

# The Effect of Therapeutic Back Massage on the Quality of Sleep among Critically Ill Elderly Admitted in Intensive Care Units

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**Abstract:-** Sleep and rest are basic human needs essential to all individuals physical and psychological well-being. During illness there may be either actual or potential sleep disturbance and this lack of sleep extends the time needed to recover from illness. Therefore sick patients rest and sleep must be considered as one of the important components of their therapy. back massage could be an effective non-invasive technique for promoting relaxation and sleep .**Methods:** An Quasi-experimental Non randomized control group design study was conducted including Non probability purposive sampling technique among 60 critically ill elderly admitted in ICU. The data was collected before and after Therapeutic back massage by using a tool which consist of a questionnaire to collect Socio demographic data and The Groningen sleep quality scale and analyzed by descriptive and inferential statistics. **Results:** The results revealed that, there was significance difference in the scores after therapeutic back massage and The chi-square has shown the association with the variables like Age , Gender, Monthly family income, Diseases that affect the sleep, class of obesity, Medications and Cognitive difficulties. **Conclusion:** study concluded that Therapeutic back massage was effective in inducing sleep among critically ill elderly admitted in Intensive care units with age between 60-80 years.

**Keywords:-** Quality of sleep, Therapeutic back massage, critically ill elderly, Intensive care unit.

## I. INTRODUCTION

Sleep is an experience that occupies nearly thirty percent of our lives, which is essential for health and quality life. The amount of sleep that people need varies with factors such as pregnancy, Age and General health condition. The absence of sleep is not immediately life threatening but can cause various disorders if allowed to continue.

India will be the youngest country but number of elderly is likely to rise significantly; by 2020 the elderly in the country will number 143 million. Elderly are sub divided into three based on the age, the young old (60-69), the middle old (70-80), the oldest old<sup>3</sup> During the past two decades, the number of elderly admitted to the ICU has increased. United Nations department of economics and social affairs projected that Indians aged 60 and older will be raised from 7.5% (2010) to 11.1% (2025).<sup>1</sup>

The National certification board for Therapeutic massage and bodywork has been at the forefront for the promotion of massage among the elderly for many years. With regular massage, the quality of life is greatly increased, allowing the older patients to feel younger, healthier and balanced. <sup>2</sup>

On review of literature, it was demonstrated that back massage could be an effective non-invasive technique to incorporate into nursing practice for promoting relaxation and improving circulation. In particular, a study highlighted the de-humanizing effects of a health care system where technological advance and cure are dominant, which has serious and profound implications for the person who is chronically ill and that the effects of human touch and interaction are important factors in caring.<sup>3</sup>

Nurses play a vital role in providing Quality of sleep to the elderly who are critically ill and admitted at ICU by delivering appropriate nursing care. Keeping in view the researcher intended to assess the effect of Therapeutic back massage on Quality of sleep among critically ill elderly in Intensive care units at NRI General Hospital.

## II. METHODS

An Quasi- Experimental Non randomized control group design was selected to achieve the objectives of the study; Non probability purposive sampling technique was used to select the sample which included 60 critically ill elderly admitted in Intensive care units. The study included critically ill elderly, who are conscious and well oriented, admitted in Medical intensive care unit, surgical intensive care unit, Coronary care unit, Post anesthetic care unit with the age between 60 to 80 years, not on sedatives, opioids and narcotics. A structured interview was used to collect socio demographic data and The Groningen scale was applied before and after Therapeutic back massage to assess quality of sleep. The data was gathered from 15/02/2016 to 31/03/2016 i.e. 7p.m to 9p.m. from 60 subjects within 45 days. 4 subjects were selected per day and assigned in Experimental group (n=30) and control group (n=30) by using hand pick method. The intervention Therapeutic back massage was employed to Experimental for a period of 20 min for 4 days The control group received only usual night time nursing care and collected data was analyzed by descriptive and inferential statistics.

III. RESULTS

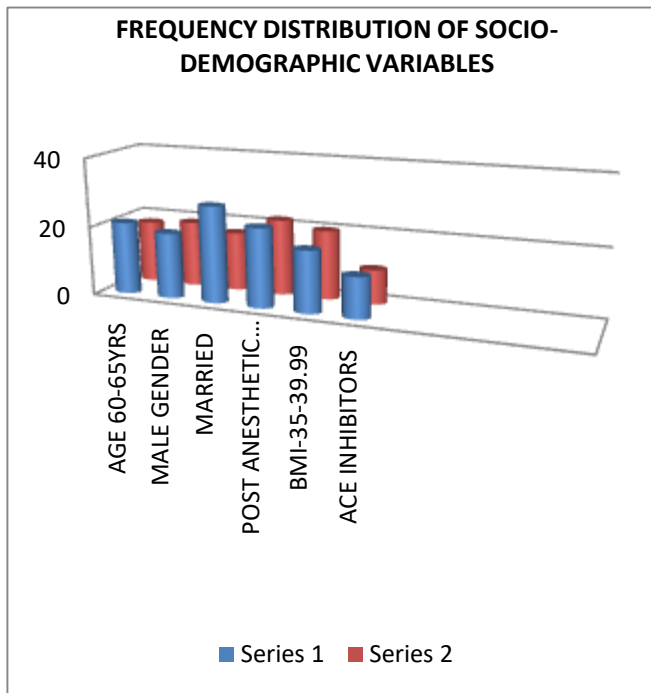


Fig 1:- Frequency and percentages of socio demographic characteristics of critically ill elderly admitted in ICU.

Frequency and percentage distribution of quality of sleep in Pretest and post test among critically ill elderly in both groups.

The frequency and percentage distribution of quality of sleep in pretest and post test among critically ill elderly admitted in Intensive care units revealed that; In Experimental group (n=30); 27(90%) respondents had poor sleep, 3(10%) had disturbed sleep and non-reported with normal sleep in pre test where as in post test after therapeutic back massage on fourth day non reported with poor sleep,6(20%) had disturbed sleep and 24(80%) had normal sleep; In Control group (n=30); 29(96.67%) respondents had poor sleep, 1(3.33%) respondent had disturbed sleep and none reported with normal sleep in pre test where as in post test non reported with normal sleep,2(6.67%) had disturbed sleep and 28(93.3%) had poor sleep .

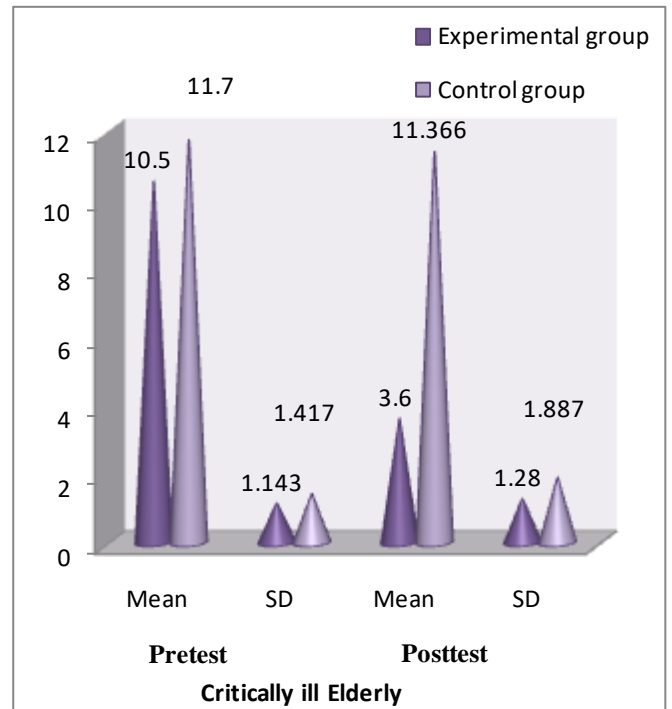


Fig 2:- Mean and standard deviation showing effect of Therapeutic back massage among critically ill elderly admitted in ICU

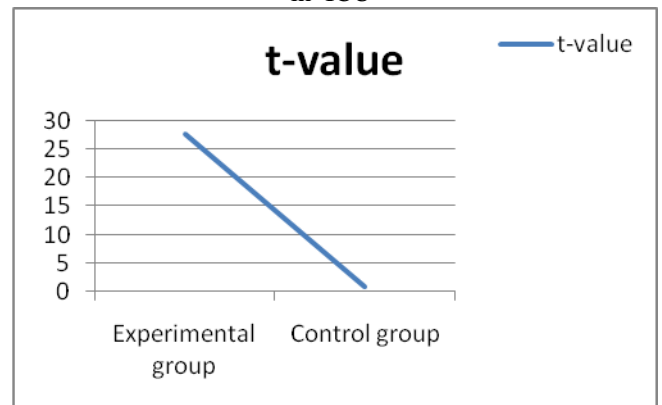


Fig 3:- Paired 't' value for pretest and post test in both experimental and control groups

In Experimental group the obtained mean value of quality of sleep in pre test was  $10.5 \pm 1.413$  where as in post test after performing therapeutic back massage it was  $3.6 \pm 1.281$ ; In Control group the mean value in pre test was  $\bar{x}=11.7 \pm 1.417$  and  $11.366 \pm 1.877$  in post test respectively .The quality of sleep among critically ill elderly was found to be significant after Therapeutic back massage statistically i.e paired t-value 27.6 ( $p < 0.001$ ).

Chi square showing association between posttest scores with their Selected socio demographic variables in experimental group.

With regard to age Calculated chi square value ( $\chi^2$ ) was higher (35.256) than the table value (22.46) at ( $P= 0.001$ ) In relation to gender ( $\chi^2$ ) was higher (35.236) than the table value (13.82) at ( $P=0.001$ ); Regarding Monthly family income ( $\chi^2$ ) was higher (356.86) than the table value (20.09) at ( $P=0.001$ ) indicating significant association between the age, gender, monthly family income and Quality of sleep among

critically ill elderly admitted in Intensive care units in Experimental group. So, the researcher accepted the Research hypothesis and rejected Null hypothesis.

#### IV. DISCUSSION

Majority of respondents were between the Age of 60-65 years, Males, Married, Earning between Rs5001-10000/-month, belong to Nuclear family, Had coronary problems, With class 2obesity (BMI35.00-39.99), Were on anti-hyper lipidemic drugs, With decreased perception, Had less than half an hour of sleep during day, 4-6 hours of sleep during night, Stress as Triggering factor, were taking sleeping pills and Noise as a distracter for sleep. This is supported by the study conducted by Kaye ad et.al stating that, in the general adult population, sleep disorder symptoms increase with age and usually are greater in women which is inconsistent with study findings.<sup>3</sup>

In order to meet the objective pre-test was done to assess the Quality of sleep among critically ill elderly admitted in Intensive care units. The findings indicate most of the critically ill elderly admitted in intensive care units had sleep disturbance. Freedman NS, Kotzer N, Schwab RJ. Study is consistent with the present study, Sleep disturbance is common in ICU patients, with more than 60% of patients reporting having poor sleep or being sleep-deprived, when questioned prior to discharge<sup>4</sup>. According to Dew MA, Hoch CC, Buysse DJ, et al. Sleep disruption in the ICU is recognized as impairing recovery and even contributing to mortality.<sup>5</sup> Frisk U, Nordström G. stated In addition to these environmental factors, endogenous mechanisms related to the illness itself, such as immune system responses to illness and pain or discomfort associated with the illness or with treatment interventions, may disrupt sleep in patients whose sleep-regulatory and circadian systems may already be compromised<sup>6</sup>

Paired 't' value obtained for experimental group on fourth day after therapeutic back massage, was 27.6 at 0.05 level of significance; Where as in control group 0.931 which is non-significant. The paired' values indicate that the intervention were effective in post-test of Experimental group. A study by Adam K, Oswald I concluded that a combination of relaxation and imagery is effective in improving the sleep of the critically ill adult, with men responding immediately to relaxation and imagery with improved sleep, and women taking more time to respond to the intervention<sup>7</sup>. Gamaldo CE et.al stated that Critically ill patients are deprived of sleep and its potential healing qualities, The results support that back massage, as an alternative or adjunct to pharmacological treatment, is a clinically effective nursing intervention for the promotion of sleep.<sup>8</sup>

The chi-square has shown the association with the variables like Age<sup>9,10,11</sup>, Gender<sup>9,10</sup>, Monthly family income,<sup>9,11</sup> Diseases that affect the sleep, class of obesity, Medications and Cognitive difficulties. Kaye AD et.al conducted a study: Who sleeps better? Socioeconomic differences in reports of sleep disturbance. Results indicate that individuals with higher socioeconomic status and

education levels sleep better than those of lower socioeconomic status. Findings show that 26% of individuals earning less than \$10,000 a year reported sleep problems, whereas only 8% of those earning \$75,000 or more annually reported sleep problems. People who were employed reported the best sleep, followed by those who were retired, homemakers and students. Of the individuals who were unemployed for less than a year, 32% reported sleeping problems; 52 % of people who were unable to work due to injury, illness or disabilities reported sleep problems. Married people slept better than single individuals; those who were separated had the worst sleep.<sup>3</sup>

#### V. LIMITATIONS

- The study was limited to the NRI General Hospital, chinakakani, Guntur district, Andhra Pradesh; Which imposes limits to any larger generalization.
- Confined to critically ill elderly between the ages 60-80 years admitted in ICU.
- To selected independent variables
- To small sample, thus restricting the statistical inferences of results..
- To a period of 6 weeks due to time constraints in M.sc (N) programme. But this study certainly can form a base for further investigation.
- To four days of treatment, no follow up was made of the selected samples.

#### VI. NURSING IMPLICATIONS

The study findings had thrown new light on the implications of the future. The findings of the study had implications in several areas of nursing profession like Nursing practice, Nursing education, Nursing administration and Nursing research.

##### A. Implications of the present study in Nursing Practice:

- The result of the study would help the Nurse to enlighten their knowledge on importance of effective Therapeutic back massage on the Quality of sleep.
- The nurses working in Intensive care units take Therapeutic back massage as one of the basic needs of critically ill elderly.
- The nurses working in Intensive care units should be in adequate number to impart the education to client and family members.
- The Nurse should be skilled enough to assess the Quality of sleep by using Pittsburgh sleep quality index scale, Groningen sleep quality scale, Epworth sleepiness scale, among critically ill elderly and also she need to assess the effect of Therapeutic back massage.

##### B. Implications of the present study in Nursing Education:

- Nursing students and staff should be trained properly to update their knowledge and skills on quality of sleep among critically ill elderly admitted in Intensive care units.
- Nurse Educators can keep the Therapeutic back massage as a clinical requirement for the students.
- Nurse Educator has to arrange the training programs for students and staff nurses should allow them to assess the

quality of sleep and provide Therapeutic back massage under supervision.

- Community health nursing curriculum need to be strengthened to enable nursing students to develop skills and understand the need for implication of Therapeutic back massage on the quality of sleep among elderly in community area by developing appropriate audio visual aids.

#### C. Implications of the present study in Nursing Administration:

- The nursing administration should take an initiative to formulate policies that would include all nursing staff to be actively involved in training programs in Hospitals, Community, Government and private Institutions.
- The nurse administrator should provide the equipment needed for Therapeutic back massage to all critical care units.
- The administrator should organize in-service training and orientation programs involving the nurses of all the departments.

#### D. Implications of the present study in Nursing Research:

- The researcher found that Therapeutic back massage was effective on the quality of sleep among critically ill elderly.
- Helps the nurse researcher to develop in-depth teaching module to conduct research on different aspects of quality of sleep among critically ill elderly in different settings.
- Helps the nurse researcher to conduct the study in different hospital settings.
- Helps the nurse researcher to conduct a comparative study on sleep quality and sleep pattern of critically ill elderly.

## VII. RECOMMENDATIONS

Based on the findings of the study the following recommendations are made:

- A similar study can be conducted to assess the knowledge on staff nurses regarding therapeutic back massage.
- An experimental study can be conducted in different hospital Intensive care units.
- Providing Therapeutic back massage in 20 minutes among critically ill elderly before going to sleep, improve the Quality of sleep.
- By using quality of sleep scale like Pittsburgh sleep quality index, Groningen sleep quality scale, Epworth sleepiness scale we can assess the quality of sleep among intensive care units patients on 1st day among critically ill elderly.

*Ethical clearance has been obtained from institutional ethical committee*

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