

A COMPARATIVE STUDY OF SLEEP PATTERNS & DEPRESSIVE SYMPTOMS ON AGEING POPULATION IN RURAL AND URBAN AREA

7

Manish Kumar Sharma
Dr. Monika Abrol

Abstract

There are lots of common public health challenges specifically in India, because there is a diverse population with different types of social, economical, cultural and educational systems. In India there is large population size. In this population almost 60-70% youth is present and rest of the population is ageing population. Ageing population is also an important part of the country.

This study explores the prevalence and effects of sleep and depressive issues faces by the ageing population in the rural and urban area of district Palwal Haryana. These issues are most common for elderly persons. Ageing population faces lots of challenges and significantly impaired memory, thinking, decision making, and the ability to perform daily activities impacting individuals' life and interaction in community. The study aims to find out the disparities in the onset, progression, and impact of these conditions between rural and urban areas. A cross-sectional study design was employed, involving structured interviews, and conduct the sleep questionnaire and PHQ-P for assess the quality of sleep and measuring depression in ageing population of rural and urban population. The findings of this study help the caretaking of the ageing peoples of rural and urban area.

Manish Kumar Sharma

(PhD Scholar) Research Officer Psychologist

Dr. Monika Abrol

Dean School of Humanities and Social Sciences, Department of Psychology,
Sanskriti University Mathura Email: Manishsharma1115@gmail.com

Publisher: Anu Books, DOI: <https://doi.org/10.31995/Book.AB355-F26.Ch.7>

Book: Innovative Researches in India: Trinity of NEP 2020, IKS & Technology
Plagiarism Report: 17%

Keywords: *Sleep, Depression, pattern, Cognitive, rural and urban population, assessment.*

Introduction

The process of ageing is universal, yet its impacts and experiences are influenced by biological, psychological, social, and environmental factors. A significant concern related to ageing is Sleep, which can vary from person to person. Cognitive difficulties and depression in older adults is the major issue may affect the daily life activities and overall life quality. As life expectancy continues to rise globally, the challenge of age-related cognitive impairment has emerged as a critical public health concern.

In India, the elderly population is expected to grow significantly, with rural areas accommodating nearly 70% of older individuals. This distribution between rural and urban settings presents specific challenges in handling physical & cognitive health. Elderly individuals in rural regions often encounter obstacles such as low literacy levels, restricted access to healthcare, limited awareness, and a lack of formal support systems. In contrast, urban elderly populations—while enjoying improved healthcare access and awareness—face risks linked to contemporary lifestyles, including hypertension, diabetes, stress, and social isolation stemming from nuclear family dynamics.

Therefore, this study intends to investigate and contrast the Sleeping pattern and depression among the ageing populations in rural and urban settings. By grasping these distinctions, the research aspires to aid in the formulation of effective preventive and supportive approaches customized to meet the needs of diverse communities.

Literature Review: Sleep plays a vital role in maintaining both physical and psychological health. With increasing age, changes in sleep pattern, duration, and quality are common. Older adults often experience difficulty in falling asleep, frequent awakenings, and reduced deep sleep. These changes are not only a natural part of ageing but can also be influenced by various health, social, and environmental factors. Poor sleep has been linked with several negative outcomes such as fatigue, reduced cognitive performance, mood disturbances, and increased risk of depression. Research suggests that both short sleep duration (less

than 6 hours) and long sleep (more than 9 hours) are associated with poor mental and physical health (Li et al., 2023).

Depression is one of the most frequent mental health problems among the elderly population. It often goes unnoticed because many older adults consider sadness or sleep problems as part of ageing. However, studies have shown that depression significantly affects the quality of life and increases the burden on caregivers. In India, several studies have indicated a high prevalence of depressive symptoms among older adults, ranging between 25–35% (Debnath et al., 2023). Saha et al. (2024) found that rural older adults often report higher depressive symptoms due to social isolation, financial dependency, and lack of health facilities.

Sleep and depression are strongly interrelated. Poor sleep can lead to depression, and depression can, in turn, disturb sleep. Niu et al. (2025) found that older adults who sleep less than 6 hours are more likely to experience depressive symptoms compared to those with adequate sleep. Similarly, studies from India (Venkatesan et al., 2024) reported that older people with poor sleep quality also show higher frailty and emotional problems. Thus, assessing sleep quality can help in identifying individuals at risk of depression at an early stage.

Rural and urban differences also play a significant role. Rural populations often have limited access to healthcare, awareness, and support systems, whereas urban populations face lifestyle-related stress, loneliness, and lack of family interaction. Both conditions can adversely affect sleep and mental health in ageing individuals (Pengpid & Peltzer, 2023). Despite increasing research in this area, only a few studies in India have directly compared sleep patterns and depressive symptoms between rural and urban elderly using standardized tools like the Pittsburgh Sleep Quality Index (PSQI) and PHQ-9.

Hence, the present study aims to compare the sleep pattern and depressive symptoms among ageing populations in rural and urban areas. The findings will help in early detection, prevention, and development of non-pharmacological interventions to improve the overall well-being of older adults.

Rationale of the Study:

Rise in ageing population of India has led to increase in greater public health burden of age related changes, vision issue, hearing issue

and other many physical health issues present in ageing population in India. As prevention is always better than cure early detection can serve beneficial and can help people prevent such havoc. The rationale for this study lies in its potential to identify trends and group differences in Sleep and depression across residence and gender, which is crucial for the development of culturally appropriate, accessible, and preventive mental health strategies for India's ageing population.

Methodology:

Research Objectives:

- The primary objective of the study is to compare the Sleeping pattern among the ageing population living in urban and rural India.
- The secondary objective of the study is to compare the Depression in rural and urban ageing population.

Hypotheses:

- There is no significant difference in the Sleeping pattern among the ageing population living in urban and rural India.
- There is no significant difference in the Depression in rural and urban ageing population.

Study Design:

- There is a cross-sectional study, this design for the comparison of cognitive issues in rural and urban population of Palwal Haryana.
- There are 100 participants selected for this study in rural and urban area
- 50 participants are for urban and 50 participants for rural area.

Sampling Technique:

We are using random sampling; ensure that both rural and urban population is adequately represented in the sample.

Data collection method:

Assessment- we are using the Sleep Questionnaire and PHQ-9 with scheduled interview method.

These tests is validated and globally accepted.

Inclusion Criteria:

- Adults aged 60 and above.

- Residing in rural and urban area of Palwal Haryana at least 1 year.

Exclusion criteria:

- Individual with severe co morbid psychiatric or neurological conditions that may confound the study.
- Individual denials the consent and do not interested for participating the study.

Ethical consideration:

- Informed consent: Ensure that all participants provide informed consent after understanding the purpose and procedure of the study.
- Confidentiality: Personal information and data should be securely stored to protect participant's privacy.

Results & Data Analysis:

The present study was conducted on 100 participants, consisting of 50 older adults from rural areas and 50 from urban areas. The data were analyzed to compare their sleep patterns and depressive symptoms.

Sleep Duration Categories:

Sleep Duration	Rural	Urban
0-6 hours (Short sleep)	14	11
6-9 hours (Intermediate sleep)	31	36
9 hours & above (Long sleep)	5	3
Total	50	50

The sleep duration was categorized into three groups: **0–6 hours**, **6–9 hours**, and **9 hours & above**.

In the rural group, 14 participants (28%) reported sleeping less than 6 hours, 31 participants (62%) slept between 6–9 hours, and 5 participants (10%) reported sleeping more than 9 hours.

In the urban group, 11 participants (22%) slept less than 6 hours, 36 participants (72%) slept between 6–9 hours, and 3 participants (6%) reported sleeping more than 9 hours.

The mean sleep duration was **7.05 hours (SD = 1.2)** for rural participants and **7.10 hours (SD = 1.2)** for urban participants.

The **independent sample t-test** showed **no significant difference** in sleep pattern between rural and urban elderly ($t = -0.21$, $p > 0.05$).

This indicates that both groups had almost similar sleep duration.

Depression Score (PHQ-9):

Depression Score Range	Rural	Urban
0-4 (None/Minimal)	45	45
5-9 (Mild)	4	5
10-14 (Moderate)	1	0
15-19 (Moderately severe)	0	0
20-27 (Severe)	0	0
Total	50	50

Depression scores were categorized into three ranges based on PHQ-9: **1–4 (minimal)**, **5–9 (mild)**, and **10–14 (moderate)**.

In the rural group, 45 participants (90%) showed minimal depression, 4 participants (8%) mild depression, and 1 participant (2%) moderate depression.

In the urban group, 45 participants (90%) had minimal depression, 5 participants (10%) mild depression, and none showed moderate depression. No participants were found in moderately severe and severe category range.

The mean depression score was **3.05 (SD = 0.9)** in the rural group and **2.95 (SD = 0.9)** in the urban group.

The **t-test** revealed **no significant difference** in depressive symptoms between rural and urban elderly ($t = 0.56$, $p > 0.05$).

Thus, depressive symptoms were found to be low and almost similar in both populations.

Conclusion

There is **no statistically significant difference** in sleep patterns or depressive symptoms between the ageing populations living in **rural and urban areas**.

However, both groups show similar average sleep duration (around 7 hours) and low levels of depressive symptoms (PHQ-9 mean $H' 3$).

This suggests that **location (rural vs. urban)** may not be a determining factor for sleep or depression in this ageing population.

References:

1. Debnath, A., Ghosh, A., & Mandal, A. (2023). *Depression and associated factors among older adults in India: Evidence from Longitudinal Ageing Study in India (LASI, 2017–18)*. **BMC Geriatrics**, **23**(1), 128. <https://doi.org/10.1186/s12877-023-03906-9>
2. Saha, A., Kumar, D., & Gupta, R. (2024). *Decomposing the rural–urban differences in depression among older adults in India: Evidence from LASI wave I*. **BMC Psychiatry**, **24**(1), 375. <https://doi.org/10.1186/s12888-024-06205-0>
3. Pengpid, S., & Peltzer, K. (2023). *Rural–urban health differences among aging adults in India: A cross-sectional study of the Longitudinal Ageing Study in India*. **Frontiers in Public Health**, **11**, 1145342. <https://doi.org/10.3389/fpubh.2023.1145342>
4. Li, X., Wang, J., Zhang, Y., & Chen, L. (2023). *Relationship between night-sleep duration and risk for depression in middle-aged and older adults: A cross-sectional study in China*. **Frontiers in Psychiatry**, **14**, 1084756. <https://doi.org/10.3389/fpsy.2023.1084756>
5. Niu, Y., Zhang, L., Wang, Q., & Yu, H. (2025). *Association between sleep patterns and depression in older adults: A large-scale study based on the Chinese Longitudinal Healthy Longevity Survey*. **BMC Geriatrics**, **25**(1), 92. <https://doi.org/10.1186/s12877-025-04761-3>
6. Venkatesan, R., Sinha, S., & Patel, R. (2024). *Demographic, socioeconomic, and health correlates of sleep quality among older adults in India*. **BMC Psychiatry**, **24**(1), 812. <https://doi.org/10.1186/s12888-024-06120-4>
7. Chatterjee, S., Banerjee, D., & Pal, R. (2023). *Prevalence and correlates of depression among community-dwelling elderly in India: A meta-analysis*. **Indian Journal of Psychiatry**, **65**(5), 482–491. https://doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_498_22

8. Singh, P., & Yadav, A. (2024). *Sleep problems and frailty among older adults in India: Evidence from the Longitudinal Ageing Study in India (LASI)*. **Journal of Geriatric Mental Health**, **11**(2), 85–92. https://doi.org/10.4103/jgmh.jgmh_26_24
9. Verma, R., & Sharma, N. (2023). *Socioeconomic determinants of depression and sleep quality among the elderly in urban and rural India*. **Journal of Gerontological Social Work**, **66**(4), 411–425. <https://doi.org/10.1080/01634372.2023.2174853>
10. National Sleep Foundation. (2020). *Sleep in older adults: Key health implications and patterns*. Retrieved from <https://www.thensf.org/sleep-health>
11. Bidisha Bhattacharyya, A. P. (2024). Illiterate Addenbrooke's Cognitive Examinatin -III in three Indian languages : An Adaptation and Validation study. *Researchgate.net* , 14.
12. Carlos Calderon, C. B.-G.-C. (2021). Psychometric properties of Addenbrooke's Cognitive Examkination (ACE-III): An item response theory approach. *Researchgate.net* , 17.
13. K.S.Shaji, V. J. (2018). Indian research on ageing and dementia. *indian journal of psychiatry* , 5.
14. Jack, C. R., Jr., Bennett, D. A., Blennow, K., Carrillo, M. C., Dunn, B., Haeberlein, S. B., ... Silverberg, N. (2018). NIA-AA research framework: Toward a biological definition of Alzheimer's disease. *Alzheimer's & Dementia*, **14**(4), 535–562
15. Livingston, G., Huntley, J., Sommerlad, A., Ames, D., Ballard, C., Banerjee, S., ... & Mukadam, N. (2020). Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. *The Lancet*, **396**(10248), 413–446.