

## “A study to assess the effectiveness of selected life style modifications on quality of sleep among elderly residing in selected community areas of Shimla (H.P.)”.

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### ABSTRACT

**INTRODUCTION:** Sleep is a naturally recurring state of mind and body characterized by altered consciousness, relatively inhibited sensory activity, inhibition of nearly all voluntary muscles and reduced interaction with surrounding. The study was aimed to assess the effectiveness of selected life style modifications on quality of sleep among elderly residing in selected community areas of Shimla (H.P.) **Objectives:** of the study to assess the quality of sleep among the elderly residing in selected community areas of Shimla, to find out the effectiveness of selected life style modifications on quality of sleep among the elderly residing in selected community areas of Shimla, to find out the association of level of quality of sleep among the elderly residing in selected community areas with selected socio- demographic variables. **METHODS:** Pre-Experimental One Group Pre-Test Post- Test Research Design was used. The sample of the study consisted of 40 elderly people were selected by using convenient sampling technique. The quality of sleep was assessed by using Socio-demographic variables and Standardized Pittsburgh Insomnia Rating Scale 20 Point (PIRS<sub>20</sub>). **Results:** The study reveals that 31(77.5%) of elderly in pre-test score had fair quality of sleep and 9(22.5%) of elderly had poor quality of sleep and in post-test 38(95%) of elderly had fair quality of sleep and 2(5%) of elderly had good quality of sleep. So, it was found that there was significant difference in post-test score of quality of sleep as calculated value 6.149 which was more than table value 2.02 at the level of significance. **Discussion:** Based on findings there was true difference between pre-test and post-test score of quality of sleep. So, it was concluded that selected life style modifications (yoga & meditation) had improved the quality of sleep.

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### Objectives of the study

1. To assess the quality of sleep among the elderly residing in selected community areas of Shimla.
2. To find out the effectiveness of selected life style modifications on quality of sleep among the elderly residing in selected community areas of Shimla.
3. To find out the association of level of quality of sleep among the elderly residing in selected community areas with selected socio- demographic variables.

### I. Background

Sleep is a naturally recurring state of mind and body characterized by altered consciousness, relatively inhibited sensory activity, inhibition of nearly all voluntary muscles and reduced interaction with surrounding. Sleep is associated with a state of muscle relaxation and reduced perception of environmental stimuli. Some physiological changes occur during sleep in brain. Sleeping persons perceive fewer stimuli, but can generally still respond to loud noises and other salient sensory events.<sup>1</sup>

The major functions of sleep in recovery, survival and energy conservation. Sleep also plays vital functions such as neural development, emotional regulation, memory, learning, metabolic function, cardiovascular and cellular toxin removal. Good quality of sleep is important for good health and good quality of life and for overall health. The amount of sleep needed by an individual varies significantly with age throughout the life. So, the good quality of sleep is very necessary for maintain good health and overall quality of life.<sup>2</sup>

Lifestyle plays an important role in staying healthy. Health is what we doing for our body and strictly maintain the consistently for our physical fitness. Lifestyle is the life of a person. Physical fitness helps in protecting our body from disease condition and keeps us healthy. Effective fitness routine involves exercises to improve your health. Small amount of exercises in your daily routine improve your strength conditioning as you grow is a wonderful exercise that will positively affect your all areas of your body. Starting with little bit

walking each day then increase your speed and distance as you like. Regular exercises help you control the level of blood glucose. The benefits of a healthy lifestyle are infinite for people of all ages.<sup>3</sup>

The word insomnia is derived from Latin word in (no) and somnus (sleep). Insomnia is defined as subjective perception of difficulty with sleep initiation, duration, consolidation or quality which occurs despite adequate opportunity for sleep and that leads to some form of daytime impairment.<sup>4</sup>

People may experience lower productivity, poor concentration and poorer work quality as a result of insomnia. It is generally explained by a decreased in duration, quality or efficiency of sleep. Insomnia is widespread health complaint and the most common of all sleep disorders.<sup>5</sup>

Sleep disturbances are common problem in adults and are related to different factors, including the use of tobacco, caffeine, alcohol, co-morbid diseases and sleep habits. Rapid Eye Movement (REM), Sleep Apnea Syndrome (SAS), Restless Legs Syndrome (RLS), Sleep Behavior Disorder (RBD) and Psychiatric diseases such as anxiety and depression should always be screened for in subjects who present with sleep disturbances.<sup>6</sup>

Education on healthy sleep habits is an important and includes a regular sleep/wake schedule, alcohol and caffeine 4-6 hours before bedtime, avoidance of stimulus and sleep hygiene. Sleep hygiene includes reducing exposure to bright light, lowering a temperature with warm bath and eliminating daytime naps. Recommendation includes minimizing light and noise, maintaining a comfortable room temperature for sleep. Others also includes sleep until you feel rested, avoid smoking, stimulants, reduce worry, creates a cool environment for sleeping, exercise regularly 20 minutes per day. If pain interrupts sleep, improve pain management.<sup>7</sup>

Regular yoga practice improves the sleep quality. Yoga also improves sleep latency, sleep duration, sleep efficiency and general wellbeing along with sleep quality. The parasympathetic nervous system is responsible for sleep. Yogic relaxation technique stimulates the parasympathetic nervous system which helps to calm down the mind.<sup>8</sup>

Practices of yoga includes the physical strengthening, stretching and balancing postures that may be accompanied by breathing practices and meditation. Yoga is a complete system of lifestyle, philosophy and personal health practices based on ancient Indian traditions. Yoga is a multimodal complementary and alternative medical practice with potential to beneficially effect on sleep disturbances.<sup>9</sup>

The nurse who provides care for older adults plays important role in reducing the negative impact of insomnia through proper diagnosis, evaluation and management of insomnia. Effective management of insomnia is important for improved quality of life.<sup>10</sup>

## **II. Methods:**

Pre-Experimental One Group Pre-Test Post- Test Research Design was used. The sample of the study consisted of 40 elderly people were selected by using convenient sampling technique. Tool consisted two sections Section A-Socio-demographic variables and Section B-Standardized Pittsburgh Insomnia Rating Scale 20 Point (PIRS\_20) was used to assess the quality of sleep. It is Standardized tool develop by Douglas Moul et al. 2007. Prior permission was taken from the authority to use the Standardized tool in research study.

Section A-Socio-demographic variables were age, gender, marital status, types of family, religion, educational status, occupation, monthly income, any types of medical illness and financial dependency on other. These variables were used to collect the personal information of the study subjects. Section B- It consists of Standardized Pittsburgh Insomnia Rating Scale 20 Point (PIRS\_20) to assess the quality of sleep among elderly. It consisted of 20 items. For each item maximum score was 3 and minimum score was 0. Maximum score of 20 items were 60 and minimum score was 0.

Approval from the ethical and research committee of Sister Nivedita Govt. Nursing College, IGMC, Shimla was taken to conduct the research study. Written permission was taken from Pradhan of the community. Informed written consent was taken from individual subject and Confidentiality of the information was maintained.

The life style modifications (yoga & meditation) was given for 15 days. The duration of life style modifications (yoga & meditation) was 30 minutes. The subjects were asked about their experience after life style modifications (yoga & meditation). Post- test was conducted after completion of life style modifications (yoga & meditation).

The study was conducted at selected community areas (Village- Galot, Panesh, Fgheda and Shildu under Gram Panchayat Galot) of Shimla (H.P.). Total sample size was 40 elderly. Total 33 houses in village Galot, Panesh, Fgheda and Shildu were visited to collect the sample.

## **III. Results**

The study revealed that majority of 18(45%) elderly were in the age group of 60- 65 years, 12(30%) of elderly were in the age group of 66-70 years, 6(15%) of elderly were in the age group of 71-75 years in age and least 4(10%) of elderly were in the age group of 76-80 years in age. Majority 23(57.5%) of elderly were females

and least 17(42.5%) of elderly were males. Majority 34(85%) of elderly were married out of them 6(15%) of elderly were widow. Majority 33(82.5%) of elderly belonged to joint family and least 7(17.5%) of elderly belonged to nuclear family. All participants were Hindu. Majority 19(47.5%) of elderly were illiterate, 11(27.5%) of elderly were educated till 10th standard, 9(22.5%) of elderly had passed 5th standard and least 1(2.5%) of elderly were educated 8th standard. Majority 23(57.5%) of elderly were housewife 11(27.5 %) of elderly had farmer and least 6(15.5 %) of elderly had retired from govt. job. Majority 15(37.5%) of elderly had up-to 10,000 monthly income, 15(37.5) of elderly had 10,001- 15,000 monthly income, 6(15%) of elderly had 15,001-20,000 monthly income and least 4(10%) of elderly had 20,001 or above monthly income. Majority 26(65%) of elderly were not suffered with any type of medical illness, 8(20%) of elderly were suffered with hypertension, 4(10%) of elderly were diabetic and least 2(5%) of elderly had hyperthyroidism. Majority 31(77.5%) of elderly were financial dependent on others and least 9(22.5%) of elderly were not financial dependent on others.

**Table 1- Frequency & Percentage Distribution of Sample Characteristics**

Socio-demographic variables		Frequency (f)	Percentage (%)
<b>Age in years</b>	60-65	18	45%
	66-70	12	30%
	71-75	6	15%
	76-80	4	10%
<b>Gender</b>	Male	17	42.5%
	Female	23	57.5%
<b>Marital Status</b>	Married	34	85%
	Widow	6	15%
<b>Type of family</b>	Nuclear family	7	17%
	Joint family	33	82.5%
<b>Religion</b>	Hindu	40	100%
<b>Educational Status</b>	Illiterate	19	47.5%
	Primary	9	22.5%
	Middle	1	2.5%
<b>Occupation</b>	Matric	11	27.5%
	Farmer	11	22.5%
	Retired (Govt. job)	6	15%
<b>Monthly Income (in rupees)</b>	Housewife	23	57.5%
	Up-to 10,000	15	37.5%
	10,001-15,000	15	37.5%
	15,001-20,000	6	15%
	20,001 or above	4	10%
<b>Any type of Medical illness</b>	Diabetes Mellitus	4	10%
	Hypertension	8	20%
	hyperthyroidism	2	5%
	Not present	26	65%
<b>Financial Dependency</b>	Yes	31	77.5%
	No	9	22.5%
<b>On other</b>			

In pre-test score 31(77.5%) of elderly had fair quality of sleep and 9(22.5%) of elderly had poor quality of sleep and in post-test 38(95%) of elderly had fair quality of sleep and 2(5%) of elderly had good quality of sleep. The mean score of quality of sleep among elderly in pre-test was 37.65 with standard deviation was 2.797, median score was 36 with maximum score was 43 and minimum score was 32 and mean percentage was 62.80. Mean score of quality of sleep among elderly in post-test was 34.80 with standard deviation was 3.911, median score was 35 with maximum score was 40 and minimum score was 19 and mean percentage was 58.

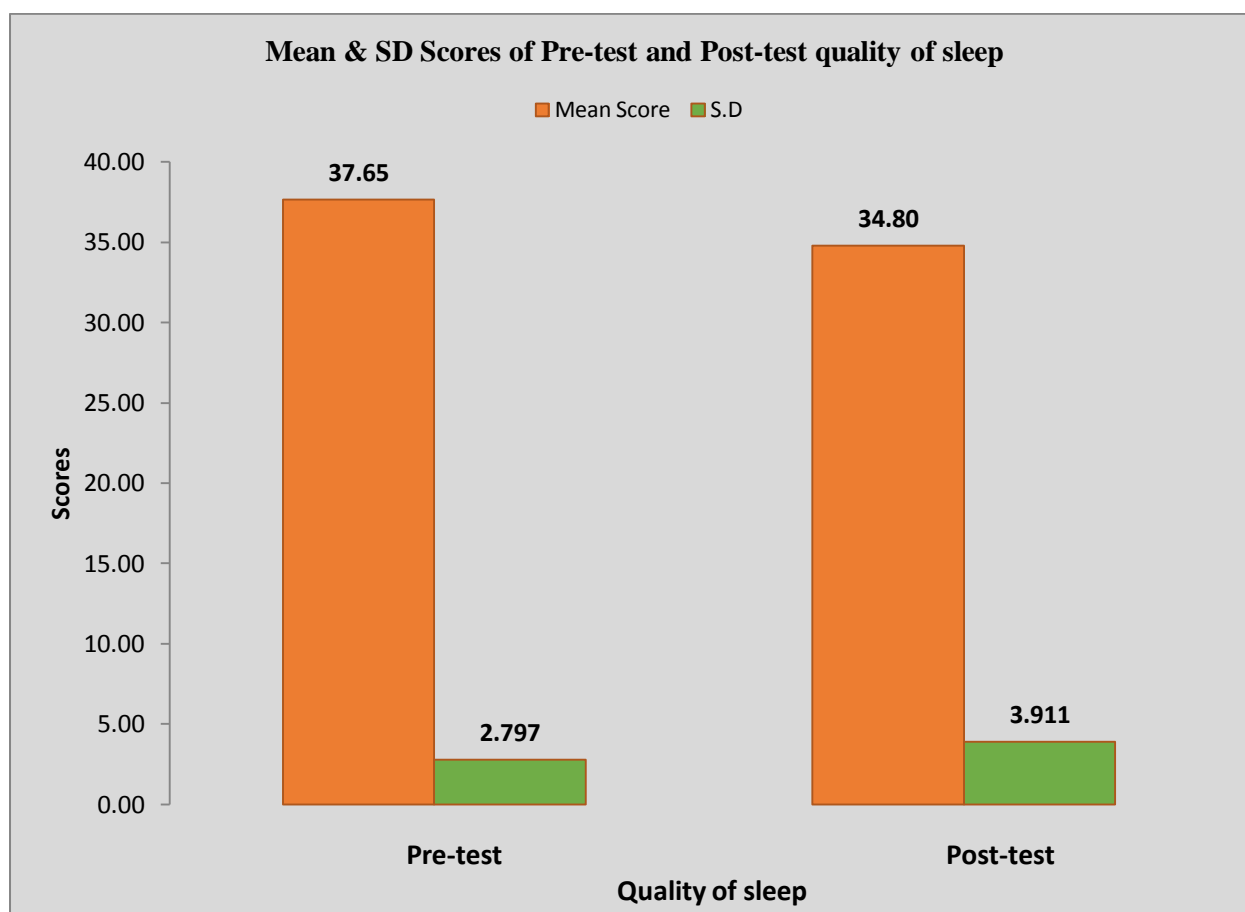


Figure 4.3 Comparison of Mean and SD Score of Pre-test and Post-test Quality of Sleep

By using paired t test, it was found that there was significant difference in post-test score of quality of sleep as calculated value 6.149 which was more than table value 2.02 at the  $\leq 0.05$  level of significance.

#### IV. Discussion:

The first objective was to assess the quality of sleep among the elderly residing in selected community areas of Shimla. The present study findings have shown that in pre-test score majority 31(77.5%) of elderly had fair quality of sleep and 9(22.5%) of elderly had poor quality of sleep. In the post-test score majority 38(95%) of elderly had fair quality of sleep and 2(5%) of elderly had good quality of sleep.

Similar study was conducted by Pokharel B, Sharma B, Acharya A (2018) study revealed that insomnia was prevalent in 56.4% (n=31) of the study population. Majority of the old age suffer from insomnia with night awakening as the most common symptoms. Insomnia significantly affect affects the various aspects of life at an old age.<sup>11</sup>

The second objective was to find out the effectiveness of selected life style modifications on quality of sleep among the elderly residing in selected community areas of Shimla. The study findings shown that, it was found that there was significant difference in post-test score of quality of sleep as calculated value 6.149 which was more than table value 2.02 at  $\leq 0.05$ ).

Another study done by Bankar MA, Chaudhari SK, Chaudari KD (2013) showed that participants in the yoga group had a mean total sleep quality score of 3.771+0.3623. Participants in the non-yoga group had a mean total sleep quality score of 8+ 0.4315. Regular yoga exercises in the daily routine of elderly people can help to achieve good sleep quality as well as improve the quality of life.<sup>12</sup>

Third objective of the study was to find out the association of level of quality of sleep among the elderly residing in selected community areas with selected socio-demographic variables. The study revealed that there was no significant association of level of quality of sleep with selected socio-demographic variables except type of family as calculated value was 9.925 which was more than the table value (3.841) at  $< 0.05$  level of significance. Life style modification was more effective in the joint family than in nuclear family had shown increased quality of sleep.

Similar Study done by Nguyen HN (2017) revealed that yoga has benefits for aging population. The participants in yoga group showed significantly better performances in comparison with those of control group

in the subtests of senior fitness test with p values from .05 to .001. The study concluded that yoga practice improved quantity and quality of sleep among aging population.<sup>13</sup>

So, it was concluded that selected life style modifications (yoga & meditation) had improved the quality of sleep.

#### **LIMITATION**

The study was confined to only elderly people.

Time was extremely less due to Covid-19 pandemic.

#### **V. Conclusion**

Based on findings there was true difference between pre-test and post-test score of quality of sleep. So, it was concluded that selected life style modifications (yoga & meditation) had improved the quality of sleep.

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