Prevalence of Insomnia among Elderly Patients attending Tertiary Care Hospital

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Abstract

Background: Sleep disturbances among the elderly are a significant public health issue. Nearly half of those aged 55 and older are said to have difficulty falling asleep and staying asleep. The current study is aimed to analyze how common sleep disturbances are among older patients at tertiary care hospitals.

Methods: The study included a total of 60 people with age 60 years or above, among which 27 were women and 33 were men. Data was gathered from elderly patients coming to tertiary care hospital and they were screened for cognitive decline by using mini mental state examination (MMSE). Patients having MMSE score more than 24 were analyzed. The Epworth Sleepiness Scale (ESS) and The Insomnia Severity Index (ISI) were used to assess daytime sleepiness and insomnia respectively.

Results: As per insomnia severity index scale (ISI) out of 60 patients, 30\% (n = 18) had mild insomnia, 21.67\% (n = 13) had moderate insomnia and 1.67\% (n = 1) severe insomnia, whereas 46.67\% (n = 28) had no insomnia.

As per Epworth sleepiness scale (ESS) out of 60 patients, 05\% had mild daytime sleepiness and 95\% had no sleepiness. As per the study there is significant correlation between ISI and ESS. The study indicated significant relation between advancing age and insomnia among senior patients. The incidence of comorbidities among patients having insomnia was studied. Cardiovascular disorders were the most prevalent (33.33\%) followed by diabetes mellites (16.66\%) and chronic obstructive pulmonary disease (6.66\%).

Conclusion: Sleep disorders, in particular insomnia, are a significant health and social issue among the elderly who visit a tertiary care hospital. In light of the findings, it is suggested that current health awareness plans pertaining to the elderly related sleep disorders be conducted and improved for enhancing their sleep standard, and thus the quality of their life, and to raise their awareness about the importance of sleep in daily life. In the realm of sleep disturbances in the elderly, more study is needed to assess the incidence of these problems on a national basis.
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**INTRODUCTION**

Sleep is an essential physiological process. Rest and sleep are different terms; the brain is active and performs a variety of dynamic processes that are necessary for survival. It aids in the healing of the body, the conservation of energy, the repair of damaged tissues, the enhancement of immunity, and the strengthening of memory.\(^1,2\) Chronic insomnia is described by the International Classification of Sleep Disorders as difficulty beginning or maintenance of sleep despite enough opportunities to sleep, with daily repercussions for three months (with less than three times in a week).\(^3\) Sleep is significantly more disrupted and fragmented in institutionalised elderly people than it is in community-dwelling seniors.\(^4\) Insufficient sleep can result in cognitive impairment, tiredness during day, and thus decreased standard of life.\(^5\) Medical ailments, neurological conditions, primary sleep disorders, psychiatric disorders, psychological variables, and environmental conditions all lead to sleep difficulties among elderly.\(^6,7\) Only a small percentage of the elderly see a doctor for sleep problems alone, and only a small percentage of those who could be sent to a sleep specialist or psychiatrist.\(^8\) Sleep difficulties in the elderly are frequently overlooked and undertreated during routine doctor visits.\(^9\) In community-based studies, the prevalence of insomnia ranges from 11.6% to 70%.\(^10-12\) In the hospital senior sample, the prevalence ranged from 23 to 27%.\(^13,14\) There is a huge paucity concerning the research on insomnia in elderly.

**MATERIAL AND METHODS**

**Aims and Objectives**

The aim of the study is to uncover the prevalence of insomnia among senior patients in a tertiary care hospital, as well as the associated socio-demographic characteristics.

**Methods**

The study was conducted at tertiary care hospital (ASCOMS) located in Jammu region.

**Design:** Cross sectional study  
**Duration:** 5 months (February–June 2021)

**Inclusion Criteria**

Patients with age over 60 years, from both the genders having given consent, were considered. The patients having MMSE score of more than 24 were included.

**Exclusion Criteria**

Patients with psychiatric diseases or dementia were not considered in the study. Patients who had not given consent or who were too unwell to be evaluated were excluded.

- **Socio-demographic Data Sheet:** This was created to gather socio-demographic profile information that is important to the geriatric population. Age, sex, marital status, type of family, and income were all the factors.
- **Epworth Sleepiness Scale (ESS):** It is an eight-question self-assessment scale whose goal is to rate the likelihood of falling asleep in eight common settings for example having meals, watching TV or while driving on a scale of 0–3. The range of the ESS score is 0–24. In case of a lack of excessive sleepiness the score ranges from 0 to 10, but a score of more than 10 suggests pathological sleepiness, for which a consultation is required. The questionnaire takes roughly 3 minutes.
- **Insomnia Severity Index (ISI):** The sleep problems of the last two weeks can be subjectively measured by this scale. It comprises of seven questions, one for each of the categories below: 1. difficulty getting asleep, 2. problem in maintaining asleep, 3. problems arising from awaking too early, 4. rating of sleep quality satisfaction, 5. impact of sleep disorders on everyday functioning, 6. other people’s perception of sleep problems, 7. level of concern about the sleep disorder. On the Likert scale, each question has five possible responses (0—no problem, 4—extremely significant problem).\(^15,16\) The ISI score is the total of all the responses given to all of the questions. On the ISI, you can get anywhere from 0 to 28 points. The interpretation of results is performed as: 0 to 7 points equal no clinically significant sleep
disturbances; 8 to 14 points equals subthreshold insomnia; 15 to 21 points equals moderately severe clinically remarkable insomnia; 22 to 28 points equals severe insomnia. The tool’s specificity and sensitivity are both 94%.

**Statistical Analysis**

Statistical distribution viz. percentages, frequency have been used to obtain the distribution of the various socio-demographic factors. The data was analyzed using IBM-statistical package for the social sciences (SPSS) software (version 21) and analysis was done by using spearman’s rank correlation method.

**Institutional Ethics Committee Approval**

Written consent was attained from all the subjects. No invasive methods were followed. Patients were prior informed that refusal to take part in the study would not alter their treatment. Firm confidentiality was upheld.

**RESULTS**

Sleep difficulties existed in approximately 50% of the elderly patients studied, early insomnia being the significant issue followed by middle insomnia, late insomnia, and hypersomnolence (daytime sleepiness). There was a statistically remarkable relation between insomnia and increasing age in elderly patients. The analysis of incidence of comorbidities within patients with the issues related to insomnia was performed. Cardiovascular disorders were most prevalent followed by diabetes mellities and chronic obstructive pulmonary disease. Most the samples were taken from outpatient departments which included department of medicine, ophthalmology and psychiatry.

The total number of patients participated in study were 60, out of which 33 (55%) were males and 27 (45%) were females. Majority of sample belong to age group of (60–70) n = 50 (83.3%). In the study, 8 (13.33%) were skilled and 52 (86.67%) were unskilled.

Most of the patients 50 (83.33%) were from joint families compared to those living in nuclear families 10 (16.67) (Table 1).

As per insomnia severity index scale (ISI), out of 60 patients, n = 18 (30%) had mild insomnia n = 13 (21.67) had moderate insomnia and n = 1 (1.67%) severe insomnia, whereas n = 28 (46.67%) had no insomnia (Table 2).

<table>
<thead>
<tr>
<th>ISI</th>
<th>No. of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No insomnia</td>
<td>28</td>
<td>46.67</td>
</tr>
<tr>
<td>Mild</td>
<td>13</td>
<td>21.67</td>
</tr>
<tr>
<td>Severe</td>
<td>01</td>
<td>1.67</td>
</tr>
</tbody>
</table>

Table 3: Epworth sleepiness scale (ESS) scores of the sample.

<table>
<thead>
<tr>
<th>ESS</th>
<th>No. of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No sleepiness</td>
<td>57</td>
<td>95</td>
</tr>
<tr>
<td>Mild</td>
<td>03</td>
<td>05</td>
</tr>
<tr>
<td>Severe</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

Table 4: Spearman’s rank correlation between Epworth sleepiness scale (ESS) and Insomnia severity index (ISI)

<table>
<thead>
<tr>
<th>ESS</th>
<th>ISI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.419</td>
<td>1</td>
</tr>
<tr>
<td>p-value</td>
<td>p &lt; 0.0001 (highly significant)</td>
</tr>
</tbody>
</table>
As per Epworth sleepiness scale (ESS) out of 60 patients, n = 3 (05%) had mild day time sleepiness and n = 57 (95%) had no sleepiness (Table 3). As per the study there is significant correlation between ISI and ESS (Table 4).

**DISCUSSION**

In the current study, insomnia, according to the Insomnia Severity Index scale, out of 60 patients, n = 18 (30%) had mild insomnia n = 13 (21.67) had moderate insomnia and n = 1 (1.67%) severe insomnia, whereas n = 28 (46.67%) had no insomnia. As per ESS out of 60 patients, n = 3 (05%) had mild daytime sleepiness and n = 57 (95%) had no sleepiness. According to the research, ISI and ESS have a substantial relationship. The average ESS point value in a group of 131 elderly people was 8.62.8 in a study by Brando et al. In other study by Brando et al., 40 seniors (30.5%) reported excessive daily drowsiness as per ESS, despite the fact that the mean ESS score among the individuals within the study group was 8.322.2 points, which, like other studies, does not indicate excessive daytime sleepiness. Men who had a score of greater than 10 points on the ESS were more common than women. Tsuno et al., study comprising population with 2184 senior individuals in France - 12.0% of men and 6% of women were having higher daytime drowsiness. The average ESS point value was 5.63.5 points in the Sforza et al. study which comprised 232 seniors (mean age: 75). An average ISI value of 10.38 5.23 points was found in other ISI study performed within a local section of population in China. In the Dragioti et al., study, the average overall ISI score was 9.85.5 points. Individual categories revealed that 35.7%of the participants were without insomnia, 44.3% had subthreshold insomnia, 17.8% had moderate insomnia, and lastly 2.2% had severe insomnia. This suggests that 20% of the participants in the study had clinically severe insomnia (IS>15). In our research, we found similar results. Sleep quality events, both subjective and objective, are employed to treat age-related sleep alterations. In comparison to younger adults, older adults report getting up earlier, longer sleep onset latency, more time spent in bed, nightly arousals, and napping, and less total sleep. Cardiovascular problems were the usual comorbidity among patients having insomnia in this investigation. In 1998 research of over 3,000 adults, it was discovered that 30% to 50% of patients having congestive heart failure, myocardial infarctions, diabetes or angina had sleeplessness. Insomnia could be a contributing factor or a symptom of cardiovascular disease. The comorbidity of insomnia, sleep apnea, is a substantial risk factor for cardiovascular disease.

**CONCLUSION**

Sleep problems, mostly insomnia, are a major health and social concern among the elderly who attend a tertiary care hospital. In light of the findings, it is suggested that current health teaching plans aimed at the elderly related sleep disorders be conducted and improved in order to upgrade the standard of their sleep, and thus their standard of life, and to uplift the elderly's consciousness of the significance of sleep in daily life. In the realm of sleep disturbances in the elderly, more study is needed to assess the incidence of these problems on a national basis.

**REFERENCES**

5. Bonnet MH, Arand DL. We are Chronically sleep deprived. Sleep 2013; 18:908-911.
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