Assessment of Prevalence and Risk Factors of Sleep Disorders among Inhabitants of Old Age Homes in Urban Area

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ABSTRACT:
Background: Sleep disorders are a group of various conditions that disturb sleep regularly. Sleep disorders may be caused by any health conditions or by an increase in stress levels. Modern times have seen sleep disorders to be more common than in the olden times

Aim And Objective: Identification of the prevalence, risk factors, and associations between sleep disruption and depression in elderly home residents

Materials and Methods: It is a cross-sectional observational study which is conducted in 10 randomly selected old age homes. The inhabitants of old age homes who are willing to participate and above 50 years of age are included in this study. This study was conducted by using the PSQI questionnaire and the scores were allotted and analyzed.

Result: Out of 187 subjects, we found that 34.22% [n=64] disturbed sleep according to the PSQI scale. 29 out of 64 subjects who is having disturbed sleep have depression [45.31%], the majority are females [n=18, 62.06%] than males [n=11, 37.93%]. The probable risk factor for developing sleep disorders are gender and depression.

Interpretation and Conclusion: the study shows that 34.22% of the inhabitants of old age homes were suffering from sleep disturbance. Therefore, greater initiatives and awareness Programs must be carried out through various by offering counseling resources.

Keywords: sleep disorders, urban, risk factors, depression, old age homes

I. INTRODUCTION

Sleep disorders are a group of various conditions that disturbs sleep regularly. Most people commonly experience sleep disorders due to stress, hectic schedules, and other outside influences. These factors may interfere with daily life that might cause a sleeping problem. Based on types of sleep disorders, people might feel difficulty falling asleep and may feel extremely tired throughout the day. The lack of sleep can harm the mental health, concentration, mood, and energy of the patient.

There are five types of sleep disorders, Insomnia refers to the inability to fall asleep or to remain asleep, It can be caused by jet lag, stress, anxiety, hormones, or digestive problems. Sleep apnea is a condition characterized by a pause in breathing during sleep. It is a serious medical condition that causes the body to take in less amount of oxygen. Parasomnias is a type of sleep disorder that causes abnormal movements and behaviors during sleep, Restless leg syndrome is an overwhelming need to move the legs. This urge is sometimes accompanied by a tingling sensation in the leg, Narcolepsy is characterized by a sleep attack that occurs while awake. This is characterized by, a sudden feeling of extreme tiredness and falling asleep without warning. The common symptoms include Day time fatigue, Difficulty falling or staying asleep, Unusual breathing patterns, Unusual movement or other experiences while asleep, Unintentional changes to your sleep/ wake schedule, Irritability or anxiety, Impaired performance at work or school, Lack of concentration, Depression.[1,2]

II. MATERIALS AND METHODOLOGY

Study site: Elderly people in Mysuru who had been residing in old age homes for more than six months were surveyed six months.

Inclusion and Exclusion criteria: We randomly selected inhabitants of old age homes aged 50 and over who gladly participated in the survey included after obtaining their consent, or their supervisors

through the provision of an information letter of acceptance.

Sample size: Total number of subjects enrolled in the study: 187.

Selection of subjects: The subjects were selected randomly who met all the required inclusion and exclusion criteria.

Ethical issues: Written informed consent was obtained from each subject before study initiation and the name of the participants kept confidential.

Data collection: the relevant information like medical reports, demographic details, and medication history of a patient were collected and documented.

Study tools:

PSQI Questionnaire: Pittsburgh sleeps quality index is a standard questionnaire that consists of 19 questions used to determine sleep disturbance in study subjects.

PSQI questionnaire scoring: It contains 19 self-rated questions and 5 questions rated by the bed partner or roommate. Only self-rated questions are included in the scoring. The 19 self-rated questions are combined to form seen 'component' scores, each of which has a range of 0-3 points. In all cases, a score of 0 indicates no difficulty, while a score of 3 indicates severe difficulty. The seven component scores are then added to yield one 'global' score, with a range of 0-21 points, 0 indicating no difficulty and 21 indicating severe difficulty in all areas.

Informed Consent Form: Informed consent is a process by which a subject voluntarily confirms his/her willingness to participate in a particular trial, after having been informed of all survey aspects relevant to the subject's decision to participate. It is documented using a written, signed, and dated informed consent form

Patient Data Collection Form: It includes the demographics of the patients such as occupation, age, literacy, and socio-economic status, and also consists of past medication history, past medical history, and current medication.

III. RESULT:

We checked the quality of sleep by using the PSQI scale in around 187 subjects, out of this we found that n=64 [34.22%] has disturbed sleep. We found that the literates have major sleep disturbance at 60.31% (n=38, 60.31%) than the illiterates at 41.26% (n=26, 41.26%). The literate includes, the primary [n=11, 12 .69%], high school [n=11, 17.46%], PUC [n=3, 4.76%], degree [n=7, 11.11%], and master degree [n=9, 14.28%]. The study population with disturbed sleep is categorized into age groups like 50-60y (17.18%), 61-70y (29.68%), 71-80y (28.12%), 81-90y (21.87%), and 91-100y (3.12%). The subjects with 51.56% on the veg diet and 48.43% on mixed diet were having disturbed sleep out of 64 study population. Out of 64 study populations, 54.68% of hypertensive and 31.25% of diabetic subjects are having disturbed sleep. The data shows that 29 out of 64 subjects who is having disturbed sleep have depression [45.31%]. Out of 29 subjects, majority are females [n=18, 62.06%] than males [n=11, 37.93%].

Table 1: Demographic Distribution of Study Population

Demographics		Number of Subjects (%)
Age	50-60 years	11 (17.18%)
	61-70 years	19 (29.68%)
	71-80 years	18 (28.12%)
	81-90 years	14(21.87%)
	91-100 years	2 (3.12%)
Diet	Mixed	31 (48.43%)
	Only Veg	33 (51.56%)
gender	Females	42 (65.62%)
	Males	22 (34.37%)

Literacy	Illiterate	26 (40.62%)
	Primary	8 (12.5%)
	High school	11 (17.18%)
	P U C	3 (4.68%)
	Degree	7 (10.93%)
	Master degree	9 (14.06%)
Comorbidities	HTN	35 (54.68%)
	DM	20 (31.25%)
Among sleep disorder patients	Depression	
	Present	29(45.31%)
	Absent	35(54.68%)
	Gender	
	Male	11(37.93%)
	Female	18(62.06%)

Prevalence: out of 187 study subjects, we found that 34.22% [n=64] has disturbed sleep as per the PSQI scale.
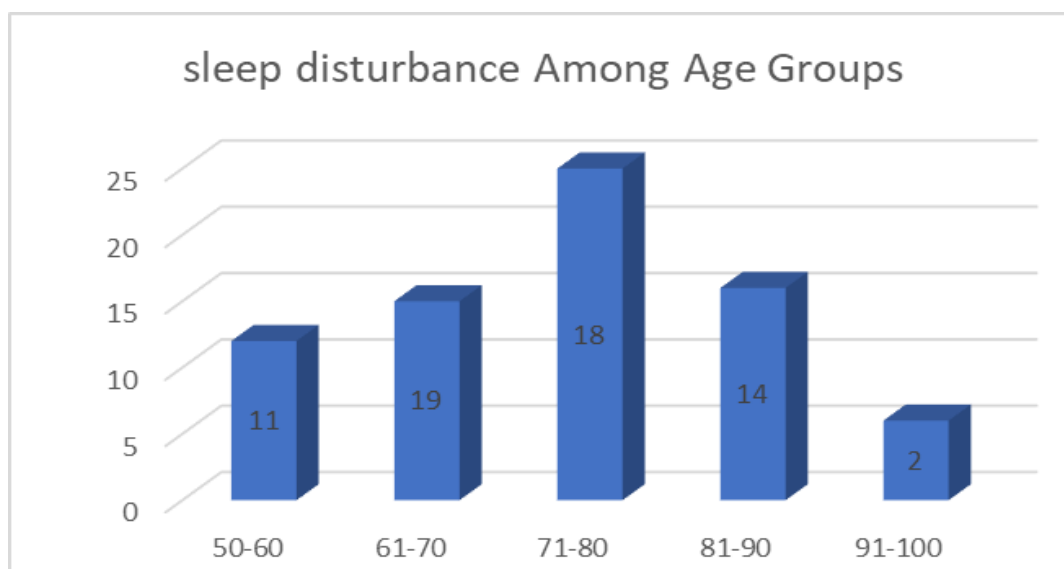
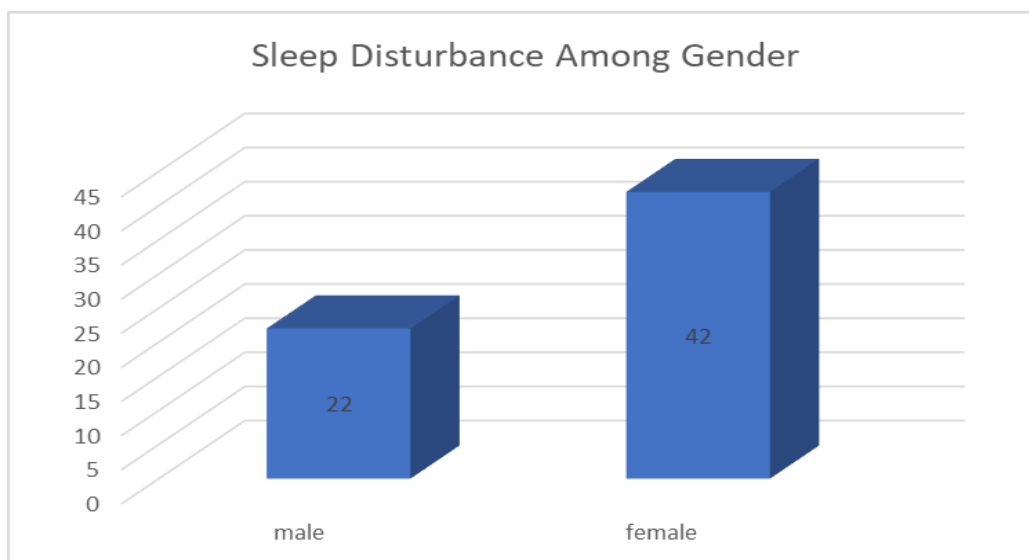**Fig 1: Age Distribution within the Study Population of Sleep Disturbance**

Fig 2: Gender Distribution of the Study Population with Disturbed Sleep

RISK FACTOR ANALYSIS OF SLEEP DISORDERS:

The probable risk factor for developing sleep disorders such as Gender and depression was considered for the risk factor analysis and the results are shown in the following table 2.

Table 2: Details of Various Factors Influencing Sleep Disorder

Factors	Chi-square value	P value
Education Uneducated (n=26) Educated (n=38)	1.2127	0.2706113
Gender Male (n=22) Female (n=42)	1.2127	0.0214832*
Comorbidities Present (n=40) Absent (n=24)	1.1046	0.293082
Depression Present (n=29) Absent (n=35)	14.3	0.000114*

Note:- statistically significance level P ≤ 0.05
(*) indicates results are significant

IV. DISCUSSION AND CONCLUSION:

This study comprises 187 subjects from 10 different old age homes in urban areas of Mysuru. Data shows that 34.22% of subjects have disturbed sleep. As per the National Study of 2007,[8] the prevalence of sleep disorder was found to be 15% among 50 years age group and 37.7% in the 65years and above age group in the Indian population.

Disturbed sleep may be related to dementia and depression and female in gender are having a significant risk of developing disturbed sleep or other factors like diet and education are not

shown a remarkable change in sleep. The present study shows that 34.22% of the study population has disturbed sleep which is significant to the study of Nagoor et al[3] reporting 45.5% of disturbed sleep. The increase in the percentage could be due to the different settings and lifestyles in old age homes. Jain and Aras[4] reported a prevalence of 43.9% disturbed sleep among the elderly population. However, the present study differs from the findings of Singh et al[5] (3.5%) and Goswami et al[6] (58.36%). Moreover, most of the subjects with disturbed sleep were depressive. The study shows that 55.76% of the people with disturbed sleep patterns had depression in the study conducted by Zalavadiya et al[7] (62.9%)

ABBREVIATION:
PSQI: Pittsburg Sleep Quality Index
HTN: Hypertension
DM: Diabetes Mellitus

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