Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20191807

A study on assessment of sleep quality amongst patients attending a rural hospital in Kancheepuram, Tamilnadu, India

Vijayakrishnan Ganesan¹*, Dinesh Kumar Ganesan¹, Gayatri Fulse², Jhara Shah³

Received: 01 April 2019 Accepted: 18 April 2019

*Correspondence:

Dr. Vijayakrishnan G,

E-mail: vijaya.krishnan87@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Sleep is the state, in which the organism temporarily, partially and periodically loses its interaction with surroundings at different intensities and which can be reversed with stimuli. Sleep deficiency in sleep is linked with many physical ailments. The present study was aimed at assessing the sleep quality of patients attending the outpatient department of a rural health centre in Kacheepuram, Tamilnadu.

Methods: A cross sectional study was conducted amongst patients attending the OPD of rural health center of a Medical College Hospital at Kancheepuram. A pretested semi structured questionnaire based on Pittsburgh sleep quality index (PSQI) was used to collect data. Data were entered on and analyzed using Microsoft excel spread sheet. **Results:** Of the 150 participants who participated in the study 87 (58%) were males and 63 (42%) were females. In the present study there were 80 participants (53.3%) under the age of 40 years and 70 participants (46.7%) over the age of 40 years. Of the 150 participants 85.3% of them had a sleeping time <8 hrs a day and a minority of them 14.7% had a sleeping time of >8 hrs a day. The sleep quality of females was slightly better (54%) when compared to males. It was also observed that only 10 (9.7%) of the skilled workers had good quality of sleep when compared to unskilled workers

Conclusions: Our present study shows, the prevalence of poor-quality sleep was 31.3%. Various factors like gender, occupation and education were found to positively associated with poor quality sleep.

Keywords: Sleep quality, Rural patients, PSQI

INTRODUCTION

Sleep is the state, in which the organism temporarily, partially and periodically loses its interaction with surroundings at different intensities and which can be reversed with stimuli. Sleep plays a vital role in physical health, ongoing sleep deficiency in sleep is linked with many of the diseases like coronary heart diseases, diabetes mellitus, hypertension, stroke and kidney disease. Insomnia is defined as a person has difficulty

falling asleep or staying asleep during the night or wakes up tired in the morning.

Common causes of insomnia include stress, anxiety, depression, pain, and stimulants such as caffeine and nicotine. Insomnia is a serious problem. It causes daytime fatigue, impaired attention and concentration, reduced enjoyment of relationships, increased risk of depression, decreased productivity, unneeded suffering and significant use of costly health-care services.²

¹Department of Community Medicine, SRM Medical College Hospital & Research Centre, Kattankulathur, Chennai, Tamil Nadu, India

²Department of Orbit and Occuloplasty, Aravind Eye Hospital, Chennai, Tamil Nadu, India

³Assistant Medical Officer, M W Desai Health Post, Mumbai, Maharashtra, India

Various studies worldwide have shown the prevalence of insomnia in 10%–30% of the population, some even as high as 50%–60%. It is common in older adults, females, and people with medical and mental ill health.³ The present study was aimed at assessing the sleep quality of patients attending the outpatient department of a rural health centre in Kacheepuram, Tamilnadu.

METHODS

A cross sectional study was conducted amongst patients attending the OPD of rural health center of a Medical College hospital at Kancheepuram. Data were collected between September 11th to November 10th for a period of about 2 months. Sample size was estimated using a study done in Rural Kerala, which showed that prevalence of poor sleep in 72.4% of the individuals. Using the formula 3.84×pq/l², the sample size was calculated. Where p=prevalence (72.4) and q=100-p (27.6) and l=allowable error 10%. On substituting, 3.84×72.4×27.6/51.84, we required around 148 samples. We ended up collecting 150 patients who attended the OPD between September11th to November 10th, 2018.

Each subject was approached individually and an informed consent was obtained and all study subjects were assured of confidentiality. Subjects who did not give consent for the study and subjects who already had sleep disorders and on treatment were excluded from the study. A pretested semi structured questionnaire based on Pittsburgh sleep quality index (PSQI) was used to collect data. Data were entered on and analyzed using Microsoft Excel spread sheet. Descriptive statistics and chi-square analysis were used to analyze the data.

RESULTS

Of the 150 participants who participated in the study 87 (58%) were males and 63 (42%) were females. In the present study there were 80 participants (53.3%) under the age of 40 years and 70 participants (46.7%) over the

age of 40 years (Table 1). Regarding the occupational status of the individuals 25 participants (16.7%) were skilled workers and a majority of participants 83.3% were unskilled workers, regarding the educational status majority of them had non professional education 68% and only 32% of the subjects had graduated professional degrees (Table 1). Of the 150 participants 85.3% of them had a sleeping time <8 hrs a day and a minority of them 14.7% had a sleeping time of >8 hrs a day.

Table 2 shows the association between the various study variables and sleep quality. As per the Pittsburgh sleep quality index it was observed that out of the 150, 103 (68.66%) had good quality of sleep. The sleep quality of females was slightly better (54%) when compared to males. It was also observed that only 10 (9.7%) of the skilled workers had good quality of sleep when compared to unskilled workers. People who did not have education up to professional level (61.1%) were found to have good quality of sleep when compared to professional level education. Among the 47 who reported poor quality of sleep, it was observed that 41 (87.2%) had reported sleep time of less than 8 hours.

Table 1: Distribution of study population by gender, age, occupation, education and number of hours of sleep.

Groups	Categories	Total n=150	Percentage (%)
Gender	Male	87	58
	Female	63	42
Age	<40 years	80	53.3
	>40 years	70	46.7
Occupation	Skilled	25	16.7
	Unskilled	125	83.3
Education	Professional	48	32
	Non professional	102	68
Sleep hours	<8 hours	128	85.3
	>8 hours	22	14.7

Table 2: Association between demographic variables and sleep quality.

Groups	Categories	Sleep quality		Total	Chi square	P value
		Good	Poor	n=150	test	
Gender	Male	47	40	87	19.056	<0.001*
	Female	56	7	63		
Age (in	<40	50	30	80	2.447	0.11
years)	>40	53	17	70		
	Skilled	10	15	25	9.915	<0.001*
Occupation	Unskilled	93	32	125		
Education	Professional	40	8	48	6.090	0.01*
	Non-professional	63	39	102		
Sleep hours	<8 hours	87	41	128	0.038	0.8448
	>8 hours	16	6	22		

^{*}Statistically significant.

DISCUSSION

Totally 150 participants were included in this study according to the sample size calculated, all the subjects were interviewed using a questionnaire based on Pittsburgh sleep quality index (PSQI). According to the Pittsburgh sleep quality index, a total score of 5 or more is indicative of poor-quality sleep and a score <5 indicate good quality sleep. The present study shows that male gender (45.9%) is affected by poor quality sleep more when compared to females (11.1%) and this difference was statistically significant (p<0.001), this could be attributed to factors like stress at workplace, unstable income, job insecurity and debts. A study done by Kumari et al to asses Insomnia and its factors associated in rural areas of Jammu showed 14.7 % of males having insomnia which was more compared to female study subjects.5

Of the study subjects 37.5 % of them who had poor quality sleep happened to be within the age group of 40 years which was not statistically significant (p=0.11) and 75.7 % of the adults over the age of 40 yrs reported good quality sleep. In contrast to the present study, a study done by Mondal et al to compare the perceived sleep quality among urban and rural adult population by Bengali Pittsburgh sleep quality index reported that 67.5% adults aged 51-60 yrs had poor quality of sleep.⁶ The present study shows 60 % of the skilled workers were suffering of poor quality sleep when compared to the unskilled group which was only 25.6% and this difference was statistically significant (p<0.001). In a similar study done by Bhaskar et al to find out the prevalence of chronic insomnia and its correlation with medical co-morbidities reported that 45% of skilled workers suffered of insomnia.³ Of the study subjects 38.23% of the study subjects who were not professionally educated had poor quality sleep which is higher compared to the professionally educated group and this difference was found to be statistically significant (p=0.01). In a study done by George s et al on sleep quality and associated psychological factors among elderly in rural population of kerala it was found that education did not significantly affect the sleep and sleep quality.4

CONCLUSION

Our present study shows, according to Pittsburgh sleep quality index (PSQI) the prevalence of poor-quality sleep is 31.3% (PSQI score of 5-21) and amongst the various factors gender, occupation and education were found to positively associated with poor quality sleep. Hence screening for poor quality sleep should be done

frequently amongst the adult population as a part of general health assessment. In addition, other measures like importance of balanced diet, proper nutrition and also stress relieving techniques can be taught to ensure good quality of sleep.

Recommendations

Since poor sleep quality is associated with many of the physical illness, screening for poor quality of sleep for adults should be done frequently and it should be incorporated in to the routine health checkups. General population should be made aware of the ill effects of poor-quality sleep and how it takes a toll on productivity in life. Various awareness generation programs meant to target sleep disorders and how to overcome them should be devised and implemented for the benefit of the general population.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

REFERENCES

- Saygin M, Ozturk O, Gonca T, Has M, Hayri UB, Kurt Y, et al. Investigation of Sleep Quality and Sleep Disorders in Students of Medicine. Turk Thorac J. 2016;17:132-40.
- 2. Canadian psychological Association: psychological works fact sheet: Insomnia; office 2009.
- 3. Bhaskar S, Hemavathy D, Prasad S. Prevalence of chronic insomnia in adult patients and its correlation with medical co morbidities J Family Med Prim Care. 2016;5(4):780–4.
- 4. George S, Paul G, Paul N. Study on sleep quality and associated psychosocial factors among elderly in a rural population of Kerala, India. IJCMPH. 2018;5(2):526-31.
- 5. Kumari R, Gupta RK, Langer B, Singh P, Akhtar N, Anuradha. Insomnia and its associated factors: A cross-sectional study in rural adults of North India. Int J Med Sci Public Health. 2018;7(10):800-4.
- 6. Mondal H, Mondal S, Baidya C. Comparison of perceived sleep quality among urban and rural adult population by Bengali Pittsburgh Sleep Quality Index. Adv Hum Biol. 2018;8:36-40.

Cite this article as: Ganesan V, Ganesan DK, Fulse G, Shah J. A study on assessment of sleep quality amongst patients attending a rural hospital in Kancheepuram, Tamilnadu, India. Int J Community Med Public Health 2019;6:1996-8.