

# Effectiveness of Warm Water Foot Bath on Quality of Sleep among Hospitalized Patients

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## ABSTRACT

Sleep is the basic human need; it is universal biological process common to all the people. Sleep provides healing and restorations. Achieving the best possible sleep quality is important for the promotion of good health as well as the recovery from illness. Ill clients often require more sleep and rest than healthy client. Changes to sleep patterns which affect quality of sleep or disrupt a normal sleep cycle are known as sleep disturbances. It is sleep disturbances that have an adverse effect on health and quality of life. In this present study Pre- experimental study design was used to assess the effectiveness of warm water foot bath on quality of sleep among hospitalized patients at SGRD hospital, Vallah, Amritsar. 60 female patients with disturbed sleep during hospitalization was assessed by Groningen sleep quality scale (GSQS) and were selected by using convenient sampling technique. Warm water foot bath was given to the hospitalized patients with disturbed sleep before going to bed at night for five consecutive days. The quality of sleep was assessed on the six day morning by using Groningen sleep quality scale (GSQS). The findings of the study shows that in pre-test 38 (63.3%) of patients had poor quality of sleep and 22 (36.7%) had fair quality of sleep. In post-test 12 (20.0%) of patients had poor quality of sleep, 30 (50.0%) had fair quality of sleep and 18(30.0%) had good quality of sleep. On sixth day the pre-test Mean  $\pm$ S.D. was  $9.15 \pm 2.291$  and post-test Mean  $\pm$ S.D. was  $6.78 \pm 2.768$ . The improvement was statistically tested by paired-‘t’ test value (6.552) and the result was found to be significant at ‘p’ value  $<0.01$  level. Disturbed Sleep pattern is very common among hospitalized patients which may lead to various health problems. To treat sleeplessness, warm water foot bath is considered to be one of the effective methods used to induce sleep among hospitalized patients.

**Keywords:** warm water foot bath, quality of sleep.

## INTRODUCTION

Sleep is the basic human need; it is universal biological process common to all the people. Human spend about one third of their lives asleep. We require sleep for more reasons: to cope with daily stresses, to prevent fatigue, to conserve energy, to restore the mind and body, to enjoy life more fully. 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. <sup>[1]</sup>

Sleep provides healing and restorations. Achieving the best possible sleep quality is important for the promotion of good health as well as the recovery from illness. Ill clients often require more sleep and rest than healthy client. Sleep is a cyclical physiological process that alternates with longer periods of wakefulness. The sleep wake cycle influences and regulates

physiological function and behavioural responses. [2]

Normal human sleep is divided into non-rapid eye movement (NREM) and rapid eye movement (REM) sleep. The sleep cycle starts with a period of NREM sleep. Rapid eye movement sleep occurs after a short period of NREM sleep. This alteration between NREM and REM takes place about 4-5 times during a normal night's sleep. The first REM period may be less than 10 minutes in duration, while the last one may exceed 60 minutes. Awakening after a full night's sleep is usually from REM sleep. The sleep pattern changes as the child grows. Polycyclic sleep pattern of the new-born changes to a monocyclic adult pattern. In new-borns, the total sleep duration can be 14 to 16 hours, in a day of 24 hours. [2]

Changes to sleep patterns which affect quality of sleep or disrupt a normal sleep cycle are known as sleep disturbances. It is sleep disturbances that have an adverse effect on health and quality of life. [3]

Sleep is a complex physiologic and cyclic phenomenon influenced by an individual's biologic clock that regulates not only sleep but also levels of alertness throughout the day. During illness there may be either actual a potential sleep disturbance and this lack of sleep extends the time to recover from illness. Therefore sick patient rest and sleep may be considered as one of the important components of their therapy. [4]

Costa ShíntiaViana da (2009-2010) conducted an exploratory, cross sectional study was conducted in Sao Paulo, Brazil. The aim of this study was to identify factors that interfere with the sleep quality of patients admitted to a university hospital in a city. Study using non-probability sampling. Participants were 117 patients hospitalized for at least 72 hours in stable clinical condition. The data were collected with an identification questionnaire and the Factors Affecting Sleep Quality (FASQ) questionnaire. Data processing was performed with descriptive statistics; each

item of the FASQ underwent a test and a retest. The factors most often reported were waking up early (55.6%), disrupted sleep (52.1%), excessive lighting (34.2%), receipt of care by nursing staff (33.3%) and organic disorders such as pain and fatigue (26.5%). It is suggested that nurses should plan interventions to modify factors that require intense noise and lighting at night in order to reduce disruption and, consequently, sleep deprivation among patients. [5]

The prevalence of insomnia increases with age. In a survey of more than 9000 elderly adults 65 years and older, 28% complained of difficulty initiating sleep, and 42% reported difficulty in both initiating and maintain sleep. In a study done a general practice more than 50% of elderly patient reported insomnia, 80% of those reporting than insomnia were chronic condition. Women complained of insomnia more than man. [6]

#### **Statement Problem:**

A Pre-experimental study to assess the effectiveness of warm water foot bath on quality of sleep among hospitalized patients at SGRD Hospital, Vallah, Amritsar.

#### **Objectives of the Study:**

- To assess the quality of sleep among hospitalized patients.
- To assess the effectiveness of warm water foot bath on quality of sleep among hospitalized patients.
- To associate the findings of quality of sleep with selected demographic variables.

#### **Hypotheses:**

H1: There will be a significant effect of warm water footbath on quality of sleep among Hospitalized patients.

## **MATERIALS AND METHODS**

### **Research Deign**

A pre-experimental design, one group pretest – posttest design, was adopted for this study

O<sub>1</sub> -- Pretest

X -- Intervention (Warm water foor bath.)

O<sub>2</sub> -- Posttest

**Variables in the Study**

Independent variable: Warm water foot bath.

**Dependent variable:** Quality of sleep.

**Demographic variables:** The demographic variables in the study are age occupation, diagnosis of patient, duration of hospitalization, any drink before going to bed.

**Setting of the Study**

The study was conducted at SGRD Hospital, Vallah, Amritsar. It is 750 bedded hospital consists of separate medical and surgical department, gynae department, pediatric department and oncology department.

**Population**

The population for the present study was 60 male and female hospitalized patients having sleep problem in medical wards.

**Sampling Technique**

Convenient sampling technique was adopted to select the participants for this study.

**Criteria for sample selection**

**Inclusion criteria:**

- Hospitalized male and female’s patient with 19-60years of age.
- The patients who are admitted in the hospital for more than 2 days.
- Who are able to communicate in Punjabi, Hindi and English.
- Who are willing to participate in the study.

**Exclusion Criteria:**

- Patients who are under sedation before bed time.
- Patients with amputation of feet/foot.
- Patients with lower limbs injury.
- Patients who are paralysed.
- Hospitalized patient with <19year of age and >60 years of age.
- Patients with substance abuse

**Description of the Tool**

Part A: Socio demographic Profile

It includes personal information about hospitalized patients i.e. age,

occupation, duration of hospitalization, diagnosis of patient, before going to bed.

Part B: Groningen sleep quality scale (GSQS)

It consists of 15 statements which answered by true or false to measure the subjective quality of sleep. The quality of sleep was ranged as good, fair and poor. A higher score indicates poor quality of sleep.

**Description of the Intervention**

The intervention used by the investigator is administration of warm water foot bath before going to bed for 5 days to hospitalized patients having sleep problem assessed by Groningen sleep quality scale. The immersion of feet up to 10cm from ankle into warm water at 39-41 degree Celsius for 20 minutes duration.

**RESULTS ANF DISCUSSION**

**Table.1 frequency and distribution of demographic variables of hospitalized patients**

S.No	Demographic profile	Frequency (f)	Percentage (%)
1.	Age (in year)		
a.	21-30	11	18.3
b.	31-40	21	35.0
c.	41-50	18	30.0
d.	51-60	10	16.7
2.	Occupation		
a.	Labour	10	16.7
b.	Self/private employee	27	45.0
c.	Unemployee/Housewife	17	28.3
d.	Government employed	06	10.0
3.	Diagnosed		
a.	Cancer	04	6.7
b.	Neurological disorder	01	1.7
c.	Gastrointestinal disorder	15	25.0
d.	Endocrine disorder	09	15.0
e.	Nephrological disorder	07	11.7
f.	Cardiovascular disorder	11	18.3
g.	Respiratory disorder	13	21.7
4.	Duration of hospitalization (in days)		
a.	2-5	11	18.3
b.	6-10	33	55.0
c.	11-15	14	23.3
d.	16-20	02	3.3
5.	Drink before sleep		
a.	Milk	26	43.3
b.	Coffee	02	3.3
c.	Tea	01	1.7
d.	Water or anything else	04	6.7
e.	Nothing	27	45.0

The effectiveness of warm water foot bath on quality of sleep among hospitalized patients shows that the pre-test Mean ±S.D. was 9.15 ± 2.291 and post-test Mean ±S.D. was 6.78±2.768. The

improvement was statistically tested by paired 't' test value (6.552) and the result was found to be significant at 'p' value <0.01 level of significance.

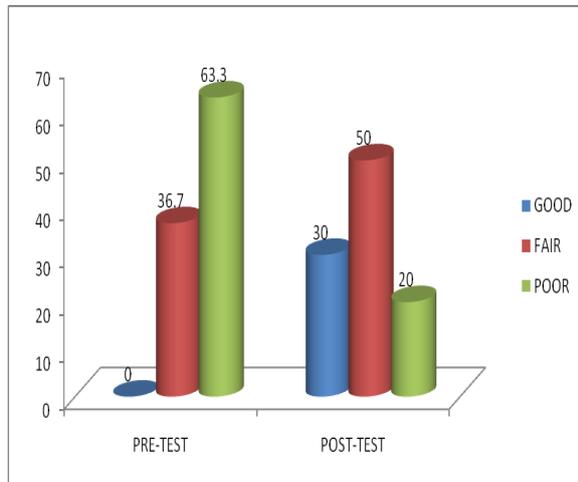


Fig 1: Pre-test & Post-test quality of sleep among hospitalized patients

The association between pre-test and post-test quality of sleep with selected demographic variables was tested by using Chi-square test shows that there is no significant association between the pre-test and post-test quality of sleep among hospitalized patients with demographic variables such as age, occupation, diagnosis, duration of hospitalization, have before going to bed.

## CONCLUSION

Sleeplessness is one of the most common problems among hospitalized

patients as it may result in various health problems. Warm water foot bath can improve the quality of sleep and induce sleep in hospitalized patients and can obviously reduce the insomnia which also elevates the nursing satisfaction of the patients.

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