal process common to all people. People who are ill frequently require more rest and sleep than usual. Rest restores a person's energy allowing the individual to resume optimum functioning.

Richard found Potentially effective nursing interventions for sleep promotion are those caring interventions that focus on the body-mind connection, such as back massage, relaxing music, imagery, and muscle relaxation. Investigations of the effectiveness of nursing interventions for sleep promotion are needed[6].

In India 20-40% of all adults have insomnia in the course of any year, and 1 out of 3 people have insomnia at some point in their lives. Estimated that 30% to 40% of children do not sleep enough. Over half of those over the age of 65 experiences disturbed sleep[7].

Pain, stress anxiety, and sleep disorders are common after surgery. Evidence by Insomnia Overview indicates that patient's quality of sleep after surgery is frequently poor, particularly during the post operative period, and that patients experience high levels of sleep disruption, irregular sleep cycle, and radiation in slow wave sleep. Poor quality of sleep on the post operative period may be due to several factors including pain from surgical incision, presence of thoracic drain, pain caused by prolonged time in bed, and high anxiety levels.³ It has been reported that about 30% of medical and 88% of surgical patients receive sedatives during hospitalization because of sleep disturbances during this time [8].

According to Williamson massage therapy is a technique that promotes the manual mobilization of several structures from both muscle and tissue, by applying force to tissues. The European Respiratory Society and European Society of Intensive Care Medicine recognized that massage therapy improves quality of sleep[9].

A survey was conducted by Mitchion et al to assess the factors predisposing to insomnia during post operative day among 176 orthopedic and abdominal surgery patients in France. The study concluded that the main predisposing factor to insomnia during post operative period was due to post operative pain[10].

During clinical posting, the investigator observed that many congestive heart failure patients have sleep deprivation due to factors related to heart disease (sleep apnea) environmental factors have an increased demand for sedatives. Various studies shown that holistic non-pharmacological techniques like massage therapy promote sleep during these patients, hence the investigator felt that there is a need to evaluate the effectiveness of back massage on quality of sleep among congestive heart failure patients.

When you submit your paper print it in two-column format, including figures and tables. In addition, designate one author as the "corresponding author". This is the author to whom proofs of the paper will be sent. Proofs are sent to the corresponding author only.

4. Literature Review

"Literature review is a critical summary of research on a topic of interest generally prepared to put a research problem in context or to identify gaps and weaknesses in prior studies so as to justify a new investigation"[11]. Learning is the addition of new knowledge and experience. Interpreted in the light of past knowledge and experience. Teaching and learning is an integral part of nursing. Nurses have the responsibility to educate patients related to various aspects and keep themselves updated. Various teaching strategies are used to increase knowledge, such as lecturing,

Demonstration, discussion and self-education. These methods of self-education has an advantage over the others as the learner can educate himself at his own pace and it also stresses on rereading [12]

1) Studies related to sleep deprivation in hospitalized congestive cardiac failure patients

Bounhoure et al conducted study on Sleep apnea syndromes and cardiovascular disease. Sleep-disordered breathing is very common and is associated with an increased risk of cardiovascular disease, cardiac arrhythmia and stroke[12].

According to Gulhane Military Medical Academy, School of Nursing, Ankara, Turkey with Gulhane Military the study results; almost all patients have sleep problems because of different reasons. It is important to know factors affecting patients' sleep and to take related precaution in order to increase patients' quality of sleep in the intensive care unit[13].

According to Hooper, Congestive heart failure is commonly associated with Sleep Apnea[14].

Baylor et al conducted study on Cardiac failure presenting as sleep apnea, elimination of apnea following medical management of cardiac failure. A patient with symptoms of sleep apnea syndrome had signs of congestive cardiac failure. A sleep study fulfilled the criteria for sleep apnea. Features of Cheyne-Stokes respiration coexisted. Management of the cardiac failure by weight loss principally due to diuretic use eliminated the symptoms of sleep apnea[15].

2) Studies related to nursing interventions and sleep

According to Eliassen and Hopstock's study conducted in Norway -Sleep deprivation is common amongst patients in intensive care units (ICU) and can lead to physiological and psychological dysfunctions that affect the healing process and increase morbidity and mortality[16]. Olson et al, nurses at Duke Results demonstrated that the percentage of patients observed asleep was significantly higher during the months of the "quiet time" intervention than during the control period. It was concluded that a concentrated effort by staff to reduce the environmental stimuli at intervals definitely increased the likelihood of sleep in these patients [17].

3) Studies related to back massage in improving sleep pattern

This study narrated Sleep-disordered breathing (SDB) causes hypoxemia, negative intrathoracic pressure, and frequent arousal, contributing to increased cardiovascular disease mortality and morbidity. Obstructive sleep apnea syndrome (OSAS) is linked to hypertension, ischemic heart disease, and cardiac arrhythmias. Successful continuous positive airway pressure (CPAP) treatment has a beneficial effect on hypertension and improves the survival rate of patients with cardiovascular disease. Thus, long-term compliance with CPAP treatment may result in substantial blood pressure reduction in patients with resistant hypertension suffering

from OSAS[18].Harris et al Findings from this pilot study suggest that SSBM may be an effective nursing intervention for sleep in persons with dementia in the nursing home, but further testing is needed to provide definitive results[19].

4) Studies related to back massage in CHF patients.

Chen et al concluded back massage significantly reduced anxiety in the study population. Systolic BP decreased to a greater degree in the male participants, particularly in those with severe heart failure and greater levels of anxiety and higher systolic BP. This study was conducted without a control group. Randomized clinical trials are needed to validate the effectiveness of back massage on patients with CHF [20]. A quasi experimental study was concluded that massage therapy is an effective technique for improving patient recovery from surgery because it reduces fatigue and improves sleep[21]. A randomized control study was concluded that massage is an effective and safe adjuvant therapy for the relief of acute post operative pain in patients undergoing major operations[22], [23],[24].

5. Problem Statement

"Effectiveness of back massage in promoting sleep pattern of patients with congestive cardiac failure admitted in selected hospitals in metropolitan city."

5.1 Objectives of the study

The objectives of the study are -

1. To identify sleep pattern of patients in the study group & control group.
2. To identify various factors affecting sleep.
3. To compare pre & post intervention sleep pattern of the patients in study group.
4. To compare pre & post intervention sleep pattern in study group & control group.

5.2 Operational definitions

- 1) **Effectiveness:** a change that somebody/something causes in somebody/something else; a result (Oxford dictionary)
In this study, effectiveness refers to the extent to which back massage have achieved the desired effect on quality of sleep among congestive cardiac failure patients.
- 2) **Back Massage:** (Oxford dictionary) back rub and knead (a person or part of the body) with the hands, is a Nursing intervention, the action undertaken by a nurse to further the course of treatment for a patient.
In this study back massage is the intervention intended to be used. Back massage will be given to the study group in following steps for ten minutes before going to bed at night.
- 3) Stroking (effleurage)
- 4) Kneading (Petrissage)
- 5) Friction
- 6) Percussion (tapotment)
- 7) Vibration
- 8) **Promote:** In this study, promote refers to increasing the duration & quality of sleep period.

- 9) **Sleep Pattern:** In this study, it refers to a natural periodic state of rest for the mind and body in which the eyes normally close and consciousness is completely or partially lost, so that there is decrease in bodily movement and responsiveness to external stimuli. In this study, sleep pattern is defined as the verbal expressions of the patient with regards to the quality & quantity sleep, as well as researcher's observation of the subject.
- 10) **Congestive cardiac failure patient:** In this study it refers to those patients who are diagnosed as congestive cardiac failure and show the classical symptoms of breathlessness, edema and weakness, and are in NYHA (New York Heart Association) grade I, II & III.

5.3 Assumptions

The study is based on the following assumption.

1. Sleep is essential physiological need of daily living.
2. Selected nursing intervention is back massage, a part of complementary therapies which promote sleep.
3. The nursing intervention back massage helps in improving the sleep pattern in patients with congestive cardiac failure.

5.4 Hypothesis

H₀: There will be no significant difference between pre-intervention (back massage) and post-intervention sleep pattern in patients with congestive cardiac failure.

H₁: There will be no significant difference between pre-intervention (back massage) and post-intervention sleep pattern in patients with congestive cardiac failure.

Independent variables:

Independent variable is a stimulus or activity that is manipulated or varied by the investigator to create an effect on the dependent variable.

In this study experimental treatment of back massage was an independent variable.

Dependent variables:

Dependent variable is a response, behavior or outcome that the investigator wants to predict or explain.

Dependent variable in the context of the study is 'Sleep pattern of congestive cardiac failure patients' admitted in the selected hospital of metropolitan city was a dependent variable.

The effect of the independent variable on the dependent variable was studied.

5.5 Limitations

The study is limited to:

- Patients who had been diagnosed congestive cardiac failure.
- Patients who have sleep disturbance with congestive cardiac failure.

5.6 Ethical aspect

1. Permission to conduct study is obtained from the institutional ethical committee.

2. Permission is obtained from the concerned authorities at the time of data collection.
3. A valid written consent will be taken from the subjects participating in the study. Consent will be prepared in Marathi, Hindi & English with help of language experts.
4. Information will be handled so that confidentiality & anonymity is maintained.
5. Subjects will be protected from all types of harms.
6. Subjects were assured for freedom to withdraw from the study any time.

5.7 Research Methodology

Procedures used in making systematic observations or otherwise obtaining data, evidence, or information as part of a research project or study, which refers to the planning and organization of such procedures.

5.8 Research approach

According to Shinde M "Research approach refers to the way in which the investigator plans or structures the research process. It is a set of the flexible spots designed to keep the research in the right direction. This scientific process helps to acquire dependable & useful information".

In this context of study, Investigator adopted the Quantitative experimental research approach .

5.9 Research Design

The research design selected for the study was Quasi Experimental design (Pretest Posttest Nonrandomized Control Group)

Target population:

Congestive cardiac failure patients admitted in the selected Hospital of metropolitan city who met the inclusion criteria listed by the investigator.

Accessible population:

Congestive cardiac failure patients admitted in the selected Hospital of metropolitan city who had met inclusion criteria listed by the investigator and who were available and ready to participate at the time of the study.

5.10 Sampling technique

In this study, the sampling technique used by investigator was non probability purposive sampling.

5.10.1 Sample

In this study, the sample consisted of 50 congestive cardiac failure patients admitted in the selected hospital of metropolitan city.

5.10.2 Sample size

In this study the number of study participants was fifty (50).

Criteria for sample selection:

"Eligibility criteria are the characteristics that delimit the population of interest"

Inclusion criteria:

1. Congestive cardiac failure patient above 30 to 65 years, preferably male.
2. Congestive cardiac failure patients those who are willing to participate in study.
3. Patient with congestive cardiac failure who has been diagnosed so.
4. Congestive cardiac failure patient who can understand English, Marathi and Hindi.

Exclusion criteria

1. Congestive cardiac failure patients those who are bedridden and psychologically unstable and NYHA (New York Heart Association) Grade IV.
2. Congestive cardiac failure patients those who have other associated disease like Tuberculosis, uncontrolled Diabetes Mellitus, Asthma etc.
3. Those patients who are contraindicated for the back massage for some reasons like back injuries, spine fractures, rib fractures etc.

6. Data Collection and Methods of Data Collection

The data gathering process was concluded in two time phases. The data gathering process began on 29th November 2013 to 10th December 2013 and 23rd December 2013 to 31st December 2013. Every day investigator gave experimental treatment and routine treatment to 3 to 4 patients.

First of all, permission to conduct study was obtained from the institutional ethical committee. The requisite permission was taken from the concerned authorities i.e. Dean of the hospital, Head of the department Cardio-vascular thoracic surgery, medical officer, matron and sister in charge of cardiology and cardio-thoracic vascular surgery ward. The investigators have assessed the participants according to the selection criteria of the study by using non probability convenient sampling technique.

The investigator introduced self and discussed about purposes of the study with subjects one by one and obtained their consent for their participation in the study.

Phase 1: The participants were randomly assigned in to two groups using coin toss method of randomization. It was decided that all result of "heads" will be control group and all result of "tails" will be assigned to study group.

Group I: (Study group) subjects who will receive the nursing intervention back massage intended for promotion of sleep were assigned in this group.

Group II: (Control group) subjects who will receive the routine hospital treatment for sleep were assigned in this group.

Phase 2: Pre test the level of sleep were assessed with the help of sleep rating scale, for both group I and group II before the intervention.

Phase 3: For Group I implement the nursing intervention on experimental group, back massage late in the evening after dinner and before going to sleep for approximately 10

minutes. The back massage was given following technique effleurage, petrissage, friction and tapotment and for group II routine hospital treatment was considered.

Phase 4: The massage therapy was given for three consecutive days.

Phase 5:- Post experimental assessment was done for group I and group II, the sleep pattern was assessed using observational checklist and post intervention sleep rating by the participants in both group.

7. Findings of the Study

The findings of the study were analyzed by using frequency, percentage distribution and mean, Wilcoxon, ANNOVA, Mann-Whitney to find out the level of significance and proving of hypothesis.

Major findings of the study are as follows:

In section-I, findings in relation to the demographic variable: Data of age showed that maximum subjects 24 (48%) belonged to older age group of 51-65 years, in education level most, of the subjects 18 (36%), the gender category, it was found that 100% of subjects participated were males and 19 (38%) had studied up to primary and secondary level. Occupation, most of the subjects 11 (22%) were daily wage worker.

In medical data of the subjects:

The data of diagnosis in that maximum subjects 13(26%) belonged to IHD & IHD with associated problem 15(30%) and RHD with associated problems 16 (32%). Others category showed 6 (12%), whereas in the figure 5.2 of Ejection fraction, it was found that 5(10%) subjects were in less than 40% category, of 41-50% ejection fraction showed 34(68%) subjects, followed by 11(22%) subjects in more than 50% ejection fraction. As per figure 5.3, the terms of Signs & symptoms maximum subjects 45 (90%) had breathlessness. Whereas 26(52%) and 16 (32%) of the subjects showed oedema and palpitation respectively. For any associated problems, it was found that highest subjects had ischemic heart disease and hypertension, were divided with 28(56%) and 20(40%). Present medications data illustrate, maximum subjects were on Dioxin 44(88%). In respiration rate, it was found that, 49(98%) subjects were in normal limit. Blood pressure showed that, maximum subjects 27 (54%) showed hypertension. Data of pulse showed that all subject 50 (100%) belonged to normal (60-100).

In section II, assessment of sleep pattern of patients with congestive cardiac failure admitted in selected hospitals in metropolitan city in pre test and post test.

Assessment of level of pre and post test sleep pattern of patients with congestive cardiac failure among study group showed after administration of back massage there was a boost in the number of subject from poor and moderate to good level of sleep which showed the effectiveness of nursing intervention i.e. back massage. Assessment of level of pre and post test sleep pattern of patients with congestive cardiac failure among control group, in pre test 24(96%)

subject were in a moderate level of sleep pattern followed by 1(4%) with good sleep level in post test all the findings were same as pre test. Which showed the there is no changes in sleep pattern in control group.

In section-III, evaluation of the effectiveness of back massage by comparing pre-test and post-test of sleep rating scale of patients with congestive cardiac failure admitted in selected hospitals in metropolitan city analyzed in terms of Wilcoxon test and Mann Whitney test to find out the level of significance and proving of hypothesis.

A. Comparison of effect of back massage on sleep pattern among patients with congestive cardiac failure within study group, the calculated 'z' value for sleep rating scale was 3.76, which was more than the Z tab score of 1.96, which proves that there was significant difference in pre-test and post test scores in the study group. There was significant improvement in sleep pattern among patients with congestive cardiac failure within study group after administration of back massage when compared to pre and post intervention.

B. Comparison of Effect of routine care on sleep pattern among patients with congestive cardiac failure within control group the calculated 'z' value for sleep rating scale was 1.911, which was less than the Z tab score of 1.96, which proves that there was no significant difference in pre-test and post test scores in the control group. There was no improvement in sleep pattern among patients with congestive cardiac failure within control group after administration routine care when compared to pre and post. But if we compare z value in control group, it is very low and acceptance of the null hypothesis H_0 was done at border value 1.91.

C. Comparison of effect of back massage on sleep pattern among patients with congestive cardiac failure between study and control group; the Mann Whitney test calculated value was found to be 289 for comparison of pre test scores 213.5 for post test comparison of study group and control group. After conversion into Z stat, the calculated 'z' value for sleep rating scale in pre test 0.460, and post test sleep rating scale value is 1.99 which is more than the Z tab score of 1.96, which proves that there is difference in post test between study and control group. Thus it can be stated that there is a significant difference in mean of post test score between study and control group.

Section IV deals with assessment of various factors affecting sleep of patients with congestive cardiac failure admitted in selected hospitals in metropolitan city. In assessment of various factors affecting sleep; the responses were mixed with no clear cut view that which group was getting affected more to the factors affecting sleep pattern. In environmental factors affecting sleep among both study group there were maximum subjects by hot weather, next bothered by noise. It is seen that most of the subjects did not get proper sleep due to, mostly hot weather and noise. In disease factors both the groups i.e. study group mostly 18(72%) subjects and 16 (64%) subjects in control group were affected by breathlessness. Also majority of 19(76%) subjects i.e. in

control group and 16 (64%) subjects in study group were bothered by cough. Minimum subjects were troubled by chest pain 6 (12%) and palpitation 11(20%) respectively. Majority 19 (76%) subjects in study group were affected by personal anxiety compared to that of 11 (44%) subjects in control group.

Section-V dealt with assessment of observational checklist of sleep pattern of subjects. In observation checklist, position assumed during sleep- semi-fowlers, modified cardiac table, sitting and prone were assumed by minimum number of subjects. Assessment of observational checklist of sleep pattern of subjects – level of posture during sleep Among the subjects there were none in the deep sleep at all the three observations. At 2 am 17(34%) subjects and 25(50%) subjects were experiencing better sleep at 6 am. In assessment of response to light touch during sleep. Then 3, 13 and 18 respectively did not wake up at all in the three observations. Rest of the responses such as startled, jerked, woke up and opened eyes evoked minimum responses. Respiration rate and blood pressure mean, this indicates that the activity of subjects decreases as time elapses. Pulse rate had decreased from a mean of 78.52 at 2 pm to 71.56 at 6 am.

Section VI found that with assessment of Opinionnaire of subjects in regarding back massage therapy given to study group subjects it can be noted that back massage therapy was really helpful in promoting better sleep among the study group patients. Also their views can be gauged from the positive responses to the opinionnaire. The Mann Whitney test and Wilcoxon test conducted helped us to prove the alternate hypothesis (H_1) as the results were significant in all the comparisons done involving the study group.

8. Implications of the Study

The findings of the study have implications in nursing service, nursing education, and nursing administration and nursing research development cell.

Nursing Services

Nurses have an important role to play in the hospital i.e. in promoting sleep pattern while caring for patients with congestive cardiac failure as well as promotion of back massage in hospital setting and community health care in family.

- This study can be used as an informative illustration for staff nurses working in cardiothoracic department for providing comfort to the patients.
- This study can be used as an informative illustration for community health nurses working in community for taking care of patients with congestive cardiac failure and for their comfort at home.
- This study brings to light the effectiveness of back massage in inducing the sleep.
- This study finding also can be utilized in other area of hospital for taking care of chronic disease condition.
- This study finding also can be utilized in caring for patients with sleep disorders and geriatric patients.

- Thus the nurses working in Wards, day care centers, community area, can make use of this intervention and stress the health education on above aspect.
- In nursing procedure of back care can be improvised by using study findings and can be used in day to day findings while taking care of bed ridden patients

Nursing Administration:

To improve the nursing care provided, the nurse administrator could use the findings of this study, as a basis for in service education for the nurses. The finding of the study can help the nurse administrator to formulate policies for care of patients with congestive cardiac failure and also importance of back massage technique

Nursing Education

Nursing Education is a means through which nurses are prepared for practice in various settings.

- The result of the study can be used, by nursing teacher as an informative illustration to nursing students while teaching a topic on care of patients with congestive cardiac failure and also back massage technique.
- This study can be used as an informative illustration for students.
- The nurse educators can also highlight the benefits of the health education by using demonstration on back massage for chronic cases.
- The nursing students should be made aware about their role as a health educator, health planner, case management role, while taking care of patients with congestive cardiac failure and also back massage technique.
- Students can be asked to conduct a programme, exhibition and demonstration to spread the awareness and importance of the topic on care of patients with congestive cardiac failure and also back massage technique for inducing sleep.

Nursing Research

Another research has been added for care of patients with congestive cardiac failure and also back massage technique. The tool, technique and literature review can provide a venue for further research studies. It certainly increases the body of knowledge and can be used as reference materials in the future. The suggestions and recommendations can be utilized by other investigators conducting further study in the same field.

9. Limitations of the Study

- The study is limited to patients with congestive cardiac failure patients (patient above 30 to 65 years, preferably male).
- The study was limited to congestive cardiac failure patients with ejection factor 40% and above, who were NYHA Grade I, II, and III.
- The study was limited to a technique of back massage and sleeping.
- The study was limited to only to the topic of sleep.
- The results cannot be generalized due to small size of subjects and restricted time period.

- No attempt was made to compare and correlate the other types of therapies, nursing intervention.
- No attempt was made to compare and correlate the other types of changes in the physiological parameters.

References

- [1] Matthew TN, Geraldo LF. Sleep in Heart Failure. *Progress in Cardiovascular Diseases Volume 51, Issue 4* , Pages 339-349, January 2009. Available at [http://www.onlinepcd.com/article/S0033-0620\(08\)00011-X/abstract](http://www.onlinepcd.com/article/S0033-0620(08)00011-X/abstract).
- [2] Shinde, M. B., & Anjum, S. (2014). Effectiveness of Slow Back Massage on Quality of Sleep among ICU Patient's. *International Journal of Science and Research (IJSR)*, 3(3), 292-298.
- [3] Redeker NS, Hedges C. Sleep during hospitalization and recovery after cardiac surgery. *The Journal of Cardiovascular Nursing* 2002; 17 (1): 56-68.
- [4] Sharma MK, Manchanda SC. Epidemiology of heart failure- Global and Indian, monograph on heart failure, Association of Physicians of India Indian college of Physician, Meli Enterprise, Hawrah2013. p. 1-4.
- [5] Maccune S. Effect of back massage on sleep among post operative CABG and Valve replacement patients. *Nurs J India* 2010 Apr; 4: 86-8.
- [6] Richards KC. Sleep promotion. *Crit Care Nurs Clin North Am.* 1996 Mar; 8(1):39-52. <http://www.ncbi.nlm.nih.gov/pubmed/8695033>
- [7] Sleep Disorders, Available at: www.sleepmed.md/page/1896
- [8] Insomnia Overview, Available at: www.sleepdisorderdealchannel.com/insomnia/index.shtml
- [9] Williamson SN, (2002), December; 93(12) Sleep Deprivation in patients in ICU. *The Nursing Journal of India:* 267-270.
- [10] Mitchion RA, Kim H M, Rosenberg M J, Geisser M, Kirb M, Gkrit D etal. Acute post operative pain management using Massage as an adjuvant therapy. *Arch Surg* 2007; 142(2):1158. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/188692>. Accessed May, 2007.
- [11] SHINDE, M., & ANJUM, S. (2007). Introduction to Research In Nursing. *Sneha Publication India (Dombivili)*.
- [12] Shinde, M., & Anjum, S. (2007). Educational Methods And Media For Teaching In Practice Of Nursing. *Sneha Publication India (Dombivili)*.
- [13] Gulhane Military Medical Academy, Department of Cardiology, Ankara, Turkey. *Anatol J Clin Investig* 2010;4(1):5-10
- [14] Robert G. Hooper CONGESTIVE HEART FAILURE AND SLEEP APNEA, MD - Sept 2003 (Scottsdale Sleep Center).
- [15] Baylor P, Tayloe D, Owen D, Sanders C. Cardiac failure presenting as sleep apnea. Elimination of apnea following medical management of cardiac failure *Chest.* 1988 Dec; 94(6):1298-300.
- [16] Eliassen KM, Hopstock LA. Sleep promotion in the intensive care unit-a survey of nurses' interventions. *ntensive Crit Care Nurs.* 2011 Jun; 27(3):138-42.

doi:10.1016/j.iccn.2011.03.001.Epub2011Apr15.

<http://www.ncbi.nlm.nih.gov/pubmed/21497505>.

- [17] Olson DM, Borel CO, Laskowitz DT, et al: Quiet time: A nursing intervention to promote sleep in neurocritical care units. *Am J Crit Care* 10(2):74-78, 2001.
- [18] Green MA: Shhhhh! It's quiet time. *Inside DUMC* 8[1]:1999. *Geriatr Nurs* 2006;27:85-91
- [19] Harris M, Richards KC, Grando VT . The effects of slow-stroke back massage on minutes of nighttime sleep in persons with dementia and sleep disturbances in the nursing home: a pilot study. *J Holist Nurs*. 2012 Dec; 30(4):255-63. doi: 1177/0898010112455948. Epub 2012 Sep 24. <http://www.ncbi.nlm.nih.gov/pubmed/23007716>.
- [20] Chen WL, Liu GJ, Yeh SH, Chiang MC, Fu MY, Hsieh YK. Effect of back massages intervention on anxiety, comfort, and physiologic responses in patients with congestive heart failure. *J Altern Complement Med*. 2013 May; 19(5): 464-70. doi:10.1089/acm.2011.0873. Epub 2012 Nov 27. <http://www.ncbi.nlm.nih.gov/pubmed/23186129>. Available on 2014/5/1.
- [21] Nerbau BF, Feltrim Z, De Souza AS, Ykeda SD, Lorency, Filto G. Effects of massage therapy on sleep quality after CABG. *Clinic* 2010; 659(11): Available from: <http://www.scielo.br/scielo.php?script=sci-art-text&PID=s1807-55k>. Accessed on Nov 2013.
- [22] Mitchion RA, Kim H M, Rosenberg M J, Geisser M, Kirb M, Gkrit D etal. Acute post operative pain management using Massage as an adjuvant therapy. *Arch Surg* 2007; 142(2):1158. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/188692>. Accessed Nov, 2013.
- [23] Shinde, M., & Anjum, S. (2014). Effectiveness of Demonstration Regarding Feeding of Hemiplegia Patient among Caregivers. *International Journal of Science and Research (IJSR)*, 3(3), 19-27.
- [24] Gulavani, A., & Shinde, M. (2014). Occupational Stress and Job Satisfaction among Nurses. *International Journal of Science and Research (IJSR)*, 3(4), 733-740.

Author Profile



Vishwajit Mathapti is final year M. Sc Nursing Student, Institute of nursing education JJH campus Mumbai, India

Regina A. Dias is P.G. Guide in Institute of nursing education JJH campus Mumbai, India