

Original Research Article

A study on prevalence of insomnia among middle aged women attending a tertiary care hospital, West Bengal

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ABSTRACT

Background: Insomnia is one of the common but neglected conditions seen in family practice. During the menopausal transition, significant sleep disruptions are provoked by sleep disorders. Insomnia is estimated to affect up to 30% of the general population and women are almost twice as likely as men to develop it. Objective was to find the prevalence of insomnia among middle-aged women.

Methods: This descriptive, cross-sectional study was done for 3 months at general OPDS and IPDs of a tertiary care hospital among 40-60-year-old women fulfilling inclusion criteria. The sampling technique was convenience sampling. Data were analyzed using Microsoft Office Excel and analyze by SPSS version 25.

Results: Of 310 participants, 45% had insomnia based on AIS-8. The maximum number of study participants fall under the age group of 40-45 years (33.23%) and under the socio-economic group lower-middle class (25.81%) according to the modified B. G. Prasad scale.

Conclusions: The study concludes a significant occurrence of insomnia in middle-aged women in addition to menopausal symptoms. Implementation of appropriate health educational programs for preventing insomnia in such women is necessary.

Keywords: Athens insomnia scale, Insomnia, Menopausal transition, Middle-aged women

INTRODUCTION

Sleep is one of the essential and basic physiological processes. Insomnia literally means “lack of sleep at bedtime” (latin: *insomnium*).¹ Insomnia is defined as difficulty initiating or maintaining sleep, accompanied by irritability or fatigue during wakefulness.² Insomnia is estimated to affect up to 30% of the general population and women are almost twice as likely as men to develop it.^{3,4}

Middle-aged women are mostly in the menopausal transition period. This period is associated with different changes like physiological, behavioral, emotional etc. During menopause there is a progressive decline in

oestrogen levels are frequently related to vasomotor symptoms, urogenital discomfort, muscle-skeletal limitations, mood alterations and sleep disorders.⁵ Menopausal women have more sleep disturbances as compared to premenopausal women. During the menopausal transition, significant sleep disruptions are provoked by sleep-disordered, vasomotor disturbance, and mood disorders. Regardless of age, women with chronic insomnia are at higher risk for developing or sustaining depression.^{6,7}

There are many conditions associated with difficulty sleeping which include old age, stress, substance abuse (caffeine, nicotine, and alcohol), depression, lower education, socioeconomic status, some co-morbidities such as chronic pain, heart failure, hyperthyroidism,

heartburn, restless leg syndrome co-morbidities etc. can result in insomnia. Sleep disorders have a significant effect on quality of life, as well as societal and economic effects concerning lost productivity, accidents, and health care costs.^{8,9}

The prevalence of severe insomnia is more among women, unemployed, those living alone after divorce or separation, and those in large cities but not more frequently in the elderly (aged 65 years and over).¹⁰ Worldwide epidemiological studies assessed the prevalence of insomnia it varies from 17%-34%.^{11,12}

Objective

To study the sociodemographic profile and find out the prevalence of insomnia among the middle age women.

METHODS

This was an institution-based descriptive study. The study design was cross-sectional type. This study was carried out for 3 months (September to November 2023), at general OPDs and IPDs of a tertiary care hospital. The study population was middle aged women (patients and patients' attendants) between 40-60 years attending tertiary care hospitals. The inclusion criteria were women in either the peri-menopausal phase or postmenopausal phase. Women with unnatural menopause (hysterectomy), severely ill patients, psychiatric illness, and all those not giving consent were excluded from this study.

A pre-designed, pre-tested, semi-structured schedule was the study tool. The schedule was designed by a research team. The schedule had two parts- the first part consisted of socio-demographic data (age, gender, residence, educational level, occupation, religion, per capita monthly income, socioeconomic status, addiction, and medical co-morbidities history). In our study socio economic status was classified as per the updated and modified B. G. Prasad's scale (updated as per CPI-IW of April 2023).¹³

The second part was concerned with the assessment of the participant's sleep patterns using the eight-item scale (AIS-8) Athens insomnia scale using diagnostic criteria by the International Classification of Diseases (ICD-10).¹⁴ The eight items of this scale consist of the first five pertaining to sleep induction, awakenings during the night, final awakening, total sleep duration, and sleep quality; while the last three refer to well-being, functioning capacity and sleepiness during the day. Respondents use Likert-type scales to show how severely certain sleep difficulties have affected them during the past month. Scores range from 0 (no problem) to 3 (indicating more acute sleep difficulties). A cutoff score of 6, which correctly distinguished between insomnia patients.^{14,15}

The selection of the study population was done by a convenient sampling technique. A total 310 middle-aged

women were included in the study who fulfilled the inclusion criteria within the study period.

Methods of data collection

The purpose as well as nature of the study was explained to the study population. They were ensured of their anonymity and confidentiality. They were told that their participation is voluntary and not compulsory. After obtaining informed consent, the researchers used a face-to-face interview technique to collect the data. The researcher conducted the interview and translated the scale's questions into the study participant's local language.

The permission to conduct the study and relevant ethical issues were sought from the institutional ethics committee of the concerned medical college and hospital. The purpose of the study, its advantages and disadvantages, its confidentiality and voluntary participation were explained to the study subjects. All data was collected and analyzed maintaining confidentiality only after obtaining informed consent. Raw data were entered in Microsoft Office Excel. Data were checked twice for correctness and consistency of the entered data and then they were analyzed using Microsoft Office Excel and SPSS version 25.

RESULTS

An observational descriptive cross-sectional study was conducted among 310 study participants attending the general OPD of a tertiary care hospital during the study period using a pre designed, structured pre tested proforma by face-to-face interview.

Table 1: Distribution of study participants based on their socio-demographic profile (N=310).

Variables	Category	Total n (%)
Age group (years)	40-45	103 (33.2)
	46-50	74 (23.8)
	51-55	72 (23.2)
	56-60	61 (19.6)
Education	Illiterate	73(23.5)
	Literate	237 (76.5)
Religion	Hindu	275 (88.7)
	Muslim and others	35 (11.3)
Occupation	Homemaker	261 (84.2)
	Working	49 (15.8)
Marital status	Married	274 (89)
	Never married	10 (3)
	Widows	26 (8)
Menopausal status	Peri menopausal	129 (42)
	Post menopausal	181 (58)

Table 1 revealed socio demographic profile of the study population. About 33.23% of the participants belonged to the age group of 40-45 years; 88.71% were Hindu; regarding occupation 84.2% were homemaker and 15.8% were working whereas 25.8% of the study population belonged to social class IV according to modified B. G. Prasad scale (May 2016).

Table 2: Distribution of study participants based on their personal history (n=310).

Variables	Category	Total N (%)
Diet	Non-vegetarian	266 (85.8)
	Vegetarian	44 (14.2)
Physical exercise	Yes	63 (20.3)
	No	247 (79.6)
Co-morbidity	Present	169 (54.5)
	Absent	169 (45.5)

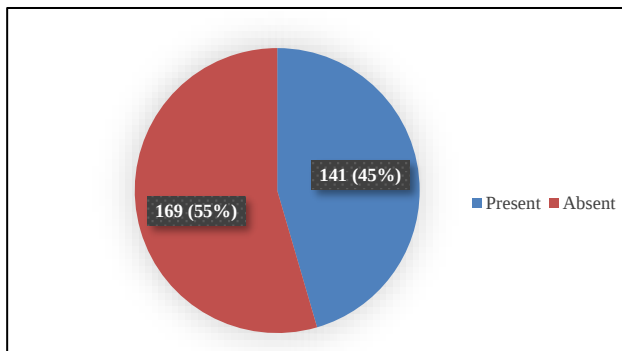


Figure 1: Distribution of study participants according to prevalence of insomnia (n=310).

Table 2 shows the personal history of study participants where 85.81% women were non-vegetarian, 20.32% who performed exercise and 54.5% having co-morbidity. Figure 1 shows that 45% of the study participants suffer from insomnia based on Athens insomnia scale (AIS). Table 3 shows the distribution of sleep related symptoms based on Athens insomnia scales among the study participants.

Table 3: Distribution of sleep related symptoms based on Athens insomnia scales (n=310).

Athens Insomnia Scales	Frequency (%)
Difficulty in sleep induction	172 (55.4)
Frequent midnight awakening	125 (40/3)
Earlier awakening than desired	161 (51.9)
Less sleep duration than desired	109 (35.2)
Poor quality of sleep	131 (42.2)
Poor sense of well being	84 (27.1)
Poor physical and mental functioning	96 (31.0)
Daytime sleepiness	153 (49.3)

*Multiple responses

DISCUSSION

The aim of the present study was to explore the prevalence of insomnia among middle age women attending OPD of a tertiary care hospital, Durgapur, West Bengal. The result illuminated a significant prevalence of insomnia among the middle age women is 45% among the study population. Studies done by Bashir et al and Arakane et al among the middle age women during menopausal transition period.^{16,17} A similar study conducted by Bhaskar et al in Bangaluru shows that 35% female having insomnia.¹⁸ Many studies shows that Indian women had higher sleep disturbance which was found in many studies.^{19,20} The middle-aged women experience extreme changes that are not only related to hormonal alternations, but they are also to emotional and social changes. Women are often faced with more stressful events in life than men, which leads to more negative impact on their life.²¹ Although many studies reported that sleep disorders like insomnia increase with age.¹⁷ This present study found the most common symptoms was difficulty in sleep induction. The other hospital-based studies also found the similar result.²²

The limitation of this present study is that the final outcome of the study cannot represent entire population of the community as it is hospital-based study. This present study mainly focused on prevalence of insomnia among middle age women who were approaching menopause.

CONCLUSION

Despite being the commonest sleep related problem, insomnia remains largely undiagnosed in the general population. The present study provided some idea about prevalence of insomnia among middle aged women. In our study findings indicated that insomnia is prevalent (45%) among the middle age women. The most common symptom was difficulty in sleep induction followed by earlier awakening than desired, and daytime sleepiness. It may be recommended that every middle age woman should be assessed for sleep pattern, screened for insomnia and should give adequate counselling for the same. There are many factors affecting insomnia. In our further studies, we will analyze the significant factors affecting insomnia on community-based study.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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