Original Research Article

Impact of Structured Teaching Programme on Knowledge of Staff Nurses Regarding Sleep Hygiene among the Patients Admitted in a Hospital

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ABSTRACT

Background of the Study: Sleep is a basic human need. It is a universal biological process common to all people. Human spend about one-third of their lives asleep. Sleep plays an important role in maintaining good physical and mental health throughout the life. Sleep hygiene practice is one of the important variables that reduce sleep related disorders, inappropriate sleep behaviours and improves the quality of sleep.

Objectives: The study aimed to assess the effectiveness of structured teaching programme on knowledge of staff nurses regarding sleep hygiene of the patients in a selected hospital.

Methods and Materials: A pre experimental one group pre test post test design was adopted for the study. Non probability purposive sampling technique was used to select 60 staff nurses from the selected hospital. Data were collected by using a structured knowledge questionnaire.

Results: On comparison of pre test and post test knowledge scores, 86.7% of staff nurses had inadequate knowledge in pre test where as in posttest 83.3% of staff nurses had gained adequate knowledge and the improvement was statistically found to be significant (p<0.005). There was a significant association was found between knowledge score and selected demographic variables such as clinical experience and type of family.

Conclusion: In pretest 86.7% of the subjects had an inadequate knowledge where as in the posttest 83.3% of subjects had gained adequate knowledge and 16.7% had acquired moderate knowledge. The overall findings of the study clearly showed that the STP was significantly effective in improving the knowledge of staff nurses regarding sleep hygiene of the patients.

Key Words: Effectiveness, sleep, structured teaching programme, knowledge of staff nurses and sleep hygiene protocol.

INTRODUCTION

"When sleep is sound – health and happiness abound" (WASM-2015)

Human beings require sleep for many reasons: to cope with daily stresses, to prevent fatigue, to conserve energy, to restore the mind and body and to enjoy life more fully[1].

Sleep is referred a regular, recurring and easily revocable state of organism which is characterized by relative immobility and significant increase in response threshold to environmental stimuli[2].

Sleep plays an important role in maintaining good Physical and mental health throughout the life. Timely and adequate sleep will improve quality of life, protect physical and mental health. Sleep is a vital component of health. It is essential for physical and mental wellbeing and is crucial for rejuvenation of the body.

Impaired sleep quality can result in harmful effects on physical and mental wellbeing. Impaired or disrupted sleep has been shown to cause poor concentration, reduced energy levels, altered immune function, poor wound healing, mood changes, increased risk of depression or anxiety and a higher occurrence of accidents and falls[3].

To be a good state of alertness adults require an average of seven to eight hours of sleep in a twenty four hour period and waking up during the night represents up to 5% of the total time spent on bed[4]. The present generation gets 20% less sleep than previous generation[5].

Hospitals are usually environments where having high quality sleep is a challenge. Sleeping in a hospital might not be a restful or restorative experience due to factors such as environmental i.e., loud noises and excessive lighting, physiological or organic i.e., pain and nausea, and psychological i.e., distress and anxiety[4].

A report from the Institute of Medicine (IOM, 2006) states that sleep disorders and sleep deprivation is an unmet public health problem[1].

The sleep related problems are now being increasingly recognized in India. The first ever Pan-African and Asian sleep problem study revealed that prevalence of sleep problems in the developing countries are starting to mirror than seen in developed countries and 16.6% people in the developing countries survey reported experiencing insomnia and other severe sleep disturbances[6].

Non-Communicable Diseases (NCDS) pose major threat to global health and economic development[7]. Recently in India, the trend has been shifting to the prevalence of NCDS due to changes in lifestyles. It is estimated that nearly half of the adult population in India are affected by NCDS. Recent evidences have shown that cases of cardiovascular diseases, diabetes and stroke are steeply increasing Globally[8]. There is growing evidence that lacking of sleep and sleep disorders exacerbate many of the NCDS[7].

Recently health care professionals have started recognizing sleep disorders as one of the commonest causes of morbidity[6]. The major reason for inadequate diagnosis and treatment of sleep disorders in India are poor awareness of sleep disorders among public, inadequate emphasis on sleep medicine in the medical curriculum and shortage of personnel trained in management of sleep and sleep related disorders.

Nurses have an important role in creating an environment conducive to sleep. The nurse needs to manage the impact of sleep disruption through the use of sleep hygiene practices[9].

The study aimed to assess the effectiveness of structured teaching programme on knowledge of staff nurses regarding sleep hygiene of the patients admitted in a selected hospital, Bangalore.

MATERIALS AND METHOD
Research approach and research design: A pre experimental research design, one group pretest- posttest was adopted for the study.

Independent variable: Structured Teaching Programme (STP) on sleep hygiene.

Dependent variable: Knowledge of staff nurses regarding sleep hygiene.

Research setting: Kempegowda Institute of Medical Science Hospital and Research Centre, Bangalore, Karnataka.

Sample and sampling technique: The researcher selected a sample of 60 staff nurses working in KIMS hospital using a purposive sampling technique.

Inclusion criteria:
1. Staff nurses who were willing to participate
2. Staff nurses who were present at the time of data collection
3. Staff nurses who can communicate in Kannada and English

Description of the tool and STP

Tool for data collection

The structured knowledge questionnaire was used to assess the knowledge of staff nurses regarding sleep hygiene of the patients. It consists of two parts: Part I and Part II.

Part I – Socio-Demographic variables of the Staff Nurses

Information on socio-demographic data of staff nurses includes age, educational qualification, clinical experience, monthly family income, marital status, family type and family history of sleep disorder.

Part II - Assessment of Staff Nurses Knowledge regarding sleep hygiene

It comprises of two sections with 40 items as multiple choice questions. The structured knowledge questionnaires were prepared under following sections. Section A – Consists of 11 items (27.5%) regarding concept, meaning and physiology of sleep. Section B– Consists of 29 items (72.5%) regarding sleep disorders, investigations, management and sleep hygiene practice.

Scoring and Interpretation

Each correct answer was given a score of one and for the wrong answer a score of zero.

To interpret the level of knowledge, the scores subjected as follows

Score below 20 (50%) - Inadequate

Score of 21-30 (51-74%) - Moderately adequate

Score of 31 and above (75-100%) – Adequate

Procedure for data collection

After obtaining the formal permission from the Chief Medical officer, Medical Superintendent and Nursing Superintendent at KIMS Hospital, Bangalore, around 60 samples that fulfill the inclusion criteria were selected. The investigator gave self introduction, explained the purpose of the study, subjects willingness to participate in the study was ascertained. The subjects were assured anonymity and confidentiality of the information provided by them and informed consent was obtained.

Written consent from each participant was obtained and administered the pretest. The STP was given soon after the pretest. Posttest was done on the 8th day using the same tool. Each subject took 45 minutes to complete the structured knowledge questionnaires.

RESULT

Statistics were performed by using SPSS-IBM 20. Results were calculated by using P value <0.05. Chi-square was used to associate the knowledge score with selected demographic variables. Frequency and percentage distribution was used to analyze the demographic variables. Paired 't' test was used to find out the effectiveness of STP.

Table 1: Frequency Distribution of Demographic Characteristics, N = 60

Characteristic	Category	Frequency (No.)	Percentage (%)
Age in years	Below 30 years	26	43.3
	31- 35 years	23	38.3
	36 – 40 years	7	11.7
	41 and above	4	6.7
Educational Qualification	BSc. (N)	3	5.0
	GNM	56	93.3
	PBBSc(N)	1	1.7
Clinical experience (in years)	Below 5	7	11.7
	6- 10	38	63.3
	11 - 15	8	13.3
	16 and above	7	11.7
Monthly family income (Rs/month)	Below 20000/-	16	26.7
	20001/-30000/-	19	31.7
	30001/-40000/-	12	20.0
	40001/- and above	13	21.6
Marital Status	Married	56	93.3
	Unmarried	4	6.7
Family Type	Joint family	14	23.3
	Nuclear family	46	76.7
Religion	Christian	1	1.7
	Hindu	59	98.3
History of sleep disorder in family	No	59	98.3
	Yes	1	1.7
Practice of sleep hygiene for patients	No	44	73.3
	Yes	16	26.7

Table 1 depicts majority of the staff nurses 56 (93.3%) were GNM graduates, 38 nurses (63.3%) were having 6 -10 years of experience and most of the nurses (43.3%) were aged below 30 years.

Table 2: Comparison of Knowledge of Participants in Pretest and Posttest, N = 60

Sl. No	Level of Knowledge	Pretest		Posttest	
		Frequency	Percentage	Frequency	Percentage
1	Inadequate (<50%)	52	86.7	0	0
2	Moderately adequate (51%-74%)	8	13.3	10	16.7
3	Adequate (>75%)	0	0	50	83.3

Table 2 shows that majority of 52 (86.7%) of the subjects had inadequate knowledge in pretest with the mean of 16.01. In posttest, 50 participants (83.3%) had adequate knowledge and the mean was 33.1.

Table 3: Frequency Distribution of aspect wise Knowledge scores of Respondents in Pre and Post tests

Aspect wise	Pre test		Post test		t value	DF	P value Inference
	Mean	SD	Mean	SD			
Concept, Meaning and Physiology of sleep	4.91	1.7	9.7	1.0			
Sleep disorders, investigation, management and sleep hygiene	11.1	4.2	23.4	2.7	33.2*	59	P<0.005*

* Significant at P <0.005

Table 3 shows the frequency distribution of aspect wise knowledge scores in pre and post tests. In all the aspects the post test means (9.7 &23.4) were high compared to pre test means (4.91 &11.1). This showed that STP was very effective to improve the knowledge level of the respondents and the improvement was found to be statistically significant (p<0.005).

Table 4: Comparison of Mean, Standard deviation Score of Knowledge Level of Participants in Pretest and Posttest, N = 60

Test	Mean	SD	Paired 't'value	P value
Pretest	16.1	4.8	33.2*	<0.005*
Posttest	33.1	3.4		

* Significant at P <0.005

Table 4 shows that posttest mean (33.1) is higher compared to pretest mean of 16.1. The paired 't' value (33.2) showed that STP was very effective to improve the knowledge level of the subjects and the improvement was found to be significant (p<0.005).

Table 5: Association with the level of knowledge of nurses and their selected demographic variables, N= 60

Demographic variables	Category	Below median		Above median		Chi Square
		No.	%	No.	%	
Age (In Years)	Below 30	14	53.8	12	46.2	0.274 (NS)
	31 - 35	12	52.2	11	47.8	
	36 - 40	3	42.9	4	57.1	
	41 and above	2	50.0	2	50.0	
Educational Qualification	B.Sc Nursing	0	0.0	3	100.0	4.581 (NS)
	GNM	31	55.4	25	44.6	
	PB B.Sc	0	0.0	1	100.0	
Clinical Experience (in years)	Below 5	7	100	0	0	11.12 (S)
	6 - 10	20	52.6	18	47.4	
	11 - 15	3	37.5	5	62.5	
	16 and above	1	14.3	6	85.7	
Monthly Family Income	Below 20000/-	10	62.5	6	37.5	1.064 (NS)
	20001/- 30000/-	9	47.4	10	52.6	
	30001/- 40000/-	6	50.0	6	50.0	
	40001 andabove	6	46.2	7	53.8	
Marital Status	Married	30	53.6	26	46.4	1.220 (NS)
	Single	1	25.0	3	75.0	
Family Type	Joint family	4	28.6	10	71.4	3.90(S)
	Nuclear family	27	58.7	19	41.3	
Religion	Hindu	31	52.5	28	47.5	1.087 (NS)
	Christian	0	0.0	1	100.0	
History of Sleep disorder in family	Yes	0	0.0	1	100	1.087 (NS)
	No	31	52.5	28	47.5	
Practice of sleep hygiene by the patients	Yes	8	50.0	8	50.0	0.024 (NS)
	No	23	52.3	21	47.7	

NS- Non Significant at p>0.005, S- Significant at p<0.005

Chi-Square was used to find out the association between the variables. Among the demographic variables analyzed in this study showed that except clinical experience and type of family, there were no significant association found between age in years, educational qualification, monthly family income, marital status, family type, family history of sleep disorders and practice of sleep hygiene. (P>0.05).

The statistical value supported the research hypothesis that the mean posttest knowledge on post anesthetic care will be significantly higher than the mean pretest knowledge score of staff nurses who had STP.

Thus it shows that STP was effective in improving the staff nurses knowledge regarding sleep hygiene among the patients. This type of educational programs can bring about a change in the nurses knowledge. Assessment of sleep is an important component of a routine health examination that can help to educate people about the importance of good sleep practices and help to identify sleep problems so that appropriate treatment can be instituted.

DISCUSSION

Practice of sleep hygiene need to become a part of multidisciplinary care to the hospitalized patient. Assessment of sleep hygiene also made to be part of nursing assessment protocol that needs to be discussed in shift to shift report. In general, effective nursing interventions for sleep problems fall into the realms of behavioral coaching or education for self-care improvement and screening for referral of serious sleep related disorders. Nurses are the professionals who come in contact with the patient for longer time; hence the maximum time spent by them if used constructively will have miraculous influence on the prognosis of the hospitalized client.

Limitations

➢ The present study was limited to staff nurses working at Kempegowda Institute of Medical Science Hospital and Research Centre, Bangalore, Karnataka.
➢ Only one domain knowledge was considered in this study
➢ The study did not use any control group
➢ The sample for this study was limited to 60 staff nurses only

Recommendations

In the light of the findings of the present study the researcher puts forward the following recommendations for conducting further research.

• Similar study can be conducted in different settings with a control group and randomization.
• Similar study can be conducted with a larger sample.
• A comparative study can be conducted between nurses working in government and private hospitals.
• A study can be carried out to evaluate the efficiency of various teaching strategies.
• Manuals and information booklets may be developed to enhance knowledge of staff nurses regarding sleep hygiene of the patients.

CONCLUSION

Sleep is one of the important vital signs of health. Health is highly influenced by sleep hygiene. Nurses play a key role in taking care of patients' personal hygiene. In the similar way they must ensure full care on sleep hygiene which is often neglected due to lack of knowledge on sleep related disorders. They can follow a simple sleep hygiene protocol to improve the quality of patients' sleep which in turn promotes their recovery speed and improves their health.

Ethical Approval: Approved

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