

## “EFFECT OF FOOTBATH ON QUALITY OF SLEEP AMONG THE ELDERLY PATIENTS ADMITTED IN HOSPITAL.”

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### ABSTRACT

**Background:** A man's life is normally divided into five stages namely: infancy, childhood, adolescence, adulthood and old age. In each of these stages an individual's finds himself in different situations and faces different problems. Old age is viewed as an unavoidable, undesirable and problem ridden phase of life. Problems of aging usually appear after the age of 65 years. Sleep is a physiological mechanism of regaining energy and recovering from fatigue, and it has an important role in people's health. Decreasing core body temperature before and during sleep is associated with dilation in peripheral blood vessels, and it may drive heat from core body to peripheral blood vessels. Therefore, a footbath with warm water can increase blood and peripheral body temperature without increasing or decreasing core body temperature and it can increase sleep quality and ease sleep onset. Aims: To assess the effect of footbath on quality of sleep among the elderly patients admitted in hospital Method: A pre-experimental research design was carried out for this study. 50 Patients were selected using purposive sampling technique based on inclusion and exclusion criteria. A modified Pittsburgh sleep quality index tool was used for this study to assess sleep quality in elderly patients. Descriptive and inferential statistics such as mean, standard deviation, frequency, T- value, chi-square test was used to analyses the data. Results: The finding of the study concludes that majority of patient that is 84% belongs to moderate sleep quality among elderly patients admitted in Dhiraj hospital, Vadodara. The effectiveness regarding the footbath therapy on quality of sleep among elderly patients showed that mean of pre-test is 12.46 and post-test is 4.26, standard deviation of pre-test is 1.919 and post-test is 1.135, and t value is 28.038 at degree of freedom 49 which was statistically significant at  $p > 0.05$  level. The association between quality of sleep with occupational socio demographic variable was 4.26 that is significant association chi square at  $p < 0.05$ . this revealed that the footbath therapy is effective in improving the quality of sleep among the elderly patients admitted in hospital.

**KEYWORDS:** footbath, quality of sleep, elderly patients

### INTRODUCTION

“The worst thing in the world is to try to sleep and not to.”

- F. Scott Fitzgerald

Health is wealth. To keep body in good health is a duty otherwise we shall not be able to keep our mind strong & clear. So health is something that should be taken into serious consideration and also it become one of most concerned issues of any human being (Buddha 2010).<sup>1</sup>

A man's life is normally divided into five stages namely: infancy, childhood, adolescence, adulthood and old age. In each of these stages an individual's finds himself in different situations and faces different

problems. Old age is viewed as an unavoidable, undesirable and problem ridden phase of life. Problems of aging usually appear after the age of 65 years.<sup>2</sup>

Sleep is a physiological mechanism of regaining energy and recovering from fatigue, and it has an important role in people's health.<sup>3</sup>

The age pyramid of world population is changing. The world's elderly population (above 60 years of age) was 10% of the total population in 2000, 11.0% in 2010, and it is estimated that it will be 16.6% in 2030. According to the study by Cotroneo et al., sleep disturbances are the third most common problem after headache and digestive disorders, and it is a cause of reference to doctors among old people.<sup>4</sup>

Sleep onset or its renewal are common disorders among the elderly. Eser et al., found that 60.9% of elderly people have sleeping difficulties.<sup>5</sup>

The effect of many non-pharmacological methods on the sleep quality in the elderly has been investigated. For example, the studies of Chan et al., about the effects of music, Kirisoglu and Guilleminault about effects of light, de Castro Toledo Guimaraes et al., about effects of exercise, and Reza et al., study about effects of massage.<sup>6</sup> Footbath is a nursing intervention and non-pharmacological method that can help the elderly to relax and have a good feeling, but few studies have examined it in this aspect.<sup>7</sup>

Skin temperature rhythm and core body temperature have a functional relationship with sleep and wakefulness cycle. Rectal temperature increases after waking up and its peak is in the afternoon. There is a negative relationship between core body temperature and sleep tendency. When core body temperature decreases, sleep onset is more possible. Decreasing core body temperature before and during sleep is associated with dilation in peripheral blood vessels, and it may drive heat from core body to peripheral blood vessels. Therefore, a footbath with warm water can increase blood and peripheral body temperature without increasing or decreasing core body temperature and it can increase sleep quality and ease sleep onset.<sup>8,9</sup>

**MATERIALS AND METHODS**

A descriptive research design was carried out for this study. The study was carried out on 50 Patients. Patients were selected using Non- Probability Purposive-sampling technique. A check list was used to assess the effect of footbath in patients. Descriptive and inferential statistics such as mean, standard deviation, chi-square test , T-Test value was applied to analyse the data.

**STATISTICS**

- Descriptive statistics is used for to assess the frequency and percentage
- Inferential statistics like Chi Square test used to find association
- To examine the effectiveness of footbath therapy on quality of sleep among elderly patients that is T-value

**Section 1: The sleep quality among elderly patients admitted in the hospital.**

**Table 1 : Frequency and percentage distribution of sleep quality among elderly**

**[n =50]**

Sleep quality	Frequency	Percentage
Mild sleep quality	0	0%
Moderate sleep quality	42	84%
Severe sleep quality	8	16%

Table 2: Shows that majority of patient that is 84% belongs to moderate sleep quality

**Section 2: To examine the effectiveness of footbath therapy on quality of sleep among elderly patients that is T-value [n =50]**

	MEAN	STANDARD DEVIATION	STANDARD ERROR	T-VALUE	DF	SIGNIFICANCE DIFFERENCE
PRE-TEST	12.46	1.919	0.26	28.038	49	<b>Significant</b>
POST TEST	4.26	1.135	0.17			

Table 2: This table shows that mean of pre-test is 12.46 and post-test is 4.26, standard deviation of pre-test is 1.919 and post-test is 1.135, and t value is 28.038 at degree of freedom 49 which was statistically significant at p>0.05 level.

**Section 3: To find out the association between quality of sleep with selected socio demographic variable of elderly age patients that is chi –square value**

**Table-3: This table shows to find out the association between quality of sleep with selected socio demographic variable of elderly age patients that is chi –square value [n =50]**

Sr.no	Variables	Moderate	Severe	X <sup>2</sup>	D.F	Level of significance
<b>1</b>	<b>Occupation</b>			<b>4.26</b>	<b>1</b>	<b>Significant</b>
	Employed	31	5			
	Unemployed	11	3			

The table depicts that there is a significant association between Occupation and sleep quality with chi square value 4.26 at p<0.05. The other socio-demographic variables are not significant at p<0.05.

**DISCUSSION**

**The first objective was to evaluate the sleep quality among elderly patients admitted in the hospital**

In our present study shows that highest age category belongs to 76 to 80 that is 60%, highest gender category belongs to male that is 70%, highest education category belongs to high school that is 32%, highest habit category belongs to tobacco that is 48%, highest co-morbid illness belongs to diabetes mellites that is 28%. And shows that majority of patient that is 84% belongs to moderate sleep quality among elderly patients admitted in Dhiraj hospital, Vadodara.

This finding of the study was supported by a study conducted A Descriptive-Analytical Study on Sleep Quality and Its Contributing Factors Among Elderly People in Birjand, Iran(2017). In this study total samples are 284 elderly people aged sixty or more. By using Pittsburgh sleep quality index. The result was mostly female (59.3%) and aged on average. Around 69% of them had good sleep quality.

That might be due to difference in the geographical location.

**The second objective was to examine the effectiveness of footbath therapy on quality of sleep among elderly patients admitted in the hospital.**

In our present study shows that mean of pre-test is 12.46 and post-test is 4.26, standard deviation of pre-test is 1.919 and post-test is 1.135, and t value is 28.038 at degree of freedom 49 which was statistically significant at p>0.05 level.

This finding of the study was supported by a study conducted an experimental study to Assess the Effectiveness of Warm Foot Bath on Sleep Time among Cancer Patients with Insomnia in Nath Lal Parekh Cancer Hospital at Rajkot

(2017). In this study 30 samples are selected and data was collected through general sleep disturbance scale. ANOVA test was used to assess the effectiveness of warm foot bath on sleep time among cancer patients with insomnia. The obtained value was 81.5 that was very highly significant at P level  $>0.001$ . The findings of the study reveals that warm foot bath helps in improving sleep onsettime.

### **The third objective was to find out the association between quality of sleep with selected socio demographic variable of elderly patients admitted in the hospital.**

In our present study shows that there is a significant association between Occupation and sleep quality with chi square value 4.26 at  $p < 0.05$ . The other socio-demographic variables not significant at  $p < 0.05$ .

This study was not correlated by a study conducted to improve the quality of sleep among elderly. The finding of the study shows that there is no significant association between the quality of sleep with selected demographic variables in the control group and the experimental group. Hence the hypothesis H2 is rejected.

### **SUMMARY**

The study intended to assess the effect of footbath on quality of sleep among the elderly patients admitted in hospital. The study was conducted among 50 elderly patients admitted in Dhiraj hospital, Vadodara.

Research design used for this study was one group pre-test and post-test design. Purposive sampling technique was used. Data analysis was carried out using descriptive and inferential statistics manually by the researcher themselves. The finding of the study concludes that majority of patient that is 84% belongs to moderate sleep quality among elderly patients admitted in Dhiraj hospital, Vadodara. The effectiveness regarding the footbath therapy on quality of sleep among elderly patients showed that mean of pre-test is 12.46 and post-test is 4.26, standard deviation of pre-test is 1.919 and post-test is 1.135, and t value is 28.038 at degree of freedom 49 which was statistically significant at  $p > 0.05$  level. The association between quality of sleep with occupational socio demographic variable was 4.26 that is significant association chi square at  $p < 0.05$ . This revealed that the footbath therapy is effective in improving the quality of sleep among the elderly patients admitted in hospital.

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