

Relationship of Sleep Hygiene Practices and Sleep Quality among Cancer Patients

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Abstract: Sleep is an area of functioning that is frequently impaired in cancer patients; The National cancer institute (NCI) estimates that sleep disturbances are twice as prevalent in cancer patients as in the general population. There is growing evidence that prolonged sleep deprivation may impair innate immunity and at the same time restorative sleep enhances immune competence. Regardless of the role of sleep in recovery from cancer it is likely that improved sleep will enhance the patient's quality of life, tolerance to treatment and mood. Sleep hygiene practices encompasses a variety of behaviors and environmental factors that may affect sleep quality. This study aims to assess sleep hygiene practices and sleep pattern among cancer patients, and to identify the relationship between sleep hygiene practices and sleep patterns among cancer patients. The study was conducted among the cancer patients who got admitted in radiation therapy inpatient care ward of Christian Medical College, Vellore. Convenience sampling method used to select samples based on the eligibility criteria. The sample size of 200 was determined after doing a pilot study with 12 samples. The patients were identified and interviewed with the questionnaire. Data was analyzed using descriptive and inferential statistics. Majority of the subjects belonged to the age group of 36 – 60 years (66%), were females (72%), had illness for less than 6 months (84%), had reproductive organ malignancies (41%), had radiation therapy (58%) as mode of treatment, and were in stage 2 of the disease (65.5%). The findings of the study reveal that majority of the subjects had good quality of sleep (58%) and 50% of them practices good sleep hygiene. There is a significant positive relationship between the sleep quality and sleep hygiene ($r=.756$, $p = .000$). Also, there was a significant association between the sex of the patient and sleep quality ($X^2 = 13.512$, $p = .000$) and sleep hygiene ($X^2 = 8.036$, $p = .005$). Good sleep hygiene practices should be promoted among cancer patients to improve the sleep quality.

Keywords: sleep quality, sleep hygiene, cancer and oncology

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I. Introduction

Good sleep quality is a vital component of health and enhances a patient's quality of life¹. Sleep is said to improve the mental and physical wellbeing of an individual and is crucial for rejuvenation of the body. According to Hill, Cumming, Lewis, Carrington, and Couteur², impaired or disrupted sleep causes poor concentration, reduced energy levels, altered immune function, poor wound healing, mood changes, increased impatience and irritability, increased risk of depression or anxiety, and a higher occurrence of accidents and falls, especially in the elderly. Sleep is considered to be important to body's restitution like energy conservation, thermo regulations and tissue recovery. The National Cancer Institute estimated that nearly 45% of oncology patients experience sleeps disturbances; this is nearly three times the estimate of its occurrence in the general population. While the sources of sleep disturbances can be complex. It is essential to identify and treat sleep disorders in cancer patients as it can influence factors like the perception of physical symptoms, tolerance to treatment measures and quality of life³. Palesh et al⁴ have reported that general sleep disturbance is common among patients receiving chemotherapy. Sleep problems are correlated with impairments in quality of life and may also contribute to other behavioral co-morbidities that affect cancer patients⁵. Regardless of the role of sleep in recovery from cancer it is likely that improved sleep will enhance the patients quality of life, tolerance to treatment and mood. Sleep hygiene practices encompasses a variety of behaviors and environmental factors that may affect sleep quality. The term 'sleep hygiene' relates to sleep habits and their effect on the quality and quantity of sleep we obtain. Good sleep hygiene will help maximize the chances of obtaining the most effective sleep, in terms of both quality and duration, and enhance daytime alertness and performance.

A moderate positive relationship between sleep hygiene sleep quality was reported among adolescents⁶. This study focuses on the relationship between sleep hygiene and sleep quality among cancer

patients. The objectives were to assess the sleep hygiene practices and sleep quality among cancer patients and to find out the relationship between both.

II. Methodology

A correlational descriptive design was used to identify the relationship between sleep hygiene practices and sleep quality among cancer patients. Convenience sampling technique was used to select 200 cancer patients above the age of 18, who were willing to participate in the study and admitted for chemotherapy, brachytherapy or concurrent chemo radiation therapy in Stage I, II and III. Patients with head and neck cancer, gastrointestinal tract cancer, lung, breast, bone and gynecological cancers were included in the study. Sample size was calculated based on the outcomes of pilot study. The study was approved by the Institutional Review Board and permissions were obtained from the Nursing and Medical authorities of the institution. Data were collected from the participants after obtaining informed consent. Two instruments were used for data collection. The Pittsburgh Sleep Quality Index (PSQI) is a 19 item self report questionnaire designed to measure sleep quality in last 1 month period in clinical and non clinical populations⁷. Scores range from 0 to 21 with the higher scores indicating poorer sleep quality. The PSQI has been demonstrated to have good internal reliability, stability over time, evidence of validity and is well regarded in the sleep research community. The instrument has a sensitivity of 89.6% and specificity of 86.5%. It has high internal consistency (Chronbach's alpha=.83) and high test retest reliability of .85(p<.001). **Sleep hygiene index** is a self rated 13 item instrument which assesses sleep hygiene behaviors thought to comprise sleep hygiene⁸. Each item is then coded with scores ranging from 5(always) to 1(never). The items are totaled yielding a global assessment score for sleep hygiene ranging from 13 to 65. Higher scores are indicative of more maladaptive sleep hygiene practices. The score more than 26 were taken as unhygienic practices or less than that were considered as hygienic sleep practices. The test retest reliability is good (gamma=.71) and internal consistency Cronbach's alpha moderate (.66) for SHI

In patients admitted for radiation therapy, chemotherapy or chemo radiation therapy was identified and data were collected on the third day of the admission. Data were analysed using SPSS 17. Descriptive and inferential statistics were used to analyze the data.

III. Results

Majority of the subjects belonged to the age group of 36 – 60 years (66%), were females (72%), had illness for less than 6 months (84%), had reproductive organ malignancies (41%), had radiation therapy (58%) as mode of treatment, and were in stage 2 of the disease (65.5%) (see Table 1).

Table 1 Demographic and Clinical Information of Subjects

S.no	Characteristics	n	%
1.	Age in years		
	0-18	4	2
	19-35	20	10
	36-60	132	66
	61-70	35	17.5
	>70	9	4.5
2.	Sex of the patients		
	Male	56	28
	Female	144	72
3.	Duration of illness (Months)		
	0-6	168	84
	7-12	30	15
	>18	2	1
4.	Type of cancer		
	Head and neck	39	19.5
	Gastrointestinal	34	17
	Lung	2	1
	Breast	33	16.5
	Reproductive organs	82	41
	Bone	10	5
5.	Type of treatment		
	Radiation therapy	116	58
	Chemotherapy	50	25
	Chemo-radiation therapy	34	17
	Stage of cancer		
	I	10	5
	II	131	65.5
	III	59	29.5

The findings of the study reveal that majority of the subjects had good quality of sleep (58%) and 50% of them practices good sleep hygiene (see Figure 1 & 2).

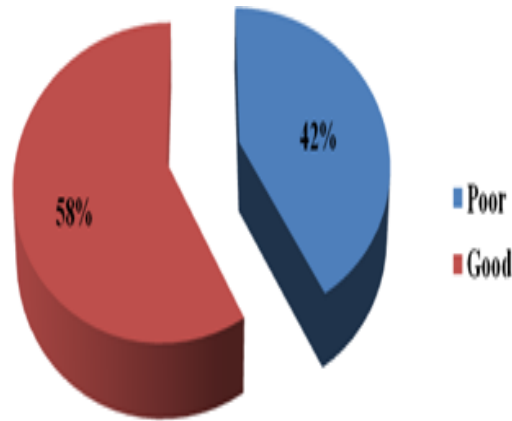


Figure 1. Sleep quality of patients

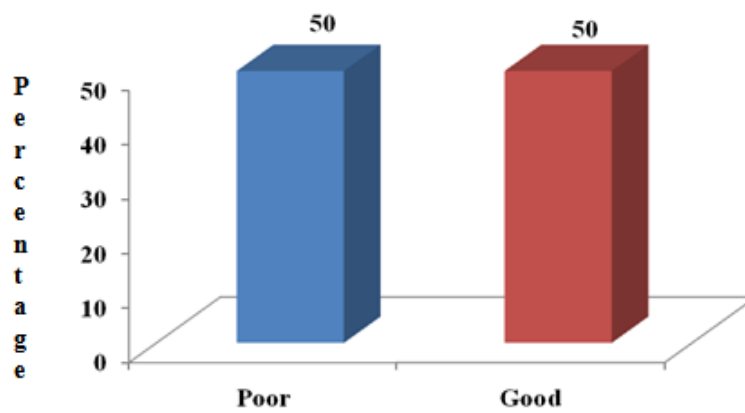


Figure 2. Sleep hygiene of patients

There is a significant positive relationship between the sleep quality and sleep hygiene ($r=.756$, $p = .000$) (see Figure 3). Also, there was a significant association between the sex of the patient and sleep quality ($X^2 = 13.512$, $p = .000$) and sleep hygiene ($X^2 = 8.036$, $p = .005$). A positive relationship is projected among sleep hygiene practices, its awareness and sleep quality among adolescents⁹. Also, a study among college students in India has revealed that poor sleep hygiene had two times higher poor sleep quality¹⁰.

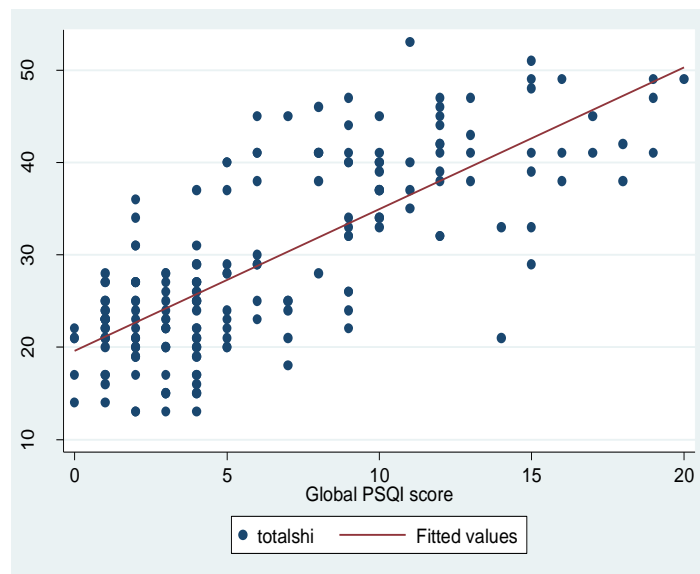


Figure 3. Relationship between sleep hygiene practices and sleep quality of cancer patients

IV. Conclusion

Cancer patients who followed sleep hygiene practices had good quality of sleep. These study findings can help to guide future research and provide nursing with interventions to promote sleep and sleep hygiene practices in the persons with cancer. Sleep quality in cancer patients may be improved through sleep hygiene education program.

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