

Sleep Problems of Older People in Bangladesh

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Abstract

Sleep is a vital physiological process with important restorative functions. The proportion of older people is increasing, and many of them experience sleep problems which increase the risk of accidents, falls, and chronic fatigue. The dual purposes of this study, which was conducted in two southern districts of Bangladesh, were to evaluate older people's sleep problems and to investigate the relationship between this problem and socio-demographic characteristics. Data were collected from 280 older people via the Athens Insomnia Scale (AIS-5). Descriptive statistics were used to analyze demographic and sleep problem data. One way classification of analysis of variance (ANOVA) was used to compare different groups of older people with different socio-demographic characteristics. Almost all (87.9%) of the participants reported having severe sleep problems. Being widowed, being illiterate, living in a nuclear family, and having a low income were found to be significant factors associated with older people's sleep problems. The identification of further factors that affect older people's sleep problems is recommended to inform improved assessment of sleep problems and the development of prevention and treatment programs.

Keywords: Bangladesh; Older people; Sleep problems

Abbreviations: M: Mean; SD: Standard Deviation; DF: Degree of Freedom; ANOVA: Analysis of Variance; AIS: Athens Insomnia Scale

Introduction

Ageing populations are a worldwide phenomenon reflecting increased life expectancy. As in other developing countries, the proportion of older people (aged 60 or above) in Bangladesh is increasing [1]. A major problem that is frequently associated with the ageing process is a significant disruption to an individual's daily sleep-wake cycle [2]. Sleep is a vital physiological process with important restorative functions [3] and studies show the prevalence of sleep problems increases gradually with age [4]. Approximately 20% of people aged 65 years or older experience significant and persistent sleep problems [5], defined as an unsatisfactory quantity and/or quality of sleep which persists for a considerable period of time [6]. It may manifest itself as difficulty falling asleep, difficulty staying asleep, or early final wakening.

Sleep problems have been shown to be the most common problem experienced by older people [7]. They may be caused by ageing, medical conditions, and environmental or lifestyle changes [8]. Sleep problems may be primary or secondary according to their underlying cause. Common causes of primary sleep problems include irregular sleep patterns, jet lag, poor sleep hygiene, excessive caffeine intake, excessive alcohol intake, use of certain medications, and stress. Primary sleep problems are not usually associated with a medical or psychiatric condition. Secondary sleep problems are associated with medical or psychiatric disorders [9]. Inadequate sleep increases the risk of accidents, falls, and chronic fatigue [10]. About 50% of US people aged 65 and over reported sleep problems [11]. In Egypt, the prevalence of sleep problems among people aged 60 years and above was 33.6% [12]. In China, approximately 42 percent of people aged 60 or above suffered from sleep problems [13]. In Bangladesh, about 39 percent of older people reported sleep problems [14]. In the latter study, participants reported sleep problems, but it was not evaluated by measurement instruments. Thus, it may useful to identify older people's sleep problems and the relationship with socio-demographic characteristics. The author hopes that this study will contribute to greater understanding of sleep problems among older people and will support the development of strategies to assess and prevent the

consequences of sleep problems recommended to inform improved assessment of sleep problems and the development of prevention and treatment programs.

Data and Methods

A descriptive study was carried out among 280 older people between September 2015 and January 2016 in 10 villages of two southern districts of Bangladesh. The participants were interviewed using a demographic data form, and the Athens insomnia scale (AIS-5) [6]. This consists of five items: [1] sleep induction, [2] awakenings during the night, [3] final awakening, [4] total sleep duration and [5] sleep quality. Each item response was assessed using a four-point Likert-style scale (absent=0, mild=1, severe=2, and very severe=3). A total score of 0 is considered to indicate no sleeping problems, a score of 1 or 2 to indicate sleep problems, and a score of 3 or more to indicate severe sleep problems. In this study, the reliability of the AIS-5 was determined by Cronbach's Alpha Coefficient, and the value found was .85, which was considered as satisfactory.

Data were analyzed using a statistical program (SPSS 13.0). Descriptive statistics, including frequency, percentage, mean and standard deviation, were used to analyze the secondary demographic and sleep problems data. Comparison between the two groups was carried out using one-way classification of analysis of variance (ANOVA).

Results

Almost all (87.9%) older people reported having severe sleep problems, 10.4% reported having sleep problems. Only 1.80% reported no sleep problems (Tables 1 and 2).

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Variable	Categories	Frequency (%)
Sleep problem	No sleep problems	5 (1.8)
	Sleep problems	29 (10.4)
	Severe sleep problems	246 (87.9)

Table 1: Sleep problems of older people (n=280).

Characteristics	Categories	N (%)	Sleep problems score (M+SD)	Sources of variation	df	Mean square	F-value	Sig
Age (M=65.81)	60-70 years	239 (85.4)	6.83+4.11	Within	1	11.85	.704	.402
	71-75 years	41 (14.6)	7.41+4.07	Between	278	16.85		
Gender	Male	141 (50.4)	6.57+4.04	Within	1	34.89	2.08	.150
	Female	139(49.6)	7.27+4.15	Between	278	16.76		
Marital status	Married	224 (80.0)	6.43+3.88	Within	1	268.13	16.84	.000
	Widowed	56 (20.0)	8.88+4.42	Between	278	15.92		
Education level	Illiterate	154(55.0)	7.89+4.35	Within	1	323.16	20.55	.000
	Literate	126 (45.0)	5.73+3.43	Between	278	15.73		
Employment Status	Employed	232 (82.9)	6.78+4.01	Within	1	27.29	1.63	.203
	Unemployed	48 (17.1)	7.60+4.49	Between	278	16.79		
Family	Nuclear	149 (53.2)	7.80+4.46	Within	1	247.07	15.44	.000
	Extended	131 (46.8)	5.92+3.90	Between	278	16.00		
Income (Taka)	3,00- 3,000	114 (40.71)	9.11+4.59	Within	2	462.69	33.10	.000
	3,100-10,000	140 (50.00)	5.49+2.92	Between	277	13.61		
	10,100-20,000	26 (9.29)	5.00+2.81					
Diseases	No	4 (1.40)	3.25+.96	Within	1	54.59	3.27	.072
	Yes	276 (98.60)	6.97+4.11	Between	278	16.69		

Table 2: Distribution of subjects and sleep problems scores with various socio-demographic characteristics (n=280).

Table 1 shows that the majority (85.4%) of older people were between 60 and 70 years old. 50.4% were male and 49.60% were female. The majorities (80.0%) were married, and 55.0% were illiterate. Most (82.9%) were employed. 53.2% lived in a nuclear type of family, and exactly half reported their family's monthly income as between 3,100 and 10,000 Taka. Almost all (98.60%) of the older people reported having diseases. Table 1 also shows that marital status ($f=16.84$, $p=.000$), education level ($f=20.55$, $p=.000$), family type ($f=15.44$, $p=.000$), and income ($f=33.10$, $p=.000$) were found to be significant factors linked to older people's sleep problems scores. However, age ($f=.704$, $p=.402$), gender ($f=2.08$, $p<.150$), employment status ($f=1.63$, $p=.203$), and diseases ($f=3.27$, $p=.072$) were found to be non-significant factors.

Discussion

Almost all of participants reported having sleep problems. This result is consistent with a study in China [15], but lower than in a study in Egypt. This lower percentage may be due to differences between participants' demographic characteristics.

Being widowed was found to be significantly related to older people's sleep problems, consistent with the results of the Egyptian study. Illiteracy was also found to be a significantly related to sleep problems, but this is inconsistent with the Egyptian study. This may be due to differences between participants' educational statuses. In addition, living in a nuclear family and having a low family income were found to be significantly associated with older peoples sleep problems. Again, these results are inconsistent with the Egyptian study's results [12]. This may be due to differences between the proportion of the studies' participants living in nuclear families and participants' economic statuses.

Age was found to be a non-significant factor related to older people of sleep problems, consistent with two other studies' results [12-15], but inconsistent with another's [16]. The inconsistency could be due

to differences between participants' mean ages. Gender, employment status, and diseases were found to be non-significant factors linked to older peoples' sleep problems scores. These results are consistent with the Egyptian study's results [12].

Conclusion

Almost all participants reported having sleep problems. Being widowed, being illiterate, living in a nuclear family, and having a low income were found to be significant factors associated with older peoples' sleep problems. These results may be useful for clinicians and health care providers, and may support them in the development of strategies for assessing and preventing older peoples' sleep problems in the southern districts of Bangladesh and other areas.

Ethical Considerations

Permission was obtained from the proper district level health authority and the study participants.

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