

A Study to assess the effectiveness of Self Instructional Module on knowledge regarding Obstructive Sleep Apnea (OSA) among Patients attending Sleep Labs in selected hospitals at Udaipur City

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Abstract

A one group pre-test post-test experimental study was carried out to assess the effectiveness of self-instructional module on knowledge regarding obstructive sleep apnea. The sample consisting of 60 Patients was selected by using Purposive sampling method. The tool comprised of self-instructional module the study design depicts that a pretest was given in the form of structured knowledge questionnaire on Obstructive Sleep Apnea, the self-instructional module was given and a post test was conducted to assess the gain in knowledge using the same self-administered knowledge questionnaire. The data obtained were analyzed by using differential and inferential statistics. The mean score of posttest knowledge 24.2 was apparently higher than the mean score of pre-test knowledge 11.5, suggesting that the self-instructional module was effective in increasing the knowledge of the respondents regarding obstructive sleep apnea. The mean difference 12.6 between pre-test and post-test knowledge score of the patients was found to be significant.

Introduction

Normal sleep is a condition of body and mind which typically recurs for several hours every night, in which the nervous system is inactive, the eyes closed, the postural muscles relax, and consciousness practically suspended.¹

Obstructive Sleep Apnea ICD-9-CM 327.23, it is a sleep disorder characterized by recurrent episodes of upper airway obstruction and a reduction in ventilation. It defines as a temporary cessation of breathing (apnea), especially during sleep or abnormal pauses in breathing or instances of abnormally low breathing during sleep. Each pause in breathing, called apnea, can last from at least ten seconds to minutes, and may occur 5 to 30 times in every sleep. Obstructive sleep apnea interferes with

people's ability to obtain adequate rest, thus affecting memory, learning, and decision making.

The most common obstructive sleep apnea symptoms includes daytime sleepiness or fatigue, dry mouth or sore throat upon awakening, headaches in the morning, trouble concentrating, forgetfulness, depression, or irritability, night sweats, restlessness during sleep, sexual dysfunction, snoring, sudden awakenings with a sensation of gasping or choking and difficulty getting up in the mornings.

In adults, the most typical individual with OSA syndrome suffers from obesity, with particular heaviness at the face and neck. Obesity is not always present with OSA; in fact, a significant number of adults with

normal body mass indices (BMIs) have decreased muscle tone causing airway collapse and sleep apnea.

The gold standard diagnostic test for OSA is the overnight in-laboratory polysomnography. Treatments involve lifestyle changes, such as avoiding alcohol and medications that relax the central nervous system (for example, sedatives and muscle relaxants), losing weight, and quitting smoking. Some people are helped by special pillows or devices that keep them from sleeping on their backs or oral appliances to keep the airway open during sleep.

Statement of Problem

A study to assess the effectiveness of Self Instructional Module on knowledge regarding Obstructive Sleep Apnea (OSA) among Patients attending Sleep Labs in selected hospitals at Udaipur City.

OBJECTIVES

1. To assess the pre-test knowledge score regarding Obstructive Sleep Apnea among Patients attending Sleep Labs.
2. To assess the effectiveness of Self Instructional Module (SIM) on knowledge regarding Obstructive Sleep Apnea among Patients attending Sleep Labs.
3. To assess the post-test knowledge score on knowledge regarding Obstructive

Sleep Apnea among Patients attending Sleep Labs.

4. To find out the association between the pre-test knowledge score regarding Obstructive Sleep Apnea with selected demographic variables.

Assumptions

- Patients may have some knowledge about Obstructive Sleep Apnea.
- Self-Instructional Module may increase knowledge of Patients.

Hypothesis

- H1: There will be a significant difference between pre test and post test knowledge score of Patients regarding Obstructive Sleep Apnea.
- H2: There will be a significant association between pre-test knowledge score regarding OSA with selected demographic variables.

Methodology

Research approach: A quantitative evaluative research approach was used to evaluate the effectiveness of self-instructional module among patients attending sleep labs.

Research Design: Pre- experimental one group pre and post test design was used.

Variables:

i. Dependent variable: . knowledge of patients regarding obstructive sleep apnea attending sleep lab.

ii. Independent variable: self-instructional module.

iii. Demographic variable: Demographic variables are Age in years, gender, educational qualification, occupation, area of residence, personal habits, nutritional habits, disease condition, regarding previous knowledge, source of information.

Research setting: Luhadia's chest & allergy clinic and Chhabra clinic at Udaipur city.

Population : Patient attended sleep labs at selected hospitals at Udaipur City

Sample: The sample of the study comprises of 60 patients attended sleep lab.

Sampling technique: Purposive sampling technique was used to select the sample of the study.

Development of tool: The draft of the self-instructional module was prepared by utilizing various sources like Related review of literature, based on the opinions and suggestion of experts, discussions with colleagues and personal experience in clinical settings and books, journals, internet etc.

Description of tool:

Part - I: Consist of selected socio-demographic variables.

Part -II: Consist of structured questionnaire on Obstructive Sleep Apnea.

Reliability of tool: The reliability of tool was established by split half technique and Spearman Brown Prophecy Formula. The internal consistency of the tool was assessed by split half method and it was found to be 0.83. It indicated that the tool is highly reliable.

Data collection procedure: The data collection was done after taking written permission from the Director of Lusatia's Chest & Allergy Clinic & Chhabra Clinic, Udaipur for conducting the study in the hospital, explaining them the purposes and objectives of the study.

Plan for data analysis: The analysis of the data was done using descriptive and inferential statistics i.e by calculating percentage, mean score, mean percentage, standard deviation, 't' test and chi square test to identify the knowledge of patient's regarding obstructive sleep apnea and their association with selected demographic variables.

Findings of the Study:

Table 1 compares the pre test and post test impacts. The level of knowledge among respondents regarding obstructive sleep apnea was assessed in pre-test out of 60 respondents 87% had inadequate knowledge

as compare to post-test knowledge score which is 68% as adequate knowledge,hence effect of self instructional module was

effective in improving the knowledge of patient with sleep apnea.

Table 1 Assessment of Pre & Post Test knowledge of Respondents regarding Obstructive Sleep Apnea N=60

Level of knowledge	Frequency		Percentage	
	Pre test	Post test	Pre test	Post test
Inadequate knowledge (0-50%)	52	0	87%	0 %
Moderately adequate knowledge (50-75%)	8	19	13%	32%
Adequate knowledge (75-100%)	0	41	0%	68%
Total	60	60	100	100

Table no.2 Data represent that the ‘t’ value of 45.35 is significantly higher than the table value 1.96 at 0.05 level of significance. This indicates that there was significant difference in pre test and post test

knowledge score of respondents and self instructional module was effective in increasing the knowledge of the respondents regarding obstructive sleep apnea.

Table 2 Effectiveness of the Self Instructional Module regarding knowledge of OSA among Patients

	Mean	Mean Percentage (%)	SD	Enhancement	Enhancement percentage (%)	df	t	Inference
Pretest	11.51	38.33	3.4					
Post test	24.2	80.6	2.4	12.69	21.15	59	45.35	S

Table no 3 revealed that there is a no significant association between knowledge of respondents and demographic variables such as age (2.38), educational qualification

(6.91), occupation (0.36), area of residence (0), personal habits (0.53), nutritional habits (1.8), disease condition (2.91), . Hence the research hypothesis is rejected at 0.05 level

of significance but there was a significant association between knowledge of respondents and demographic variables such as gender (4.48), previous knowledge of

OSA (14.06), source of information (49.71). Hence research hypothesis is accepted and null hypothesis is rejected.

Table 3 Association of pre –test knowledge score with with selected Demographic variables

Variables	Df	χ^2	P value (0.05)	Inference
Age in years	4	2.38	9.49	NS
Gender	1	4.48	3.84	S
Educational Qualification	4	6.91	9.49	NS
Occupation	4	0.36	9.49	NS
Area of Residence	1	0	3.84	NS
Personal Habits	3	0.53	7.82	NS
Nutritional Habits	1	1.8	3.84	NS
Disease condition	4	2.91	9.49	NS
Previous knowledge regarding obstructive sleep apnea	1	14.06	3.84	S
Source of information	2	49.71	5.99	S

Conclusion

The overall comparison of pre and post-test knowledge scores on obstructive sleep apnea shows that the mean score of post-test knowledge was apparently higher than the mean score of pre-test knowledge therefore the enhancement in the knowledge level of respondents is indicates gain in knowledge by respondents. The data further represent that the ‘t’ value is significantly higher than the table value at 0.05 level of significance. This indicates that there is significant

difference in pre test and post test knowledge score of respondents and self instructional module was effective in increasing the knowledge of the respondents regarding obstructive sleep apnea.

There was a significant association between knowledge of respondents and demographic variables such as gender, previous knowledge of OSA and source of information. Hence research hypothesis was accepted and null hypothesis was rejected but there was a no significant association

between knowledge of patients and demographic variables such as age , educational qualification , occupation, area of residence , personal habits , nutritional habits and disease condition , Hence the research hypothesis was rejected at 0.05 level of significance.

The overall findings of the study show that self instructional module was effective in improving the knowledge of patients about obstructive sleep apnea.

References

1. Udwadia Farokh Erach, Udwadia Zarir F, Kohli Anirudh F. Textbook of Principles of respiratory medicine; 2010 p.775-6.
2. Suddarth's and Brunner. Text book of Medical Surgical Nursing. Twelfth ed. Obstruction during sleep: Lippincott Philadelphia 2010: p.533-4.
3. Sleep Disorders Health Center <http://www.webmd.com/sleep-disorders/guide/understanding-obstructive-sleep-apnea-syndrome>.
4. http://en.wikipedia.org/wiki/Obstructive_sleep_apnea.
5. Treatment of OSA http://en.wikipedia.org/wiki/Obstructive_sleep_apnea.
6. Jamie C.M. Lam, S.K. Sharma* & Bing Lam Indian J Med Res 131, February 2010: p 165-70.
7. <http://www.webmd.com/sleep-disorders/guide/understanding-obstructive-sleep-apnea-syndrome?page=2>.
8. Sleep-related breathing disorders in adults: Recommendations for syndrome definition and measurement techniques in clinical research. Sleep 1999; 21: p. 667-89.
9. Farokh Erach Udwadia, Zarir F. Udwadia, Anirudh F. Udwadia: Ist edition principles of respiratory medicine.2010 p.775-6.
10. <http://www.saudija.org/article.asp?issn=1658,354X;year=2013;volume=7;issue=2;page=155;epage=159;aulast=Agrawal>
11. Sleep awareness in India <http://www.sleepapnoeaindia.com/>.
12. Bajaj P. The Child with Sleep Apnea for Adenotonsillectomy. Indian J Anaesth [serial online] 2008 [cited 2014 Apr 15]; 52:870. Available from: <http://www.ijaweb.org/text.asp?2008/52/6/870/60705>.
13. Sleep Apnea » Education & Support » About OSA <http://www.fphcare.co.nz/sleep-apnea/education-support/about-osa/>
14. <http://www.ncbi.nlm.nih.gov/pubmed/25085747>. Parkinsonism Relat Disord. 2014 Apr 1. pii: S1353-8020(14)00132-1. doi: 10.1016/j.parkreldis.2014.03.022.
15. <http://www.ncbi.nlm.nih.gov/pubmed/24726170>/Int J Cardiol. 2014 Mar 29. pii: S0167-5273(14)00592-0. doi: 10.1016/j.ijcard.2014.03.156.