



A Study To Evaluate The Effectiveness Of Sleep Hygiene Education On Sleep Quality Among Senior Citizens Residing In Selected Old Age Homes Of Rajasthan

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Abstract

Sleep disturbances are common among senior citizens and significantly affect their physical, psychological, and social well-being. Elderly individuals residing in old age homes are at increased risk of poor sleep quality due to age-related changes, chronic illnesses, environmental factors, and emotional stress. Sleep hygiene education is a simple, non-pharmacological intervention that promotes healthy sleep behaviors and improves sleep quality.

The present study aimed to evaluate the effectiveness of sleep hygiene education on sleep quality among senior citizens residing in selected old age homes of Rajasthan. A quantitative approach with a quasi-experimental one-group pre-test post-test research design was adopted. A total of **100 senior citizens** were selected using purposive sampling technique. Data were collected using a socio-demographic questionnaire and a standardized sleep quality assessment scale. Sleep hygiene education included information on sleep routines, environmental modifications, relaxation practices, and lifestyle changes. Post-test assessment was conducted on the 7th day after the intervention.

The findings revealed a significant improvement in post-test sleep quality scores compared to pre-test scores ($p < 0.001$), indicating the effectiveness of sleep hygiene education. The study concludes that sleep hygiene education is a safe, cost-effective, and feasible nursing intervention to enhance sleep quality among senior citizens in institutional settings.

Index Terms — Sleep hygiene, sleep quality, senior citizens, old age homes, nursing intervention

I. INTRODUCTION

Sleep plays a vital role in maintaining physical health, emotional balance, and cognitive functioning throughout the lifespan. Adequate sleep is essential for tissue repair, immune functioning, memory consolidation, and emotional regulation. However, with advancing age, physiological changes occur in sleep patterns, including decreased total sleep duration, frequent nocturnal awakenings, prolonged sleep latency, and reduced sleep efficiency. As a result, poor sleep quality becomes a common complaint among senior citizens and is often associated with fatigue, irritability, impaired memory, reduced concentration, and a decline in overall quality of life.

Senior citizens residing in old age homes experience additional challenges that further compromise sleep quality. Separation from family members, lack of emotional support, environmental disturbances such as noise and lighting, shared living spaces, and restricted daily routines contribute significantly to sleep disturbances among this population. These institutional and psychosocial factors, combined with age-related physiological changes, make elderly residents of old age homes particularly vulnerable to poor sleep quality.

Although pharmacological therapy is frequently used to manage sleep problems in older adults, its use is often associated with adverse effects such as dizziness, confusion, daytime drowsiness, increased risk of falls, and dependency. Consequently, long-term reliance on sleep medications is not considered a safe or optimal approach in geriatric care. In recent years, non-pharmacological interventions have gained prominence as safer and more sustainable strategies for improving sleep among elderly individuals.

Sleep hygiene education is a structured, non-pharmacological intervention that focuses on promoting healthy sleep habits through the establishment of regular sleep schedules, environmental control, relaxation techniques, and appropriate lifestyle modifications. Nurses play a crucial role in educating elderly individuals about healthy sleep practices and reinforcing positive behavioral changes. Therefore, the present study was undertaken to evaluate the effectiveness of sleep hygiene education on sleep quality among senior citizens residing in selected old age homes of Rajasthan.

II. OBJECTIVES OF THE STUDY

1. To assess the level of sleep quality among senior citizens before sleep hygiene education.
2. To assess the level of sleep quality among senior citizens after sleep hygiene education.
3. To evaluate the effectiveness of sleep hygiene education on sleep quality.
4. To find the association between post-test sleep quality scores and selected demographic variables.

III. RESEARCH METHODOLOGY

The research methodology describes the systematic approach adopted to conduct the present study, including the research design, setting, population, sample, sampling technique, tools for data collection, intervention, and plan for data analysis.

3.1 Research Approach

A **quantitative research approach** was adopted, as the study aimed to objectively measure the effectiveness of sleep hygiene education on sleep quality among senior citizens using numerical data and statistical analysis.

3.2 Research Design

A **quasi-experimental one-group pre-test post-test research design** was used to assess changes in sleep quality before and after the educational intervention.

3.3 Research Setting

The study was conducted in **selected old age homes of Rajasthan**. The setting was chosen based on accessibility, feasibility, and availability of senior citizens.

3.4 Population

The population of the study comprised **senior citizens aged 60 years and above** residing in the selected old age homes.

3.5 Sample and Sample Size

The sample consisted of **100 senior citizens** who met the inclusion criteria and were available during the period of data collection.

3.6 Sampling Technique

A **purposive sampling technique** was used to select the participants, ensuring that individuals suitable for the objectives of the study were included.

3.7 Criteria for Sample Selection

Inclusion Criteria

- Senior citizens aged 60 years and above
- Residents of selected old age homes
- Willing to participate in the study
- Able to understand and communicate in the local language

Exclusion Criteria

- Senior citizens with severe cognitive impairment
- Those who were critically ill
- Those receiving pharmacological treatment specifically for sleep disorders

The population of the study comprised senior citizens aged 60 years and above residing in the selected old age homes. A total of **100 senior citizens** who met the inclusion criteria were selected using a purposive sampling technique.

Data were collected using the following tools:

- **Socio-demographic Proforma:** This tool was used to collect information related to age, gender, education, marital status, presence of chronic illness, medication use, and duration of stay in the old age home.
- **Standardized Sleep Quality Assessment Scale:** This scale was used to assess the level of sleep quality among senior citizens during the pre-test and post-test phases.

Sleep hygiene education was administered as a structured educational session lasting **45 minutes**. The content of the intervention included information on healthy sleep routines, optimization of bedroom environment, relaxation exercises, dietary habits, physical activity, and lifestyle modifications to promote better sleep. The intervention was delivered through interactive teaching methods.

Post-test assessment was conducted on the **7th day after the intervention** using the same standardized sleep quality assessment scale. Data were analyzed using descriptive statistics such as frequency, percentage, mean, and standard deviation, and inferential statistics including paired *t*-test to assess effectiveness and chi-square test to determine the association between post-test sleep quality scores and selected demographic variables.

IV. RESULTS AND DISCUSSION

The findings of the study revealed that the majority of senior citizens experienced poor sleep quality during the pre-test assessment, indicating a high prevalence of sleep-related problems among elderly residents of old age homes. This finding highlights the impact of age-related physiological changes, psychosocial factors, and institutional living conditions on sleep quality in senior citizens.

Following the administration of sleep hygiene education, a significant improvement in sleep quality scores was observed during the post-test assessment. The calculated *t*-value was found to be statistically significant at $p < 0.001$, demonstrating the effectiveness of the sleep hygiene education in improving sleep quality among senior citizens. The observed improvement may be attributed to increased awareness regarding healthy sleep habits, adoption of regular sleep routines, improved bedroom environment, and practice of relaxation exercises introduced during the educational intervention.

These findings support the effectiveness of non-pharmacological interventions in managing sleep problems among elderly individuals. Sleep hygiene education serves as a safe, economical, and feasible nursing intervention that can be effectively implemented in old age homes to enhance sleep quality and overall well-being of senior citizens.

Table 4.1: Comparison of Pre-test and Post-test Mean Sleep Quality Scores (n = 100)

Test	Mean	SD	<i>t</i> value	<i>p</i> value
Pre-test	42.6	6.8		
Post-test	63.8	7.2	24.18	<0.001*

*Significant at $p < 0.05$

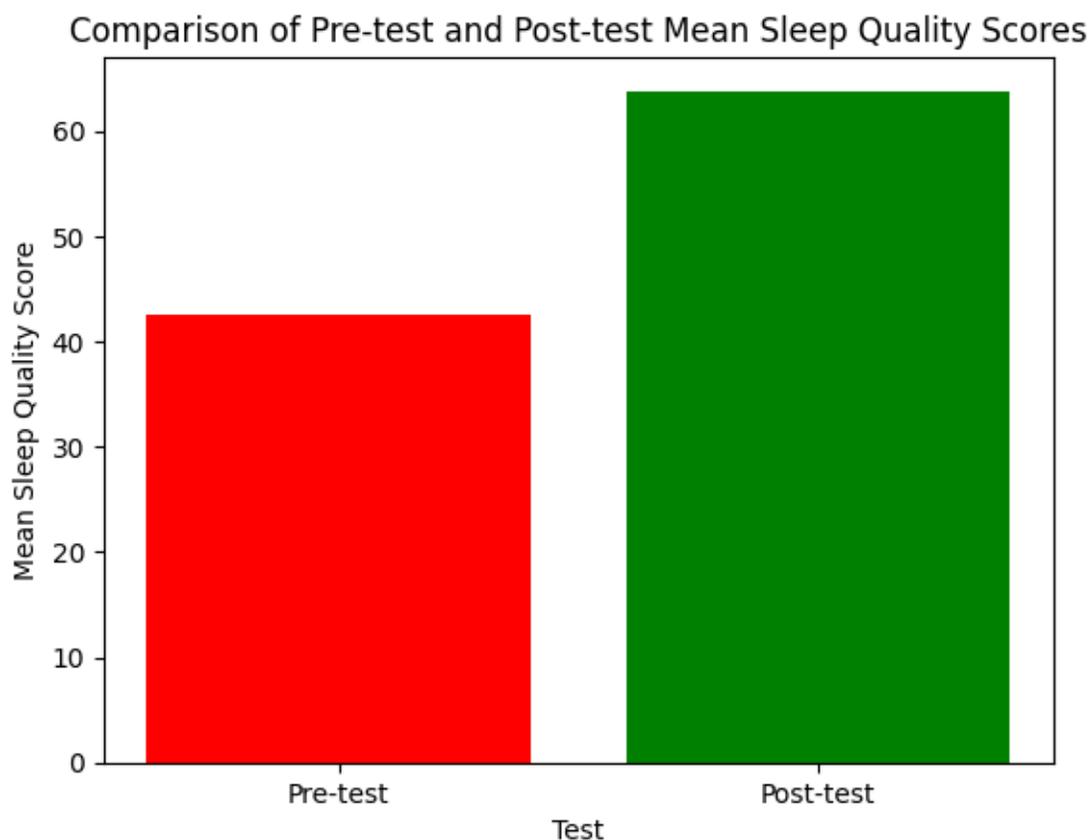
Figure Caption (place below the graph, Font 10, Center):**Figure 4.1: Comparison of Pre-test and Post-test Mean Sleep Quality Scores**

Table 4.1 and Figure 4.1 show a marked improvement in the mean sleep quality score from pre-test (42.6) to post-test (63.8) following sleep hygiene education. The calculated t -value (24.18) was statistically significant at $p < 0.001$, indicating that sleep hygiene education was effective in improving sleep quality among senior citizens residing in old age homes.

V. CONCLUSION

The present study concluded that sleep hygiene education was effective in significantly improving sleep quality among senior citizens residing in old age homes. The educational intervention enhanced participants' knowledge regarding healthy sleep practices and encouraged the adoption of positive lifestyle behaviors conducive to better sleep. As a non-pharmacological approach, sleep hygiene education proved to be a safe, economical, and feasible nursing intervention without the risk of adverse effects associated with sleep medications.

The findings emphasize the important role of nurses in promoting sleep health among the elderly through structured educational programs. Incorporation of sleep hygiene education into routine geriatric nursing care can contribute to improved sleep quality, enhanced psychological well-being, and better overall quality of life for elderly individuals residing in institutional settings.

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