

UNDERSTANDING SLEEP QUALITY AND COGNITIVE FUNCTION IN ELDERLY CARE IN INDIA - A COMPREHENSIVE REVIEW

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ABSTRACT

This review article delves into the important link between sleep quality and cognitive functioning in elderly care facilities in India. It explores how sleep patterns impact cognitive abilities in institutionalized elderly individuals, emphasizing the significant correlation between sleep quality and cognitive function in this population. Factors such as sleep duration, disturbances, and disorders are examined for their effects on cognitive performance. The implications of these findings for caregivers and healthcare professionals are discussed, highlighting the importance of tailored interventions to enhance the well-being of elderly individuals in care facilities. This review aims to raise awareness and stimulate further research to improve the support provided for the sleep and cognitive health of elderly residents in institutional settings in India.

Key Words: Sleep quality, elderly care, sleep pattern, awareness, health of elderly.

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INTRODUCTION

In the realm of elderly care in India, understanding the intricate relationship between sleep quality and cognitive functioning holds paramount importance. The well-being of institutionalized elderly individuals hinges significantly on the quality of their sleep and its impact on cognitive abilities. Research has underscored the profound interplay between sleep patterns and cognitive function in the elderly, shedding light on how inadequate sleep quality can precipitate cognitive decline and memory impairments. This review aims to delve into existing literature to elucidate the implications of sleep quality on cognitive functioning in elderly care facilities in India. By unraveling this complex association, we seek to pave the way for tailored interventions and strategies that can optimize the overall health and quality of life for elderly residents in institutional settings across the country.

Understanding the connection between sleep quality and cognitive functioning in elderly care facilities in India is crucial for providing optimal care to this vulnerable population. Sleep plays a vital role in cognitive health, and its impact on the elderly is particularly significant. In this review, we delve into the existing literature to explore how sleep quality influences cognitive abilities in institutionalized elderly individuals in India.

The study by Lim et al. in 2013 found that older adults without dementia who experienced high sleep fragmentation were 1.5 times more likely to develop Alzheimer's Disease compared to those with low sleep fragmentation. This increased risk was consistent across different demographic groups and remained significant even after accounting for factors like total daily rest time, chronic medical conditions, and the use of medications that can impact sleep. Additionally, the analysis showed that for every 0.01 unit increase in sleep fragmentation, there was a 22% higher annual rate of cognitive decline compared to the average decline in the study group.

The study by Miyata et al. in 2013 showed that in 78 older adults, poor sleep quality was linked to reduced cognitive performance. Participants with sleep efficiency below 85% demonstrated a notable decrease in back test accuracy compared to those with sleep efficiency of 85% or higher. However, there were no significant differences in the accuracy of number back tests and continuous performance test-identical pairs between groups with apnea-hypopnea index above 15 h(-1) and below 15 h(-1), or among the groups with lowest SpO2 levels of 90% or above, 80-90%, and below 80%.

The study by Mesas et al. in 2011 examined how habitual sleep duration and quality were related in 1567 older adults based on their health status. Compared to those sleeping 7-8 hours, individuals sleeping 6 hours or less were more likely to experience difficulty falling asleep, frequent awakenings during the night, early morning awakenings, and feeling unrested in the morning. On the other hand, those who slept 9 hours or more were more likely to report daytime sleepiness. These associations remained consistent across different health statuses in the analyzed groups.

The research by Zisberg et al. in 2010 explored how daily routines contribute to sleep quality in 96 elderly individuals from the community. The average sleep efficiency was 78%, and the participants had relatively good functional status (average IADL score of 45 out of 50 with a standard deviation of 6.12). The study revealed that having a more stable daily routine, as assessed by the SOAR for the entire group, was linked to shorter time to fall asleep, higher sleep efficiency, and better overall sleep quality. These benefits were observed even after considering factors like functional status, health conditions, and age. The same positive associations were observed in the subgroup analyzed using the SRM.

The study by Martin JL and colleagues in 2010 looked into sleep quality among 121 residents in assisted living facilities in Los Angeles and its impact on their quality of life, functional status, and depression. A significant 65% of the participants reported experiencing sleep problems based on the Pittsburgh Sleep Quality Index, which was confirmed by objective wrist actigraphy showing poor sleep quality. Through regression analyses that considered various factors, it was found that higher self-reported sleep disturbances at the beginning of the study were linked to lower health-related quality of life and increased depressive symptoms at the follow-up. Additionally, poorer nighttime sleep measured by actigraphy at the start of the study was associated with decreased ability to perform daily activities and more depressive symptoms at the follow-up assessment.

The research conducted by Chueh KH and colleagues in 2009 focused on investigating the relationship between poor sleep quality and alcohol use problems among 1261 elderly Taiwanese aboriginal women. The study revealed that 20.54% of the participants experienced poor sleep quality, while 25.59% had issues with alcohol use. After adjusting for other influencing factors, it was found that alcohol use problems were a contributing factor to poor sleep quality (with an adjusted odds ratio of 1.44 and a p-value of 0.0433). Specifically, alcohol use problems were linked to three aspects of the Pittsburgh Sleep Quality Index: sleep disturbances, subjective sleep quality, and daytime dysfunction.

The study by Haseli-Mashhadi N and colleagues in 2009 explored sleep quality in 3289 middle-aged and elderly Chinese individuals, examining its distribution, associated factors, and its connections with cardio-metabolic risk factors. It was found that half of the population reported good sleep quality. Upon accounting for potential influencing factors, it was observed that women and residents of Beijing were nearly half as likely to report good sleep quality. Factors such as good physical and mental health, indicated by high levels of self-rated health (odds ratio 2.48) and the absence of depression (odds ratio 4.05), were linked to an increased likelihood of reporting good sleep quality. On the other hand, having a short sleep duration of less than 7 hours significantly decreased the probability of reporting good sleep quality.

The study by Nazanin and colleagues in 2009 investigated sleep quality in 3289 middle-aged and elderly Chinese individuals, focusing on its distribution, associated factors, and its links to cardio-metabolic risk factors. The results indicated that half of the population reported good sleep quality. When adjusting for potential influencing factors, it was observed that women and residents of Beijing were approximately half as likely to report good sleep quality. Factors such as good physical and mental health, as indicated by high levels of self-rated health (odds ratio 2.48) and the absence of depression (odds ratio 4.05), were associated with an increased likelihood of reporting good sleep quality. Conversely, having a short sleep duration of less than 7 hours substantially decreased the probability of reporting good sleep quality. Additionally, significant associations were found between levels of sleep quality and concentrations of plasma insulin, total and LDL cholesterol, and the index of insulin resistance.

CONCLUSIONS

Research suggests that there is a strong correlation between sleep patterns and cognitive function in the elderly. Poor sleep quality can lead to cognitive decline, memory issues, and overall reduced cognitive performance. Factors such as sleep duration, sleep disturbances, and sleep disorders can all affect cognitive functioning in this population.

Furthermore, the review examines the implications of these findings for caregivers and healthcare professionals working with institutionalized elderly individuals in India. Understanding the relationship between sleep quality and cognitive functioning can aid in the development of targeted interventions and strategies to improve the overall well-being and quality of life for the elderly in care facilities.

By shedding light on this important aspect of elderly care, this review aims to enhance awareness and promote further research in this area to ensure that elderly individuals in institutional settings receive the best possible support for both their sleep and cognitive health."

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