ECRONICON OPEN ACCESS

EC PAEDIATRICS
Research Article

Assess the Sleep Disorders among Old Age's in the Rural Area

Hashachandar R[1], Nivethitha K[2], A Felicia Chitra[3], Manju Bala Dash[4]* and S Jayanthi[5]

[1]PG Student, Department of Medical Surgical Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

[2]Associate Professor of Department of Medical Surgical Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

[3]Principal, College of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

[4]Professor and Head of the department of Obstetrics and Gynecology Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

[5]Dean, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

***Corresponding Author:** Manju Bala Dash, Professor and Head of the department of Obstetrics and Gynecology Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India.

Received: May 02, 2020; **Published:** September 30, 2020

Abstract

Background: Sleep disorders is an major problem in the old ages and is the most common among all the old ages. Many old ages have experience towards anyone of the sleep disorders. Apart from physical discomfort, demographical factors need to be considered because it also makes the old ages to feel disturbances in their sleep cycle.

Aim: This study was aimed to assess the sleep disorders among the old age's.

Methodology: The Quantitative descriptive research design was used. 100 old were selected by using convenient sampling technique who fulfilled the inclusion criteria and who were available during the period of data collection at selected village, Puducherry. Data was collected by using semi-structured questionnaire.

Result: The Demographic variables such as age, sex, education of the old age's have shown statistical non-significant association with the sleep disorders.

Conclusion: The study has proven that the persons age, sex, education, etc., will not associated with their pattern of sleep. And it will not induce any sleep disorders among the old age.

Keywords: *Sleep Disorder; Old Age's*

Introduction

Sleep the body's rest cycle. Sleep is triggered by a complex group of hormones that are active in the main, and that respond to cues from the body itself and the environment. Sleep is the natural, easily reversible periodic state of many living things that is marked by the absence of wakefulness and by the loss of consciousness of one's surroundings, is accompanied by a typical body posture such as lying down

with the eyes closed [1], the occurrence of dreaming and changes in brain activity and physiological functioning is made up of cycles of non-REM sleep and REM sleep and is usually considered essential to the restoration and recovery of vital bodily and mental functions [2].

Sleep is a naturally recurring state of mind and body characterized by altered consciousness, relatively inhibited sensory activity, reduced muscle activity and inhibition of nearly all voluntary muscles during rapid eye movement sleep, and reduced interactions with surroundings. It is distinguished from wakefulness by a decreased ability to react to stimuli, but more reactive than a coma or disorders of consciousness, with sleep displaying very different and active brain patterns [3].

The population of older adults continues to expand rapidly from the current 205 million persons aged 60 years or older, to a projected 2 billion by 2050 [1]. One of the most common sleep disturbances in the older population is insomnia [2-4]. As many as 50% of older adults complain about difficulty initiating or maintaining sleep [5]. Prevalence of insomnia is higher in older individuals than in the younger population [6]. The overall prevalence of insomnia symptoms ranges from 30% to 48% in the elderly [5,7,8] whereas the prevalence of insomnia disorder ranges from 12% to 20% [9]. Insomnia is often classified by the predominant symptom of either difficulty in sleep onset or sleep maintenance. Sleep maintenance symptoms are most prevalent among individuals with insomnia (50% to 70%), followed by difficulty in initiating sleep (35% to 60%) and nonrestorative sleep (20% to 25%) [10]. A study of 6,800 older adults (age 65 years or older) observed an incidence rate for insomnia symptoms of 5% per year [11], with a yearly incidence of 7.97% at 1-year follow-up [12]. Approximately 50% of the patients with symptoms of insomnia will have a remission during the follow-up period, with higher remission rates among older males relative to females [12,13].

Sleep disorder is broadly defined as dissatisfaction with sleep either qualitatively or quantitatively. This is usually associated with one or more of the following: (1) difficulty initiating sleep, (2) difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings and (3) early-morning awakening with inability to return to sleep [14].

The fifth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) emphasizes that a sleep disturbance causes clinically significant distress or functional impairment, and occurs at least 3 nights a week for at least 3 months despite adequate opportunity to sleep, whereas the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10) requires at least 1 month of symptoms not explained by another sleep-wake disorder, illicit substance use, or coexisting medical and psychiatric disorders. The term "nonrestorative sleep" is no longer an accepted diagnostic symptom for the DSM-5; however, it still remains in the ICD-10 criteria.

The pathophysiology of insomnia disorder induces a state of hyperarousal during sleep and wakefulness. Hyperarousal is manifested as an elevated whole-body metabolic rate during sleep and wakefulness, elevated cortisol and adrenocorticotropic hormone during the early sleep period and reduced parasympathetic tone in heart rate variability [15]. An important change with respect to diagnostic classifications was defined in the DSM-5 and the third edition of the International Classification of Sleep Disorders (ICSD-3). Insomnia in the ICSD-3 is defined as a complaint of trouble initiating or maintaining sleep that is associated with daytime consequences and is not attributable to environmental circumstances or inadequate opportunity to sleep.

This replaces earlier categories of primary and secondary forms of insomnia in favor of a broad category for insomnia disorder when insomnia is comorbid with medical or psychiatric conditions [16]. In a study of 6,800 elderly patients (older than 65 years), Foley., *et al*. demonstrated that 93% have one or more comorbid conditions and other factors, most commonly depression, chronic pain, cancer, chronic obstructive pulmonary disease, cardiovascular diseases, medication use, and factors associated with aging (retirement, inactivity, or caregiving) [11,17-20]. The increased prevalence of chronic conditions in later life may explain most insomnia symptoms in the older population; 1% to 7% of insomnia in later life occurs independently of chronic conditions [20,21]. Reduced mobility, retirement, and reduced social interaction are sources of sleep disturbances [22-24]. Caregiving may be responsible for ruminations and anxiety while

trying to sleep. Women who are caregivers are found to have increased prevalence of sleep complaints [18,25]. Women are more often the primary caregivers for their children, parents, or partner, in addition to working outside of the home, affecting their total sleep time. Women are also more likely than men to complain of sleep problems and see a general practitioner for those complains.

Objectives of the Study:

1. To assess the sleep disorders among the old age people.
2. To associate the sleep disorders scores among old age people with their selected sociodemographic variables.

Materials and Methods

The Quantitative descriptive research design was used to conduct the study at selected village, Puducherry. 100 Old ages were selected by convenient sampling technique for the study who fulfilled the inclusion criteria such as Old age in the age group of 60 to 75 years both male and female, old age's in the village were included in this study. The old age's with hearing loss, visual impairment, old ages with chronically ill and bed ridden and who are all not willing to participate in this study was excluded from the study. The tools used for data collection were divided into two sections. Section A includes demographic variables and Section B includes the sleep disorder questionnaire. the data was collected by using semi-structured interview schedule to all old ages in the village. The collected data was analysed by using descriptive and inferential statistics.

Plan for data analysis

Plan for data analysis were done using Statistical Package of Social Sciences (SPSS) version 16.0 software for Windows. Descriptive statistics were used to analyse the frequencies, percentage and mean.

Result

Table 1 shows the frequency distribution of demographic variables of the old age's and the sleep disorders among them. Majority 81% of them are 70-75 years of age, majority65% of them are males, majority 57% of them are primary education holders, majority 42% of them are self employed, majority 80% of them are married, majority 71% of them are having below 5,000 income, majority 42% of them are resides with their spouse and children, majority 93% of them are Hindu's by religion and all 100% belongs to rural area of residence.

Age	**Frequency**	**Percent**
70 - 75 yrs	81	81
75 and above	19	19
Total	100	100
Sex	**Frequency**	**Percent**
Male	65	65
Female	35	35
Total	100	100
Education	**Frequency**	**Percent**
Primary	57	57
Secondary	16	16
Degree	1	1
Illiterate	26	26
Total	100	100
Occupation	**Frequency**	**Percent**
Self employed	42	42
Farmer	41	41
Retired	16	16
Unable to work	1	1
Total	100	100

Marital status	Frequency	Percent
Married	80	80
Without spouse	20	20
Total	100	100
Income	**Frequency**	**Percent**
Below 5000	71	71
Below 10,000	18	18
Below 15,000	10	10
Above 20,000	1	1
Total	100	100
Resides with	**Frequency**	**Percent**
Children	13	13
Spouse	38	38
Alone	7	7
Spouse and children	42	42
Total	100	100
Religion	**Frequency**	**Percent**
Hindu	93	93
Muslim	3	3
Christian	4	4
Total	100	100
Residence	**Frequency**	**Percent**
Rural	100	100

Table 1: *Frequency distribution of demographic variables of old age's.*

Table 2 shows the frequency distribution of sleep disorders among the old age's. Majority 90% of them having moderate sleep disorders and 10% have severe sleep disorders.

Sleep disorder	Frequency	Percent
Moderate	90	90
Severe	10	10
Total	100	100

Table 2: *Frequency distribution of sleep disorders among the old age's.*

Table 3 Shows there is no association between the sleep disorders and demographic variables of the Old age's in the rural area by the Fisher's Exact Test by showing the non-significance.

Age	Sleep Disorder Level		Total
	Moderate	Severe	
70 - 75	73	8	81
75 and above	17	2	19
Total	90	10	100
Fisher's Exact Test = 0.999			
Sex	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Male	56	9	65
Female	34	1	35
Total	90	10	100
Fisher's Exact Test = 0.159			
Education	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Primary	52	5	57
Secondary	14	2	16
Degree	1	0	1
Illiterate	23	3	26
Total	90	10	100
Fisher's Exact Test = 0.717			
Occupation	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Self employed	41	1	42
Farmer	34	7	41
Retired	14	2	16
Unable to work	1	0	1
Total	90	10	100
Fisher's Exact Test = 0.677			
Marital status	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Married	73	7	80
without spouse	17	3	20
Total	90	10	100
Fisher's Exact Test = 0.414			
Income	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Below 5000	65	6	71
Below 10,000	15	3	18
Below 15,000	9	1	10

Above 20,000	1	0	1
Total	90	10	100
Fisher's Exact Test = 0.470			
Resides with	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Children	11	2	13
Spouse	36	2	38
Alone	6	1	7
Spouse and children	37	5	42
Total	90	10	100
Fisher's Exact Test = 0.533			
Religion	**Sleep Disorder Level**		**Total**
	Moderate	**Severe**	
Hindu	83	10	93
Muslim	3	0	3
Christian	4	0	4
Total	90	10	100
Fisher's Exact Test = 0.999			

Table 3: *Association between the sleep disorders and the demographic variables of the old age's.*

Discussion

The result findings showed that there is no significant association between the demographic variables and the sleep disorders among the old age's.

The present study was supported by the auth Denny Emree (2013) conducted a study on sleep disorders among the geriatrics. The result showed that the 44% of the population have the sleep disorders and it is clearly associated with their age.

Conclusion

Sleep disorders is very prevalent in older adults. And it was no way associated with their age, sex, education and occupation, etc. So that it was proven that whatever the demographic variables of the old age's they will be getting the sleep disorders once they become old by age.

Recommendation:

- Experience of old age's regarding the daytime sleepiness: a qualitative study.
- Experience of old age's regarding the night time sleeplessness: a qualitative study.
- Replication of the study may be done with large samples in different settings to validate and generalize the findings.

Conflict of Interest

The authors declare that they have no conflict of interest related to the publication of this article.

Bibliography

1. Foley D., *et al*. "Sleep disturbances and chronic disease in older adults: results of the 2003 National Sleep Foundation Sleep in America Survey". *Journal of Psychosomatic Research* 56 (2004): 497-502.

2. Foley DJ., *et al*. "Sleep complaints among elderly persons: an epidemiologic study of three communities". *Sleep* 18 (1995): 425-432.

3. Foley DJ., *et al*. "Incidence and remission of insomnia among elderly adults: an epidemiologic study of 6,800 persons over three years". *Sleep* 22 (1999): S366-S372.

4. Vitiello MV., *et al*. "Sleep complaints cosegregate with illness in older adults: clinical research informed by and informing epidemiological studies of sleep". *Journal of Psychosomatic Research* 53 (2002): 555-559.

5. Ohayon MM., *et al*. "Meta-analysis of quantitative sleep parameters from childhood to old age in healthy individuals: developing normative sleep values across the human lifespan". *Sleep* 27 (2004): 1255-1273.

6. Van Cauter EV., *et al*. "Age-related changes in slow wave sleep and REM sleep and relationship with growth hormone and cortisol levels in healthy men". *The Journal of the American Medical Association* 284 (2000): 861-868.

7. Prinz PN., *et al*. "Geriatrics: sleep disorders and aging". *The New England Journal of Medicine* 323 (1990): 520-526.

8. Shochat T., *et al*. "Illumination levels in nursing home patients: effects on sleep and activity rhythms". *Journal of Sleep Research* 9 (2000): 373-380.

9. Ancoli-Israel S., *et al*. "Sleep disordered breathing in community-dwelling elderly". *Sleep* 14 (1991): 486-495.

10. Ancoli-Israel S., *et al*. "Long-term follow-up of sleep disordered breathing in older adults". *Sleep Medication* 2 (2001): 511-516.

11. Young T., *et al*. "Predictors of sleep-disordered breathing in community-dwelling adults: the Sleep Heart Health Study". *Archives of Internal Medicine* 162 (2002): 893-900.

12. Young T., *et al*. "The occurrence of sleep disordered breathing among middle-aged adults". *The New England Journal of Medicine* 328 (1993): 1230-1235.

13. Gooneratne N., *et al*. "Consequences of comorbid insomnia symptoms and sleep-related breathing disorder in elderly subjects". *Archives of Internal Medicine* 166 (2006): 1732-1738.

14. Launois SH., *et al*. "Sleep apnea in the eldelry: a specific entity?" *Sleep Medicine Reviews* 11 (2007): 87-97.

15. Shahar E., *et al*. "Sleep-disordered breathing and cardiovascular disease: cross sectional results of the Sleep Heart Health Study". *American Journal of Respiratory and Critical Care Medicine* 163 (2001): 19-25.

16. Bassetti CL., *et al*. "Sleep-disordered breathing and acute ischemic stroke: diagnosis, risk factors, treatment, evolution, and long-term clinical outcome". *Stroke* 37 (2006): 967-972.

17. Aloia MS., *et al*. "Neuropsychological changes and treatment compliance in older adults with sleep apnea". *Journal of Psychosomatic Research* 54 (2003): 71-76.

18. Ayalon L., *et al*. "Adherence to continuous positive airway pressure treatment in patients with Alzheimer's disease and obstructive sleep apnea". *The American Journal of Geriatric Psychiatry* 14 (2006): 176-180.

19. Weaver TE and Chasens ER. "Continuous positive airway pressure treatment for sleep apnea in older adults". *Sleep Medicine Reviews* 11 (2007): 99-111.

20. Ancoli-Israel S. "Sleep apnea in older adults - is it real and should age be the determining factor in the treatment decision matrix?" *Sleep Medicine Reviews* 11 (2007): 83-85.

21. Allen RP., *et al*. "Restless Legs Syndrome Diagnosis and Epidemiology workshop at the National Institutes of Health, International Restless Legs Syndrome Study Group Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health". *Sleep Medication* 4 (2003): 101-119.

22. Ancoli-Israel S., *et al*. "Periodic limb movements in sleep in community-dwelling elderly". *Sleep* 14 (1991): 496-500.

23. Hening W., *et al*. "Restless Legs Syndrome Task Force of the Standards of Practice Committee of the American Academy of Sleep Medicine An update on the dopaminergic treatment of restless legs syndrome and periodic limb movement disorder". *Sleep* 27 (2004): 560-583.

24. Boeve BF., *et al*. "Association of REM sleep behavior disorder and neurodegenerative disease may reflect an underlying synucleinopathy". *Movement Disorders* 16 (2001): 622-630.

25. Olson EJ., *et al*. "Rapid eye movement sleep behaviour disorder: demographic, clinical and laboratory findings in 93 cases". *Brain* 123 (2000): 331-339.

Volume 9 Issue 10 October 2020