



Effect of progressive muscle relaxation on quality of sleep among patients undergoing hemodialysis

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ABSTRACT

The present study was aimed to assess the effect of progressive muscle relaxation on quality of sleep among patients undergoing hemodialysis at Sree Gokulam Medical College Hospital, Trivandrum. The study used Quantitative approach and pre-experimental design. 42 Subjects were selected by convenient sampling technique from dialysis unit and used Pittsburgh sleep quality index (PSQI) to assess the quality of sleep and progressive muscle relaxation was given as intervention. First observation was done during first week followed by second observation during the second week in-order to get a baseline. Progressive muscle relaxation was taught with demonstration and advised to practice it for twice daily. Third observation was done after 4 weeks of intervention. The result showed that the mean PSQI score value in pretest as 8.85+/- 3.415 which were decreased to 4.69+/-1.70 after intervention. The difference in mean values were statistically significant ($p < 0.05$). The paired t test value obtained is 8.778. The findings of the study revealed that progressive muscle relaxation can improve the quality of sleep among patients undergoing hemodialysis.

KEYWORDS : Quality of sleep, progressive muscle relaxation, hemodialysis.

Introduction:

"Bones can break, muscles can atrophy, glands can loaf, even the brain can go to sleep without immediate danger to survival. But should the kidneys fail... neither bone, muscle, gland, nor could brain carry on." This statement underlines the importance of kidneys in our lives. Kidneys are two pairs of bean shaped organ in our body. Kidney failure is the impairment in the function of the kidneys which leads to accumulation of fluids and waste products. Hemodialysis is one of several renal replacement therapies used for the treatment of kidney failure. Patients undergoing hemodialysis often complaint of insomnia, restless leg syndrome, periodic limb movement disorder, bone pain, nausea and pruritus. Among these, approximately 80% of patients undergoing hemodialysis suffer from sleep abnormalities and the prevalence is higher than that in the general population. For patients to regain and maintain their optimal physical and emotional health, they must be able to get adequate amounts of quality sleep. Poor sleep in patients undergoing hemodialysis has a negative impact on the physical and mental components of life and leads to a decrease in their performance as well as cognitive and memory dysfunction. Different methods are used to treat insomnia including the use of tranquilizers or sleep medications and cognitive-behavioral therapies, which is very effective in short-term treatment of insomnia. Progressive muscle relaxation is an effective cognitive-behavioral therapy, which is non invasive, low cost technique and can be done by patients themselves.

Materials and Methods:

Quantitative approach using a Pre experimental design was adopted.

Variables: Independent variable is progressive muscle relaxation and dependent variable is quality of sleep among patients undergoing hemodialysis.

Setting of the study: The setting of the present study was dialysis unit of SreeGokulam Medical College and Research foundation, Thiruvananthapuram.

Inclusion Criteria

The present study included patients

- Undergoing hemodialysis for at least six months.
- Between the age group of 25 to 65 years who have sleep disturbance.
- With ability to learn relaxation method.

Exclusion Criteria

The present study excluded patients

- who are cognitively impaired.
- who are seriously ill.

Sample: In the present study, patients undergoing hemodialysis in the dialysis unit of Sree Gokulam Medical College hospital who met the inclusion criteria were selected as subjects.

Sample size: 42 patients with chronic kidney disease undergoing hemodialysis using a convenient sampling technique.

Tools/Instruments of the study

In the present study, the instrument used were

- Socio personal performa
- Clinical data
- Standardized Pittsburgh sleep quality index to assess quality of sleep.

Data collection process

Formal permission was obtained from Institutional research committee and from Institutional ethical committee. Data were collected over a period of 11/2 month that extended from 1/1/15 to 25/2/15. 42 subjects satisfying the inclusion criteria were selected by convenient sampling from dialysis unit of Sree Gokulam Medical college hospital. Informed consent was obtained and data collected using socio personal Performa, clinical data and Pittsburgh sleep quality index to assess the quality of sleep during the first week to get a baseline. After 1 week, reassessment of quality of sleep was done. Then progressive muscle relaxation was taught, demonstrated to the patient and return demonstrated by them. The subjects were advised to perform the progressive muscle relaxation twice daily for 20 minutes duration and given telephonic reminders and verbal reminders, and a sleep diary was given to document the sleeping hours. After 4 weeks, the quality of sleep was reassessed to determine the effect of progressive muscle relaxation on quality of sleep. The data collected were compiled for data analysis.

Results:

Domains of quality of sleep

- One third of the subjects (33.3%) were having fairly bad duration of sleep. More than half of the subjects (71.4%) were having fairly good sleep without any interference. Majority of them (69%) were having very bad sleep onset. Over all sleep quality is fairly good among 42.9% of subjects and fairly bad for 38.1%. Majority of the subjects (85.7%) were not using medications to sleep.
- Majority (83.3%) of the subjects had poor sleep quality and only 16.7% were having good sleep.

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Table 1

Characteristics	Mean	N	SD	t value	p value
Pretest score	8.85	42	3.415	8.778*	0.000
Posttest score	4.69	42	1.70		

The result shows that the mean and standard deviation of PSQI score in pretest was 8.85+/- 3.415 which were decreased to 4.69+/- 1.70 after intervention. The t value obtained from paired t test is 8.778 which is significant at p<0.05.

There is a significant difference in mean values. Hence it is interpreted that progressive muscle relaxation has a significant effect on the quality of sleep of patients undergoing hemodialysis.

Discussion:

More than half of the subjects (54.8%) belonged to the age group 55-65 yrs. Majority of them (69%) were having very bad sleep onset. Over all sleep quality is fairly good among 42.9% of subjects and fairly bad for 38.1%. Majority (83.3%) of the subjects had poor sleep quality and only 16.7% were having good sleep. The mean and standard deviation of PSQI score in pretest was 8.85+/- 3.415 which were decreased to 4.69+/- 1.70 after intervention. There is a significant difference in mean values. The t value obtained from paired t test is 8.778 which is significant at p<0.05. Hence it is interpreted that progressive muscle relaxation has a significant effect on the quality of sleep of patients undergoing hemodialysis.

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