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## “A STUDY TO ASSESS THE EFFECTIVENESS OF HOT WATER FOOTBATH THERAPY ON THE QUALITY OF SLEEP AMONG ELDERLY, STAYING IN SELECTED OLD AGE HOME AT CHHATTISGARH.

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### ABSTRACT

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. A human life is divided into five main stages namely infancy, childhood, adolescence, adulthood and old age. In each of these stages an individual find himself in different situations and face difficult problems. The old age is not without any problems. In elderly people, the physical strength deteriorates, mental stability diminishes money power becomes break coupled with negligence from younger generation. Ageing is natural process. Due to improved health care services there is decreased infertility and mortality and these leads to increased geriatric population both in developed as well as developing countries. India's population is likely to increase by 60% between 2000 and 2050 but the number of elders, who attained 60 years of age, will shot up by 360 percentages. India has around 100 million elderly at present and number is expected to increase 323 million, constituting 20% of total population by 2050. Nearly 5-7% of elderly patients who are attending primary care have a primary complaint of sleeping problems. The active elderly person who suddenly losses energy and they become easily to prone sleep disturbance. The number of persons above the age of 60 years is fast growing especially in India. India is second most popular country in world has 76.6 million people at over age of 60 year. **Pre experimental design** [non-randomized control group] i.e. “one group pre-test, post-test research design” was used for assessing the effectiveness of hot water footbath therapy on the quality of sleep among elderly, staying in old age home The reliability of the tool was calculated using Karl Pearson methods. The tool was found to be reliable ( $r=0.8$ ) for data collection. The data was collected after taking formal approval from principal Vapi Purpose of the study was explained to the group and confidentiality was assured. The data collected was analysed using descriptive and inferential statistics in terms of frequency, mean, standard deviation, and associated by chi square test. The findings related to effectiveness of **hot water footbath therapy on the quality of sleep among elderly** The post-test score (13.5), SD (1.8) is higher than the pretest mean score is (7.8), SD(1.6) and t value = 7.5 obtained, which is highly significant at  $P=0.05$  calculated value is greater than the table value, hence the  $H_0$  hypothesis is rejected and  $H_1$  alternative hypothesis is accepted.

**Key words:** effectiveness, hot water bath therapy, quality of sleep, elderly, old age

## BACKGROUND OF THE PROBLEM

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 .

A human life is divided into five main stages namely infancy, childhood, adolescence, adulthood and old age. In each of these stages an individual find himself in different situations and face difficult problems. The old age is not without any problems. In elderly people, the physical strength deteriorates, mental stability diminishes money power becomes break coupled with negligence from younger generation.

Ageing is natural process. Due to improved health care services there is decreased infertility and mortality and these leads to increased geriatric population both in developed as well as developing countries. India's population is likely to increase by 60% between 2000 and 2050 but the number of elders, who attained 60 years of age, will shot up by 360 percentages. India has around 100 million elderly at present and number is expected to increase 323 million, constituting 20% of total population by 2050. Nearly 5-7% of elderly patients who are attending primary care have a primary complaint of sleeping problems. The active elderly person who suddenly losses energy and they become easily to prone sleep disturbance. The number of persons above the age of 60 years is fast growing especially in India. India is second most popular country in world has 76.6 million people at over age of 60 year.

## NEED OF THE STUDY

Sleep is the basic human need; it is a universal biological process common to all the people. 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.

Basically the Older adults (65+) have to take 7-8 hours of sleep. Nearly half of men and women over the age of 65 say they have at least one sleep problem. With age, many people get insomnia or have other sleep disorders. It's true that as we get older, our sleep patterns change. In general, older people sleep less, wake up and go back to sleep more often, and spend less time in deep sleep or dreaming than younger people. But at any age, you still need quality rest to be healthy.

## STATEMENT OF THE PROBLEM

“A study to assess the effectiveness of hot water footbath therapy on the quality of sleep among elderly, staying in selected old age home at Chhattisgarh.

## OBJECTIVES OF THE STUDY

1. To assess the quality of sleep among elderly people.
2. To assess the effectiveness of hot water foot bath therapy on quality of sleep among elderly people.
3. To find the association between quality of sleep among the elderly with their selected socio-demographic variables.

## OPERATIONAL DEFINITIONS

- **Effectiveness**

It refers to the significant improvement of the quality of sleep after providing the hot water footbath therapy measured by Pittsburgh Sleep Quality Index.

- **Hot water footbath therapy**

It is consist of placing the feet in hot water for 15-20 minutes with the temperature ranging from 100-115 degree F. This treatment can be given with the patient sitting in a chair or lying down.

- **Quality of Sleep**

A condition of body and mind which typically recurs for several hours every night, in which the nervous system is inactive, the eyes closed, the postural muscles relaxed, and consciousness practically suspended.

- **Elderly**

It is defined as a chronological age of 60 years old or older than this age.

- **Old age home:** A residence where old people live and are cared for when old age prevents them from looking after themselves in their own homes.

### **ASSUMPTIONS**

A study assumed that:

- The elderly people may have decreased quality of sleep.
- Hot water footbath therapy will help the elderly people to improve the quality of sleep.

### **DELIMITATIONS**

The study is limited to,

- The sample size is limited to 60 elderly people residing at old age home.
- The period of data collection of 4 weeks.
- The study is limited to Old age home at south Gujarat.
- Those who are willing to participate in the study.

### **HYPOTHESIS**

- **H1 :** There will be a significant improvement in the quality of sleep after hot water foot bath therapy among elderly staying in selected old age home.
- **H2 :** There will be a significant association between qualities of sleep with their selected socio-demographic variables of elderly staying in selected old age home.

### **SECTION-I**

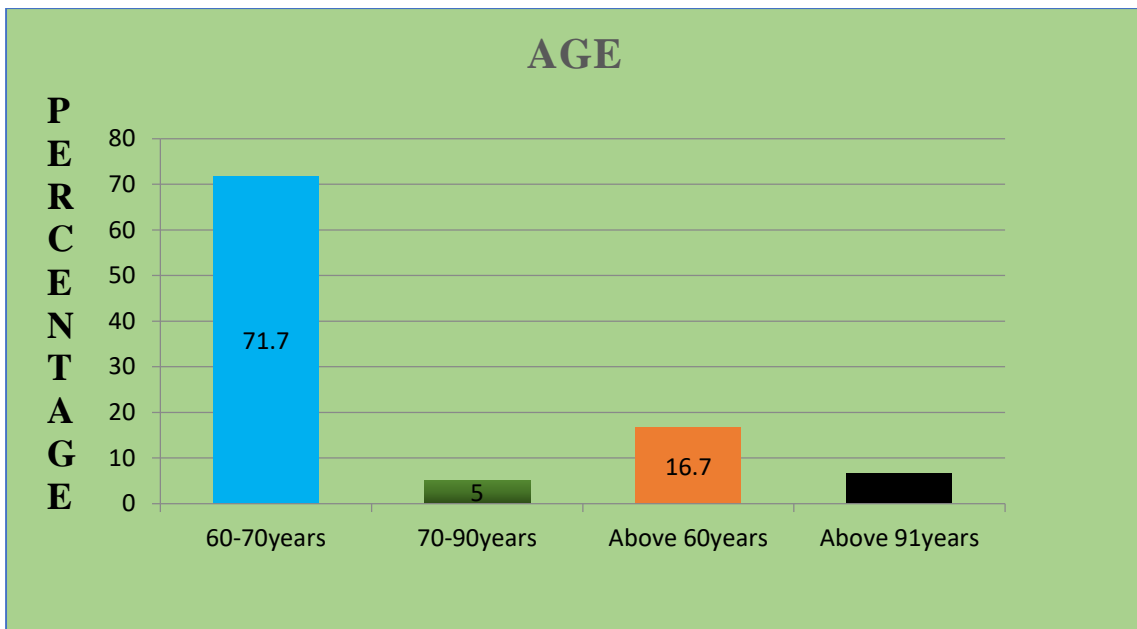
#### **DISTRIBUTION OF SUBJECT ACCORDING TO SOCIO DEMOGRAPHIC VARIABLE BY USING FREQUENCY AND PERCENTAGE.**

**TABLE No. 1**

**Distribution of subjects according to Age**

**N= 60**

<b>S.NO</b>	<b>AGE</b>	<b>FREQUENCY (f)</b>	<b>PERCENTAGE (%)</b>
1.	60-70years	43	71.7
2.	70-90years	3	5
3.	Above 60years	10	16.7
4.	Above 91years	4	6.6
	Total	60	100



**Fig no 3** Bar diagram showing percentage distribution of sample according to age

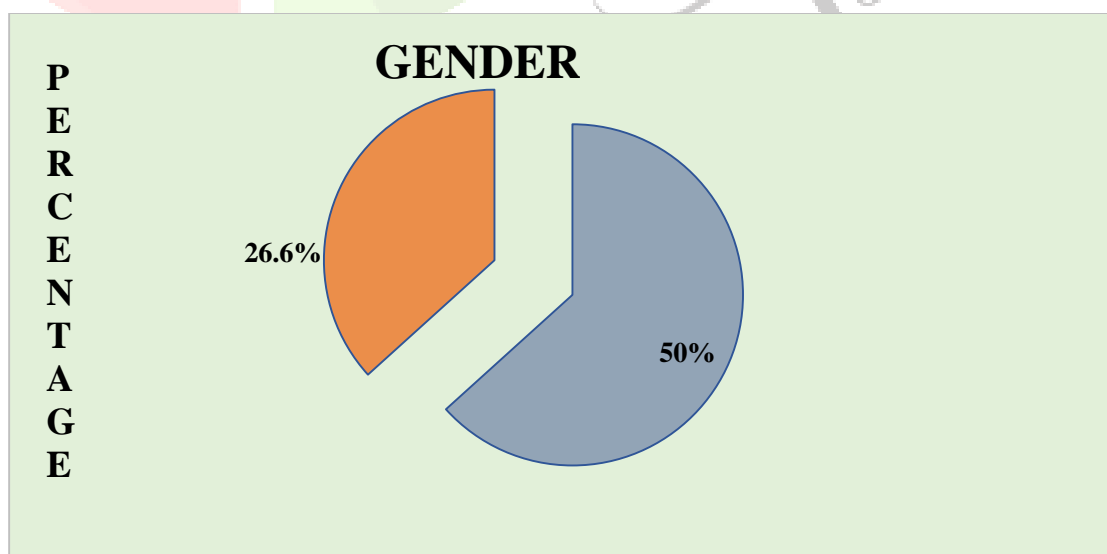
**Table 1 and figure 3:** It shows majority of subjects 43(71.7%) were having 60-70years of age, 10(16.7%) were having above 60years of age 4(6.6%) were having above 91years and 3(5%) were having 70-90years of age.

**TABLE No. 2**

**Distribution of subjects according to Gender**

N=60

S.NO.	GENDER	FREQUENCY (f)	PERCENTAGE (%)
1.	Male	38	63.3
2.	Female	22	36.7
	<b>Total</b>	<b>60</b>	<b>100</b>



**Figure no. 4** Pie diagram showing the percentage distribution of the Gender

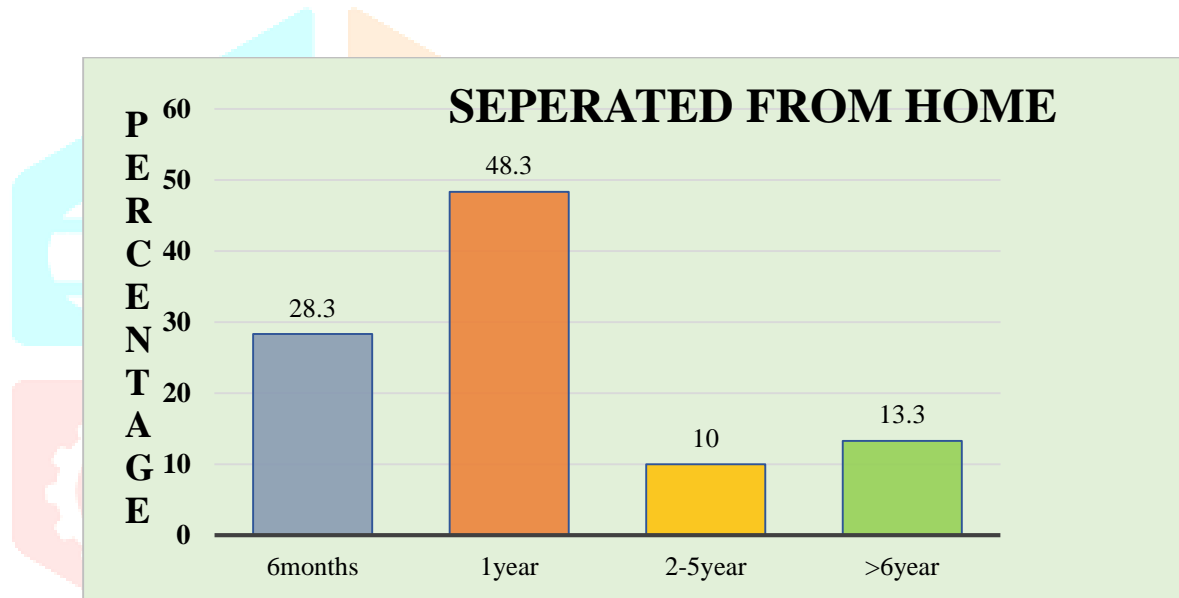
**Table 2 and figure 4**,It shows that majority of subjects 38 (63.3%) were male and 22(36.7%) were female.

**TABLE No. 3**

**Distribution of subjects according to separated from home**

N=60

S.NO.	SEPERATED FROM HOME	FREQUENCY (f)	PERCENTAGE (%)
1.	6months	17	28.3
2.	1year	29	48.3
3.	2-5year	6	10
4.	>6year	8	13.3
	<b>Total</b>	<b>60</b>	<b>100</b>



**Figure no. 5** Clustered column diagram showing the percentage distribution of separated from home.

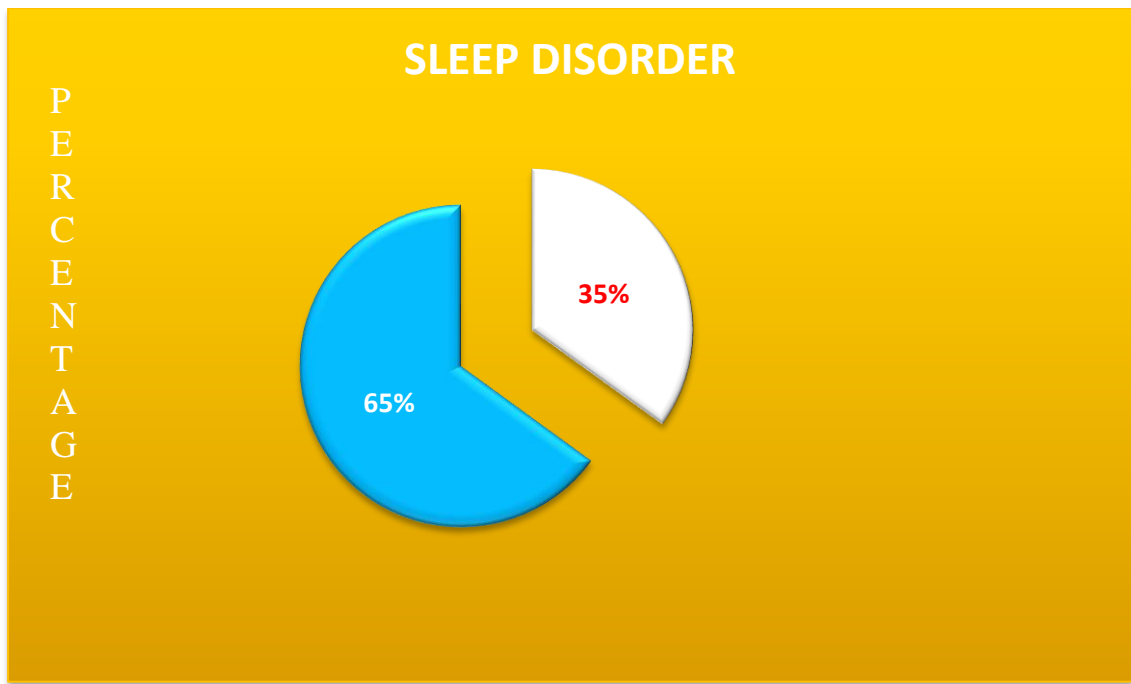
**Table 3 and figure 5**,It shows that majority of subjects 29(48.3%) were separated from home from 1year, 17(28.3%) were separated from home from 6months, 6(10%) were separated from home from 2-5year and 8(13.3%) were separated from home from >6year.

**TABLE No. 4**

**Distribution of subjects according to sleep disorder**

N=60

S.NO.	SLEEP DISORDER	FREQUENCY (f)	PERCENTAGE (%)
1.	Yes	21	35
2.	No	39	65
	<b>TOTAL</b>	<b>60</b>	<b>100</b>



**Fig 6,** Pie diagram showing percentage distribution of sample according to sleep disorder

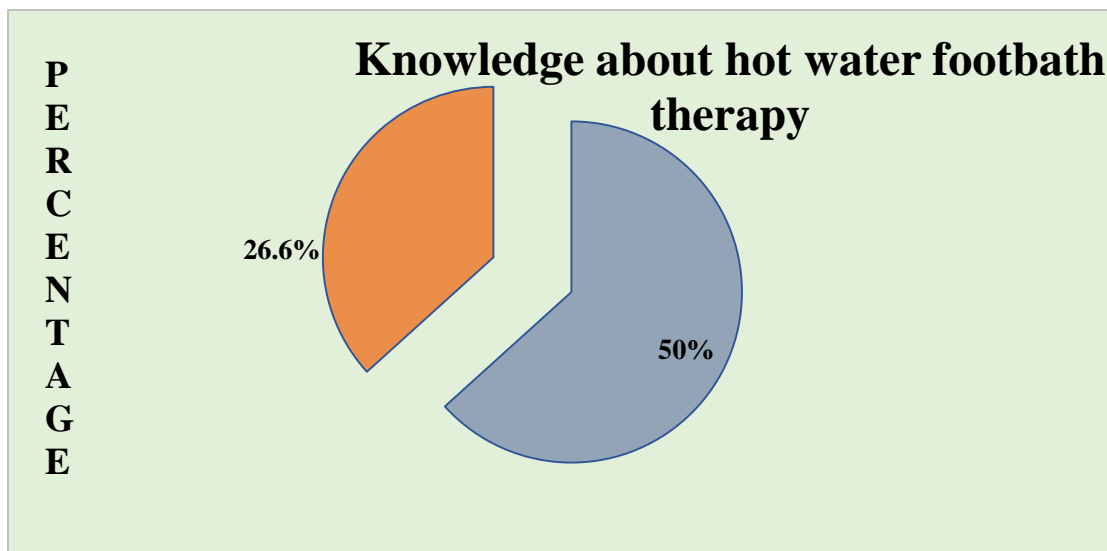
**Table 4 and figure 6:** It shows majority of subjects 39(65%) were not having sleep disorder, where as 21(35%) were having sleep disorder.

**TABLE No. 5**

**Distribution of subjects according to knowledge about hot water footbath therapy**

N=60

S.NO.	Knowledge about hot water footbath therapy	FREQUENCY (f)	PERCENTAGE (%)
1.	Yes	38	63.3
2.	No	22	36.7
	<b>Total</b>	<b>60</b>	<b>100</b>



**Figure no. 7** Pie diagram showing the percentage distribution of the knowledge about hot water footbath therapy

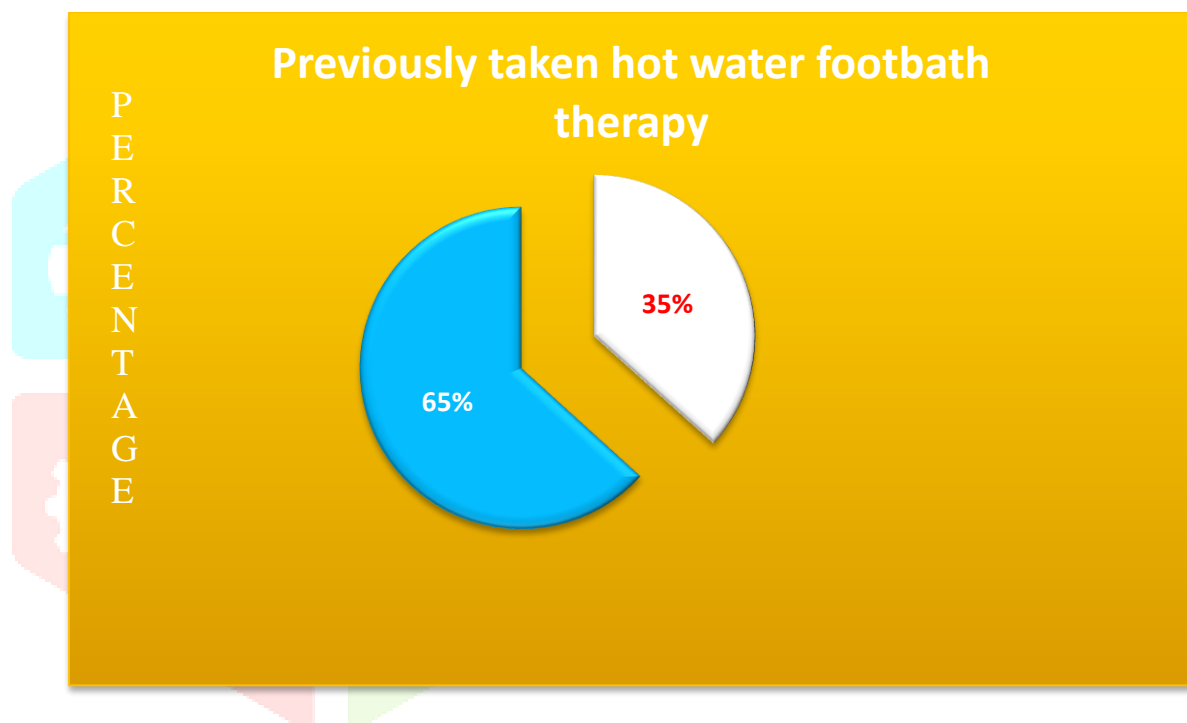
**Table 5 and figure 7,**It shows that majority of subjects 38 (63.3%) were having previous knowledge and 22(36.7%) were not having previous knowledge.

**TABLE No. 6**

**Distribution of subjects according to previously taken hot water footbath therapy**

**N=60**

S.NO.	Previously taken hot water footbath therapy	FREQUENCY (f)	PERCENTAGE (%)
1.	Yes	22	36.7
2.	No	38	63.3
	<b>TOTAL</b>	<b>60</b>	<b>100</b>



**Fig 8,**Pie diagram showing percentage distribution of sample according to previously taken hot water footbath therapy

**Table 6 and figure 8:** It shows majority of subjects 39(65%) were not taken hot water footbath, where as 21(35%) were taken hot water footbath.

SECTION –II

TABLE 7

Over all analysis of quality of sleep among elderly

N=60

S.NO	CATEGORY	PRE-TEST			POST-TEST						
		(f)	(%)	Mean	Mean score %	SD	(f)	(%)	Mean	Mean score %	SD
1.	Mild sleep problem	12	20	7.5	12.5	0.6	60	100	90	32.8	1.8
2.	Moderate sleep problem	42	70	14.8	24.7	1.1	0	6	10	25	1.4
3.	Severe sleep problem	6	10	19.8	33	1.0	0	0	0	0	0
	<b>TOTAL</b>	<b>60</b>	<b>100</b>	<b>14.0</b>	<b>23.4</b>	<b>2.7</b>	<b>60</b>	<b>100</b>	<b>17.3</b>	<b>28.9</b>	<b>1.6</b>

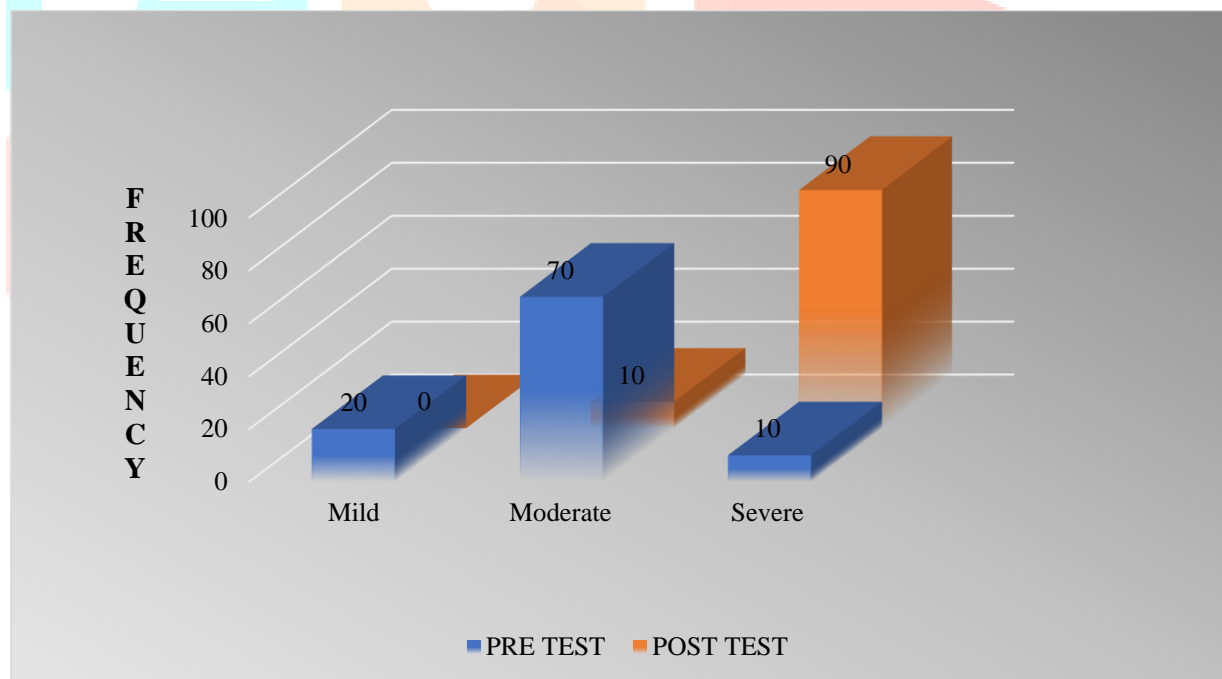


Fig no 9: Multiple bar diagram showing percentage distribution of overall analysis of pre test and post test quality of sleep of by using frequency and percentage (%).

Table no7, fig no: 9, shows pre test and post test quality of sleep among elderly. In pre-test, 12(20%) are had mild sleep problem, 42(70%) are had moderate sleep problems, 6(10%) are had severe sleep problems

Whereas after administering foot bath therapy elderly having 60(100%) were having mild sleep problems.



## SECTION- III

To assess the effectiveness hot water footbath therapy on the quality of sleep among elderly.

TABLE: 8

## HYPOTHESIS

H1: The mean post test score will be more than mean pre test hot water footbath therapy on the quality of sleep among elderly

Comparison of pretest and posttest score

N=60

Knowledge	Mean	SD	Df	Paired "t" test	Table value	Inference s
Pre test	7.8	1.6	59	t=7.5, p<0.05	2.00	Highly significant
Post test	13.5	1.8				

Table no.8 shows the comparison of overall pretest and posttest of quality of sleep among elderly.

The findings related to effectiveness of hot water footbath therapy on the quality of sleep among elderly The posttest score (13.5), SD (1.8) is higher than the pretest mean score is (7.8), SD(1.6) and t value = 7.5 obtained, which is highly significant at P=0.05 calculated value is greater than the table value, hence the H0 hypothesis is rejected and H1 alternative hypothesis is accepted.

## SECTION- IV

Chi-square analysis to find out association between quality of sleep with their selected socio-demographic variables.

Table No-9

Chi square analysis to find out the association between pre-test score with their selected socio-demographic variables

N= 60

S . N O	Sample characteristics		Quality of sleep						N	Chi square	Df	Table value	Inferences	
			Mild		Moderate		Severe							
			f	%	f	%	f	%						
1	Age	60-70years	2	3.3	35	58.3	6	10	43	14.59	6	12.5	Significant P<0.005	
		70-90years	0	0	2	3.3	2	3.3						4
		Above 60years	2	3.3	5	8.3	3	5						10

		Above 91years	2	3.3	1	1.6	0	0	3				
2	Gender	Male	4	6.7	24	40	10	16.7	38	2.78	2	5.39	Non Significant P>0.005
		Female	2	3.3	18	30	2	3.3	22				
3	Seperated from home	6month	2	3.3	14	23.3	1	1.6	17	19.2	6	12.59	<b>Significant</b> <b>P&lt;0.005</b>
		1year	1	1.6	19	31.7	9	15	29				
		2-5year	2	3.3	3	5	1	1.6	6				
		>6year	1	1.6	6	10	1	1.6	8				
4	Sleep disorder	Yes	1	1.6	18	30	2	3.3	21	6.4	2	5.99	<b>Significant</b> <b>P&lt;0.005</b>
		No	5	8.3	24	40	10	16.7	39				
5	Previous knowledge	Yes	4	6.7	24	40	10	16.7	38	2.78	2	5.39	Non Significant P>0.005
		No	2	3.3	18	30	2	3.3	22				
6	Previously taken water foot bath therapy	Yes	1	1.6	18	30	3	5	22	3.4	2	5.99	Non Significant P>0.005
		No	5	8.3	24	40	9	15	38				

**Table 9-** It shows the association between pre test level quality of sleep among elderly and with their socio demographic characteristics such as age, gender, separated from family, sleep disorder, previous knowledge, previously taken hot water foot bath therapy

The calculated value of chi square for **age (14.59),separated from home(19.2), sleep disorder (6.4), were significant** were as gender (2.78), previous knowledge (2.78) and previously taken hot water bath (3.4) were not significant.

Hence it is concluded that age, separated from home, sleep disorder were associated with pre test quality of sleep were as gender, previous knowledge and previously taken hot water bath were not associated with pre test quality of sleep Hence the H2 hypothesis is accepted.