ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 10 | October - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SLEEP QUALITY AMONG CANCER PATIENTS IN A TERTIARY CARE CENTRE, TAMIL NADU – A CROSS-SECTIONAL STUDY

Community Medicine

Sri Nithish. S	Crmi
Dr. Arathi Raj. S. B*	Senior Resident , Department Of Community Medicine Sree Mookambika Institute Of Medical Sciences, Kulasekharam, Kanyakumari , Tamil Nadu – 629161 *Corresponding Author
Dr. Jayasree. C. S	Professor & Hod , Department Of Community Medicine Sree Mookambika Institute Of Medical Sciences, Kulasekharam, Kanyakumari , Tamil Nadu – 629161
Maheshwaran. B	Crmi
Sneha. T	Crmi
Raghu. R	Crmi
Kesiya Sabu	Crmi

ABSTRACT

Background: Cancer is a significant public health concern worldwide due to its prevalence, impact on individuals and communities, and economic burden. It is one of the leading causes of death globally, with millions of new cases diagnosed each year. Cancer and its treatment can disturb sleep patterns and lead to insomnia, fatigue, and other sleep disturbances. Poor sleep quality can further impact the immune system, recovery, and quality of life for cancer patients. **Objective:** To assess the quality of sleep among cancer patients in a tertiary care centre. **Methods:** A cross-sectional study was conducted among cancer patients in a tertiary care centre, in Tamil Nadu. Data was collected from 30 participants' diagnosed cases of cancer on treatment attending the Oncology OPD using a semi-structured questionnaire. Sleep quality among participants was assessed using Pittsburgh Sleep Quality Index (PSQI) questionnaire. **Results:** Out of 30 study participants, 40% were males and 60 % were females. The mean age of participants was 52.7±13.43 yrs. Among the study participants, 17 (56.7%) rated their overall subjective sleep quality as fairly good & and 3(10%) of them had a very bad sleep. According to PSQI, 14 (46.7%) participants had an overall sleep quality score of ≤ 5, and 16 (53.3%) with a score of>5. The mean overall Global PSQI score was found to be 6.23± 4.3, with a mean score of 6.33± 4.2 in males and 6.08± 4.5 in females respectively. **Conclusion:** The present study reveals that half of cancer patients had poor sleep quality. They also complained about sleep disturbances like irritability and anxiety.

KEYWORDS

Cancer, Sleep pattern, Sleep Quality, PSQI

INTRODUCTION

The incidence and burden due to cancer are continuing to increase in India.[1] As per Global Cancer Observatory (GLOBOCAN) for the year 2020 there were 19.3 million incident cancer cases estimated, India ranked third after China &the United States of America[2]. Study done in western Tamil Nadu found cancer is an important cause of adult deaths with more than 70% of fatal cancers occurring during the productive ages[3].In cancer patients, sleep disturbance is both a common occurrence and a neglected problem. The symptoms include difficulty in falling and staying asleep, early morning waking with an inability to resume sleep and non-restorative sleep. These can lead to increased levels of distress and impairment in daytime functioning. Psychological and behavioral consequences include daytime fatigue, mood disturbance psychiatric disorders, and difficulties in memory and concentration.[4]

Poor sleep is consistently linked to the development of systemic diseases, including depression, metabolic syndrome, and cognitive impairments.[5]Previous studies regarding sleep quality in cancer patients and survivors have shown shorter sleeping duration compared with normal people.[6]Sleep quality among cancer patients in southern states of India is insufficiently addressed in the literature. This study has been done to assess the sleep quality among cancer patients of a tertiary care center in Tamil Nadu, South India. Understanding the magnitude of the problem measures can be undertaken to take preventive and control measures to limit sleep disturbances and maintain the quality of life in cancer patients.

Methodology

A Cross-sectional study was conducted in a tertiary care centre, in Tamil Nadu. The study was done among patients diagnosed with cancer for the past 3 months on regular treatment at the Oncology OPD of Sree Mookambika Cancer Centre (SMCC), Kanyakumari, Tamil Nadu from March to April 2023. Thirty participants were recruited using the convenience sampling method & late-stage cancer patients including the palliative group were excluded. Data was collected using a semi-structured questionnaire including sociodemographic details and sleep quality, assessed using the Pittsburgh Sleep Quality Index (PSQI) questionnaire. PSQI consists of 19 self-rated questions &5 questions rated by spouse or roommate. The questionnaire consisted of seven domains (subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction) with a possible score of 0–3 each, making the possible total range of score from 0 to 21. Bad sleep quality was indicated by a total score greater than 5. The higher the score, the worse is the sleep quality. The collected data were entered in Microsoft Excel and analyzed using SPSS version 20. Categorical variables were expressed in terms of percentages and to look for association Chi-square test was used.

RESULTS

The study was conducted among 30 patients in the oncology ward of SMIMS hospital. The mean age of study participants was 52.7±13.43. Among the study participants, 40% were males and 60% were females. The majority of the study participants (73.3%) belong to the Hindu religion and most of them (33.3%) were skilled workers. Around 36.7% participants had primary school (upto 4th std) level education. (Table.1). According to the Modified Kuppuswamy classification of socioeconomic status 63.3% of them were upper lower-class group.

Table 1. Distribution of study participants based on Sociodemographic variables (N=30)

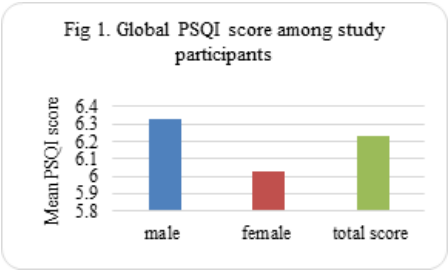
Sociodemographic variables	n(%)
Religion	
Hindu	22 (73.3)
Muslim	1 (3.3)
Christian	7 (23.3)
Marital status	
Unmarried	2 (6.7)
Married	26 (86.7)
Widowed	2 (6.7)
Education	
Illiterate	7 (23.3)
Primaryschool(upto 4th std)	11 (36.7)
Middle school(5th to 7thstd)	5 (16.7)

High school & Higher Secondary(8th to 12th std)	5 (16.7)
Graduate	2 (6.7)
Occupation	
Unemployed	3 (10)
Plant & machine operators	5 (16.7)
Craft & related trade workers	7 (23.3)
Skilled agriculture & fishery workers	10 (33.3)
Shop&market sale workers	5 (16.7)

The overall mean score of sleep quality among participants was 6.23± 4.3. According to PSQI in our study, 14 (46.7%) participants had an overall sleep quality score of ≤ 5 and 16 (53.3%) with score of >5. The mean sleep score of males and females were 6.33± 4.2 and 6.08± 4.5 respectively.(Fig.1). About 33.3% of participants were watching TV, 23.3% were using mobile phones and 43.3% had no habits before going to sleep. Among the study participants, 17 (56.7%) rated their overall subjective sleep quality as fairly good & and 3(10%) of them had a very bad sleep. Most of the participants (33.3%) were take >60 min to fall asleep and 12 of them had a sleep duration of 6-7 hrs. Around 16.7% had trouble sleeping & and could not get to sleep within 30 minutes. The majority of them (40 %) of them had a habitual sleep efficiency of > 85%. Half of the participants rate their sleep without disturbance for the past month. Around 96.7% of participants were not using any sleep medication. Most of the participants had no trouble staying awake while driving, eating meals, or engaging in social activities. There was no statistical association for categorical variables (p>0.05) (Table.2).

Table 2. Sleep Quality among study participants based on PSQI

Categorical variables	Sleep Quality Good (PSQI≤5)	Sleep Quality Poor (PSQI>5)	χ2, (*p*-value)
Gender			
Male	8	10	0.89
Female	6	6	(0.76)
Marital status			
Unmarried	2	2	0.02
Married	12	14	(0.88)
Education			
Illiterate	4	3	0.40
Upto Higher Secondary & Graduate	10	13	(0.67)
Socioeconomic status			
Upper class	2	3	0.107
Lower class	12	13	(0.743)
Felt episodes of sleep disturbances before the diagnosis of cancer			
Yes	9	13	1.09
No	5	3	(0.41)
Sleep disturbance causes irritability /anxiety			
Yes	9	13	1.09
No	5	3	(0.41)
Habits before going to sleep			
No habits	9	4	4.96
Using phone	2	5	(0.96)
Watching TV	3	7	
Quality of sleep rate overall (Subjective sleep quality)			
Good	13	7	8.10
Bad	1	9	(0.46)
Duration of sleep			
>6 hours	14	8	9.54
≤6 hours	0	8	(0.30)



CONCLUSIONS

Among the cancer patients in our study half of them (53.3%) had poor sleep quality. They also complained about sleep disturbances like irritability & anxiety. None of them take any medication for sleep disturbances. The study recommends the implementation of strategies like creating a relaxing bedtime routine, optimizing the sleep environment, and managing pain & discomfort to improve the sleep quality among cancer patients.

REFERENCES:

1. Sathishkumar K, Chaturvedi M, Das P, Stephen S, Mathur P. Cancer incidence estimates for 2022 & projection for 2025: Result from National Cancer Registry Programme, India. Indian J Med Res. 2022;156(4–5):598–607.
2. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin. 2021;71(3):209–49.
3. Selvaraj J, Marimuthu PD, Babu HP. Evaluation of age-standardized cancer burden in western Tamil Nadu, India. Indian J Community Health. 2014 Sep 30;26(3):222
4. ovarian cancer: Anxiety a major factor. Eur J Cancer. 2009 Dec 1;45(18):3262–70. Price MA, Zachariae R, Butow PN, deFazio A, Chauhan D, Espie CA, et al. Prevalence and predictors of insomnia in women with invasives
5. Walker WH, Borniger JC. Molecular Mechanisms of Cancer-Induced Sleep Disruption. Int J Mol Sci. 2019 Jan;20(11):2780.
6. Fleming L, Randell K, Harvey CJ, Espie CA. Does cognitive behaviour therapy for insomnia reduce clinical levels of fatigue, anxiety and depression in cancer patients? Psychooncology. 2014;23(6):679–84.
7. Ramar K, Malhotra RK, Carden KA, Martin JL, Abbasi -Feinberg Fariha, Aurora RN, et al. Sleep is essential to health: an American Academy of Sleep Medicine position statement. J Clin Sleep Med. 17(10):2115–9.
8. Sarıarslan HA, Gulhan YB, Unalan D, Basturk M, Delibas S. The relationship of sleep problems to life quality and depression. Neurosci J. 2015 Jul 1;20(3):236–42.
9. Liou KT, Ahles TA, Garland SN, Li QS, Bao T, Li Y, et al. The Relationship Between Insomnia and Cognitive Impairment in Breast Cancer Survivors. JNCI Cancer Spectr. 2019 Sep 1;3(3):pkz041
10. Quality of Sleep in Patients with Cancer: A Cross-sectional Observational Study - PMC [Internet]. [cited 2024 Feb 11]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7017701/
11. Sleep Quality and Related Factors in Patients with Breast Cancer: A Cross-Sectional Study in Taiwan: Cancer Management and Research: Vol 13, No null [Internet]. [cited 2024 Feb 11].
12. Momayyezi M, Fallahzadeh H, Farzaneh F, Momayyezi M. Sleep Quality and Cancer-Related Fatigue in Patients with Cancer. J Caring Sci. 2021 Aug 23;10(3):145–52.
13. Sharma R, Das K, Randhawa H, B N S. Sleep Quality and its effect on activities of Daily Living among substance dependent subjects. 2015 Apr 1;18:11.