Insomnia in the Elderly of Arar (Saudi Arabia)

Solaiman Diaa-Aldin Mohamed A[1], Alenezi Tarki Moubarak A[2]*, Omar Mohamed Bakr Ali[3]

[1] Consultant of psychiatry at Eradah Mental Health Complex in Arar, Saudi Arabia.
[2] Resident of psychiatry at Eradah Mental Health Complex in Arar, Saudi Arabia.
[3]Medical student, Sohag University, Egypt.

ABSTRACT

Background: Insomnia is a significant public health problem that is remained under-recognized, under-diagnosed, and under-treated. Geriatric specialists hardly diagnosed and treated insomnia. **Objectives**: The main purpose of this research is to determine the prevalence of insomnia and its relation to some chronic diseases in the elderly population of Arar, Saudi Arabia. **Methods**: A cross-sectional study, including 138 elderly patients who attended five randomly selected primary healthcare centers in Arar city was performed. All the elderly who attended the centers during the study period were invited to participate in this study. Each respondent was interviewed separately, their answers were examined to collect the needed data and fill the questionnaires. **Results**: The prevalence of insomnia in this study was 25.4%. Only 7.2% of the respondents were current smokers and around 24% were previous smokers. Around half (45.7) of the respondents were suffering from chronic hypertensives, and 37.0% from diabetics. Considering the sociodemographic factors association with insomnia, the age group was significantly associated with insomnia (P=0.029). There was a non-significant association with gender, BMI group, or marital status. There was a significant relation between insomnia and bronchial asthma (P=0.020), while there was a non-significant relation between insomnia and smoking status, hypertension, or diabetes mellitus. **Conclusion:** The results showed that insomnia is a common complaint among the elderly population with a prevalence of 25.4%. There was a significant relationship between insomnia with age group and bronchial asthma. The study reveals that health assessment is necessary to screen out insomnia and prompt management should be provided to the elderly population of Arar, Saudi Arabia.

Key Words: *insomnia, chronic diseases, elderly, Arar, Saudi Arabia.*

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INTRODUCTION

Insomnia which is dissatisfaction with sleep either qualitatively or quantitatively is known as the most prevalent sleep disorder [1]. It included difficulties like initiating and maintaining sleep, morning awakening or caused non-restorative or low-quality sleep.

Insomnia is associated with a daytime impairment such as tiredness, memory impairment, slow responses, a decrease in cognitive ability, and daytime sleepiness [2]. These symptoms not only increase the incidence of falls, fractures, and automobile accidents, but also potentially result in long-term morbidity, mortality, and health care resources utilization [3].

Insomnia is prevalent in 10% to 15% of the general population. In 2010, the office visits related to sleep disturbances were around 5.5 million in the United States. Although it affects all ages, it is more prevalent among older adults than younger adults who were divorced, were widowed, drunk alcoholics, or women that are in their peri-menopausal and post-menopausal transitions. [4, 5] Insomnia is a predominant geriatric issue and might be related to underlying co-morbid conditions (gastroesophageal reflux disease, respiratory issues, and immobility), neurological conditions, psychiatric disorders (depression, anxiety, and post-traumatic stress disorder), and certain lifestyle practices. However, it is often mistakenly considered as one of the normal symptoms of aging [6]. The prevalence of insomnia in the community-based studies in the elderly ranges from 12% to 70% [7, 8].

A self-evaluating questionnaire is a helpful method to

Corresponding author: Alenezi Tarki Moubarak A
Address: Resident of psychiatry at Eradah Mental Health Complex in Arar, Saudi Arabia.
E-mail: ✉ motx88 @ hotmail.com
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document insomnia and the quality of sleep [9].

Objective

The study aims to determine the prevalence of insomnia and its relation to some chronic diseases in the elderly population of Arar, Saudi Arabia.

METHODS

Study design and setting

This research is a cross-sectional study that was conducted in Arar City in the Northern Province of the Kingdom of Saudi Arabia, from January 2020 to July 2020.

The study consisted of 138 elderly patients who attended five randomly selected primary healthcare centers. The selected primary healthcare centers were reviewed regularly during the study period and all the attending 60 years old or more elderly were invited to participate after taking written informed consent. Each elderly was interviewed separately and their medical files were examined to collect the required data and fill the questionnaires.

The information including inquiries about sociodemographic data of the patients such as smoking, body mass index (BMI), chronic diseases, and insomnia was collected using a predesigned questionnaire. The questionnaires were anonymous, and the confidentiality of data was assured.

The statistical analysis was carried out using SPSS software version 23. Sample characteristics were summarized as numbers and percentages for qualitative variables. A Chi-square test was used for testing the associations. In all statistical tests of this research, a 5% level was chosen as a level of statistical significance.

RESULTS

The study consisted of 138 elderly patients who randomly attended five selected primary healthcare centers.

Table 1 shows gender, age group, marital status, educational level, and BMI group, in the studied population. Out of 138 of the samples, 52.2% were females. Most of the studied population were 60 - 70 years old (65.2%). Around half of the studied population were illiterate (48.6%), 19.6% were primarily educated, and 15.9% had a university degree or they were higher educated. The majority were obese (45.7%). Among the participants, 62.3% were married, 33.3% were widowed and only 2.2% were single.

Table 1. Socio-demographic characteristics of the participants, 2020 (N=138).

Variables	Frequency (N=138)	Percent (%)
Sex		
Male	66	47.8%
Female	72	52.2%
Age groups		
60 - 70 years	90	65.2%
71 - 80 years	36	26.1%
81 years and above	12	8.7%
Educational level		
Illiterate	67	48.6%
Primary	27	19.6%
Preparatory	11	8.0%
Secondary	11	8.0%
University degree	22	15.9%
Marital status		
Single	3	2.2%
Married	86	62.3%
Divorced	3	2.2%
Widowed	46	33.3%
Body Mass Index Group		
Underweight	4	2.9%
Normal	34	24.6%
Overweight	37	26.8%
Obese	63	45.7%

Insomnia, smoking, hypertension, diabetes mellitus, and bronchial asthma were indicated in table 2. The prevalence of insomnia in this study was 25.4%. Only 7.2% of the respondents were current smokers and around 24% of them were previous -smokers. Around half (45.7) of the respondents were suffering from chronic hypertensives, and 37.0% were diabetics.

Table 2. Insomnia, smoking, hypertension, diabetes mellitus, and bronchial asthma in the studied population. (N=138)

	Frequency	Percent
Insomnia		
Yes	35	25.4%
No	103	74.6%
Smoking status		
Smoker	10	7.2%
Previous smoker	33	23.9%
Non-smoker	95	68.8%
Chronic hypertension		
Yes	63	45.7%
No	75	54.3%
Diabetes mellitus		
Yes	51	37.0%
No	87	63.0%
Bronchial asthma		
Yes	25	18.1%
No	113	81.9%

The relation between insomnia and participants' socio-demographic characteristics were revealed in table 3. As regard sociodemographic factors associated with insomnia, the age group was significantly associated with

insomnia (P=0.029). There was a non-significant association with gender, BMI group, and marital status.

Table 3. The relation between insomnia and participants' socio-demographic.

		Insomnia		Total (N=138)	P-value
		Yes (N=35)	No (N=103)		
Gender	Male	17	49	66	0.537
		48.6%	47.6%	47.8%	
	Female	18	54	72	
		51.4%	52.4%	52.2%	
BMI group	Underweight	1	3	4	0.249
		2.9%	2.9%	2.9%	
	Normal weight	9	25	34	
		25.7%	24.3%	24.6%	
	Overweight	5	32	37	
		14.3%	31.1%	26.8%	
	Obese	20	43	63	
		57.1%	41.7%	45.7%	
Marital status	Single	0	3	3	0.248
		0.0%	2.9%	2.2%	
	Married	20	66	86	
		57.1%	64.1%	62.3%	
	Divorced	2	1	3	
		5.7%	1.0%	2.2%	
	Widowed	13	33	46	
		37.1%	32.0%	33.3%	
Age group	60 – 70 years	17	73	90	0.029
		48.6%	70.9%	65.2%	
	71 – 80 years	15	21	36	
		42.9%	20.4%	26.1%	
	81 years or above	3	9	12	
		8.6%	8.7%	8.7%	

The relation between insomnia and smoking, asthma, diabetes mellitus, and hypertension were shown in table 4. There is a significant relation between insomnia and bronchial asthma (P=0.020), while there is a non-significant relation between insomnia and smoking, hypertension, or diabetes mellitus.

Table 4. The relation between insomnia and smoking, asthma, diabetes mellitus, and hypertension.

		Insomnia		Total (N=138)	P-value
		Yes (N=35)	No (N=103)		
Smoking	Smoker	2	8	10	0.468
		5.7%	7.8%	7.2%	
	Ex-smoker	6	27	33	
		17.1%	26.2%	23.9%	
	Non-smoker	27	68	95	
		77.1%	66.0%	68.8%	
Bronchial asthma	Yes	11	14	25	0.020
		31.4%	13.6%	18.1%	
	No	24	89	113	
		68.6%	86.4%	81.9%	
Diabetes Mellitus	Yes	17	34	51	0.075
		48.6%	33.0%	37.0%	
	No	18	69	87	
		51.4%	67.0%	63.0%	
Hypertension	Yes	17	46	63	0.418
		48.6%	44.7%	45.7%	
	No	18	57	75	
		51.4%	55.3%	54.3%	

DISCUSSION

Insomnia is a significant public health problem that remains under-recognized, under-diagnosed, and under-treated [10]. Geriatric specialists were hardly systematically diagnosed and treated insomnia [11].

Insomnia is a serious problem among older individuals Because of widespread prevalence and poor sleep, insomnia is known as a serious issue among the elderly and may affect the successful aging in many vitality and resilience aspects [12].

The prevalence of insomnia and its relation to some chronic diseases in the elderly population of Arar, Saudi Arabia was determined in this study.

The 25.4% insomnia prevalence in this study was comparable with the studies of Foley et al in 1995 who had found a prevalence between 23% and 34% in a community-based study in the USA [13]. However, our results in comparison with the results of Jaussent et al in 2011 were much lower. Jaussent et al. in a community based study in France, found that more than 70% of men and women had at least one of the symptoms of insomnia [14]. In another study in 2017, Cao et al. with a community-based meta-analysis of 4 studies in China showed that the prevalence of insomnia in older adults (>46 years) is 20% [15].

In 2011, the 36.4% insomnia prevalence among the elderly in geriatric homes in Cairo was reported [16]. In Saudi Arabia, a study conducted in Riyadh showed that the prevalence of insomnia in the elderly was as high as 93.7% which is much higher than our figure [17]. The difference in the results may be due to the different populations and different study methodologies.

The results of the present study showed a statistically significant relation between insomnia and age group (P=0.027). About 18.9% of the elderly aged 60 - 70 years had insomnia and 37.5% of them were older than 70 years old. Another study in Riyadh, Saudi Arabia by Fatani et al. in 2015 showed that the prevalence of insomnia symptoms in participants older than 70 years (81.4%) is also higher than participants aged between 60 - 69 years old (79.1%). Although, their results indicated an insignificant relation between the symptoms of insomnia and age group [18].

In the current study, bronchial asthma is significantly related to insomnia as insomnia was found in 44% of

asthmatic participants (P=0.020). Luyster et al. (2017) in a study conducted to show the relation between insomnia and asthma. They reported that insomnia was identified in 37.7% of the participants, which is following our results [19]. A 2.4 and 1.5 fold increased risk of not well-controlled asthma and asthma-related health care utilization in those with insomnia compared with those without insomnia were also reported in their work, respectively.

Many previous researches documented the significant relationship between insomnia and bronchial asthma, and insomnia is also often considered a risk factor for bronchial asthma [18, 20-22].

In the present study, gender and BMI group had an insignificant relation with insomnia (P>0.05). Also, diabetes mellitus and hypertension were not significantly related to insomnia which is similar to the results by Fatani et al [18]. Moreover, Farazdaq et al. in 2018 in Karachi (Pakistan) stated that hypertension and diabetes are not among the correlates of insomnia and their results did not show a statistically important relationship between hypertension, diabetes and insomnia. [23]

CONCLUSION

In the present study in Arar, Saudi Arabia, the results showed that insomnia is a common complaint among the elderly population. The prevalence was 25.4%. There was a significant relation between insomnia with age group and bronchial asthma. The study revealed that health assessment is necessary to screen out insomnia and prompt management should be provided to the elderly population of Arar, Saudi Arabia.

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