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A Pre experimental Study to Assess the Effectiveness of VIDEO Demonstration on Knowledge Regarding Postural Drainage among Caregivers of COPD Patients in Selected Hospitals, Gwalior

Ms. Vinee Shweta Samuel[1*], Ms. Ganji Revathi[1]
[1]Nursing Tutor, College of Nursing, Institute of Medical Science, Banaras Hindu University, Varanasi, U.P

Abstract: When a care givers has knowledge about easy & home management of chronic obstructive pulmonary disease, quality of life of the patient is enhanced but lack of knowledge of the care giver can causes unnecessary suffering to the patient. ***Objective***: 1. To assess the knowledge of caregivers in COPD patients regarding Postural Drainage.2To develop the Video Demonstration module on Postural Drainage among the caregivers in COPD patients.3. To re-assess the knowledge caregivers in COPD patients regarding Postural Drainage 4. To find out the effectiveness of Video demonstration Module on postural drainage among the caregivers of COPD. 5. To find out the association between the knowledge score with selected demographical variables of caregivers in COPD patients. ***Research Methodology***: Research approach is an umbrella that covers the basic procedure for conducting the study. In this study evaluative research approach was used & Research design of pre experimental in one group pre test Post test design was selected. The study was conducted in Maheshwari Hospital, Gwalior & 40 caregivers of COPD patient was selected by the Purposive sampling technique. The caregivers COPD was used who have age 25 to 50 years & work in the COPD patients of Maheshwari Hospital, Gwalior. Result: The caregiver of COPD in pre test knowledge score that 72.5 were inadequate knowledge, 27.5% were Moderate knowledge & none of the participants have adequate knowledge but after the video demonstration the post assessment knowledge score highly no. 80% of the participants have moderate knowledge, 12.5% have inadequate knowledge & remaining 7.5% participants have adequate knowledge. The Pre test Mean±S.D. 9.86±4.95, Mean score % 32.86% but Post test Mean±S.D. 15.06±5.23 & Mean score % 50.19%. The enhancement of Mean±S.D. 5.2±0.7, Mean Score % 17.32%, paired "t" test value 16.8 & degree of freedom 39 at the level of significance 0.05. This result also proof that the video demonstration are very effective & enthusiasm to increase the level of knowledge. The association of chi square with their selected demographic variables & Post test knowledge score that Education qualification, Residence area & Source of information regarding postural drainage among the caregiver of the COPD patient's were significant and other socio demographic variables such as Age (Year's) & monthly income of the family member's (RS) were not significant at P< 0.05 level of significant.

Keywords: Knowledge, Caregivers, COPD, Postural Drainage.

Research Paper

***Corresponding Author:**
Ms. Vinee Shweta Samuel
Nursing Tutor, College of Nursing, Institute of Medical Science, Banaras Hindu University, Varanasi, U.P

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BACKGROUND

The concept of health –illness continuum allows for a greater range in describing the person's health status. When viewed from the perspective of health illness continuum, people with a chronic illness or disability may be viewed as a having the potential to obtain a high level of wellness if the are successful in meeting their health potential within the limit of their chronic illness or disability. Today increasing emphasis is placed on health, health promotion, wellness & self care.

The respiratory disorder vary from simple condition like common cold, rhinitis o severe condition like pulmonary tuberculosis, pneumonia, acute respiratory distress syndrome & many more. COPD is the leading causes of death in the world. Over 13 million population is suffering from this disease. According to World Health Organization, 80 million people suffer

from moderate to severe COPD & 3 million died to it in 2005. Worldwide COPD ranked in 6th as the causes of death in 1990. It is projected to be the third leading causes of death worldwide by 2020 due to increase in smoking rate and demographic change in many countries. In the United kingdom, COPD accounts for about 7% of all days of sickness related absence from work.

When a caregiver has knowledge about easy and home management of COPD, quality of the life of the patient is enhanced but lack of knowledge of the caregivers can causes unnecessary suffering to the patient. Any lapse in caring for the patient from the part of the caregivers is to be taken as lack of knowledge. When a disease is chronic in nature, home care should be taught to the caregivers.

Objective:

1. To assess the knowledge of caregivers in COPD patients regarding Postural Drainage.
2. To develop the Video Demonstration module on Postural Drainage among the caregivers in COPD patients.
3. To re-assess the knowledge caregivers in COPD patients regarding Postural Drainage
4. To find out the effectiveness of Video demonstration Module on postural drainage among the caregivers of COPD.
5. To find out the association between the knowledge score with selected demographical variables of caregivers in COPD patients.

Review of Literature

Kasanskaia EP, Fedorov AA *et al*., (2009):

A study was conducted to find out the effectiveness of low intensity laser radiation in the combined treatment of patient with chronic obstructive pulmonary diseases among 89 patients with chronic obstructive bronchitis (COB) among which their control group consisted of 30 healthy people in 2009. The resulted suggested that application of low intensity LASER radiation elimination of clinical symptom, increase in efficiency, promoted range of function of the bronchi and facilitates normalization of the patient's immune status.

RESEARCH METHODOLOGY

Research approach is an umbrella that covers the basic procedure for conducting the study. In this study evaluative research approach was used & Research design of pre experimental in one group pre test Post test design was selected. The study was conducted in Maheshwari Hospital, Gwalior & 40 caregivers of COPD patient was selected by the Purposive sampling technique. The caregivers COPD was used who have age 25 to 50 years & work in the COPD patients of Maheshwari Hospital, Gwalior.

Sampling Criteria

Inclusion Criteria

1. Caregivers of COPD patients who are willing to participate in the research study.
2. Caregivers of COPD patients who will be available during the data collection time.

Exclusion Criteria

1. Care givers of COPD patients with associated complication such as heart failure, Angina , myocardial infarction valve stenosis & lungs cancer.
2. Care givers of those COPD patients who are less then 25 years of age.

Assumption

1. Caregivers of COPD patients may have some knowledge on postural drainage.
2. Video module may improve the knowledge of caregivers of COPD patients regarding postural drainage.

Hypothesis

H_{0a}: There will not be significant difference between pre test & Post test knowledge score of caregivers of COPD patients regarding the postural drainage.

H_{0b}: There will not be significant association between the knowledge score with selected demographical variables of caregivers.

H_{1a}: There will be significant difference between pre test & Post test knowledge score of caregivers of COPD patients regarding the postural drainage.

H_{1b}: There will be significant association between the knowledge score with selected demographical variables of caregivers.

Tools & data Collection

The tools was prepared and validated by the expert.

Tools 1: It consist of socio demographic data (06 item) like as Age, gender, Education qualification, Residence area, Monthly income of the family members & source of information regarding the postural drainage.

Tools 2: It consist of 30 structured knowledge questionnaire in which 3 part. All question have multiple choice question. Part-1 consist of 07 items general information of the respiratory system, Part -2 consist of 07 items in general knowledge about these chronic obstructive pulmonary disease & Part -3 consist 16 items in Postural drainage.

The reliability of the tools in knowledge were found + 0.83 by the Karl person Co-efficient, thus the tools were highly reliable. The approval of ethical clearance of the research committee. The administrative approval for consent department of the participant's & full fills consent form of the participants. The data collected from Aug.3, 2015 to Aug.10, 2015 by the offline mode. The completion of near about 35-40 minute & included in multiple choice question. The

correct answer was given 01 marks & wrong answer given 0 marks for multiple choice question.

The data were analyzed using descriptive & inferential statistics. Data analyzed by the statistical package of social science (SPSS) in IBM version 22.

Analysis of Awareness:

Level of knowledge =Obtained score/Maximum score x 100
Inadequate awareness = below 50 %
Moderate awareness = 50.1 to 75%
Adequate awareness = above 75%

RESULT

Tools 1: Socio demographic data: The analysis of the result that mostly caregivers of COPD 11 (27.50%) were 25-30 years, 10 (25%) were 46-50 years, 9(22.5%) were 31-35 years, 6 (15%) were 41-45 yeas & 4(10%) were 36-40 years. Out of the 21 (57.5%) sample were Female & remaining 19 (47.5%) sample male. Most of the participants 17 (42.5%) were primary education, 12 (30%) were senior secondary education & remaining 11(27.5%) were Graduate of the participants. 35 (87.5%) caregivers of COPD were live in urban area & 5 (12.5%) were rural area. Most of the participants were 26 (65%) > 25,000 in RS monthly income of the family members & remaining 14 (35%) were < 25,000 RS monthly income of the family members. Highest Number of participants 18 (45%) haven't information regarding the Postural drainage, 13 (32.5%) were information received by health personnel, 5 (12.5%) were electronic media & remaining 4 (10%) were received by the printed material/newspaper.

Tools II: Finding related to knowledge score of postural drainage among the caregivers in COPD patients in the Pre test & Post test.

Table 1: Comparisons between Pre test & Post test knowledge sore regarding postural drainage in the caregivers of COPD patients N=40

S.N.	Aspects of Knowledge	Pre test		Post test	
		F	%	F	%
1.	Inadequate knowledge (<50%)	29	72.5%	05	12.5%
2.	Moderate Knowledge (51-75%)	11	27.5%	32	80%
3.	Adequate Knowledge (>75%)	0	0%	03	7.5%
	Total	**40**	**100%**	**40**	**100%**

Data presented in table no. 1 & fig.1 showed that pre assessment knowledge score, most of the participants 29 (72.5%) have inadequate knowledge, 11 (27.5%) participants have moderate knowledge & none of the participants have adequate knowledge but after the video demonstration the post assessment knowledge score highly no. 32 (80%) of the participants have moderate knowledge, 05 (12.5%) have inadequate knowledge & remaining 3 (7.5%) participants have adequate knowledge. N=40

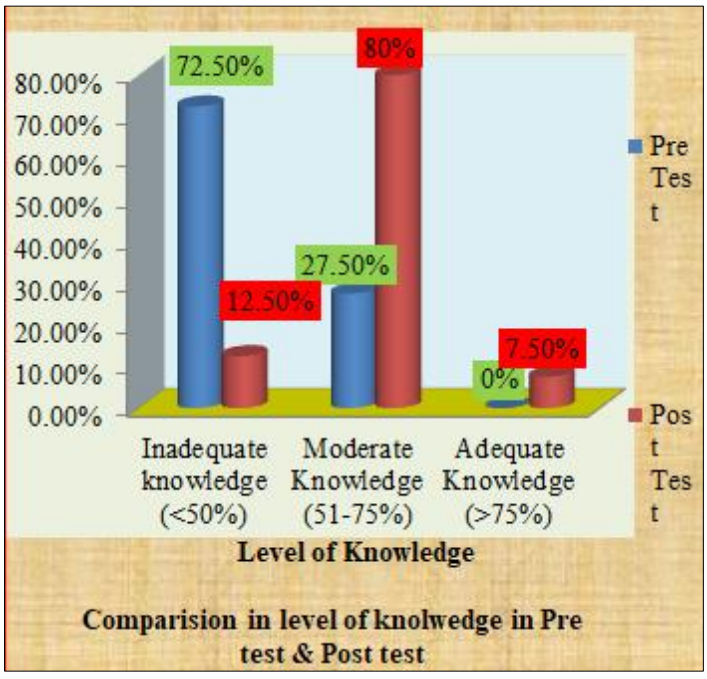

Fig. 1: Showing Comparisons between pre test & Post test regarding the level of Knowledge

Table 2: Comparisons between Pre test & Post test of the knowledge score in area wise of Mean, S.D., Mean Score% N=40

S.N.	Aspects of knowledge	Max. score	Pre test		Post test		Enhancements		Paired "t" test
			Mean±S.D.	Mean Score %	Mean±S.D.	Mean Score %	Mean±S.D.	Mean Score %	
1.	General Information of Respiratory system	07	2.84±1.30	9.46%	4.89±1.09	16.3%	2.05±.21	6.83%	5.21** P<0.5 df=39
2.	COPD	07	1.95±1.17	6.5%	3.85±1.23	12.83%	1.9±.06	6.33%	7.08** P<0.5 df=39
3.	Postural Drainage	16	5.07±2.48	16.90%	6.32±2.91	21.06%	1.25±0.43	4.16%	4.51** P<0.5 df=39
4.	Overall	30	9.86±4.95	32.86%	15.06±5.23	50.19%	5.2±0.7	17.32%	16.8** P<0.5 df=39

N40

Note:*** denote that level of significant at 0.05

The data table no. 2 represent showed that comparisons between part wise Mean, S.D., Mean Score % in pre test & Post test. The part-1 (General Information of Respiratory system) Mean ±S.D. 2.84±1.30, Mean Score % 9.46% but after give the video module then this part Mean ±S.D. 4.89±1.09, Mean Score % 16.3%. In this part improvement of Mean ±S.D. **2.05±.21**, Mean Score % 6.83% & the student paired "t" test 5.21**, df=39 (p<0.05) level of significance. The level of knowledge in part-2 (COPD) Mean ±S.D. 1.95±1.17, Mean Score % 6.5% but after give the video module then this part Mean ±S.D. 3.85±1.23, Mean Score % 12.83%. In this part improvement of Mean ±S.D. **1.9±.06**, Mean Score % 6.33% & the student paired "t" test 7.08**, df=39 (p<0.05) level of significance. The level of knowledge in part-3 (Postural Drainage) Mean ±S.D. 5.07±2.48, Mean Score % 16.90% but after give the video module then this part Mean ±S.D. 6.32±2.91, Mean Score % 21.06%. In this part improvement of Mean ±S.D. **1.25±0.43**, Mean Score % 4.16% & the student paired "t" test 4.51**, df=39 (p<0.05) level of significance. The overall pre test level of knowledge in Mean ±S.D. 9.86±4.95, Mean Score % 32.86% but post test of overall Mean ±S.D. 15.06±5.23, Mean Score % 50.19%. In this part improvement of Mean ±S.D. **5.2±0.7**, Mean Score % 17.32% & the student paired "t" test 16.8**, df=39 (p<0.05) level of significance. That the result showing video structured module was very useful & effective.

Table 3: Compare between the pre test & post test knowledge Mean ±S.D., Mean score%, and evaluate the effectiveness of video demonstration on knowledge regarding postural drainage among the caregiver of the COPD patient's N=40

S.N.	Parameter	Mean ±S.D.	Mean score %	Paired "t" test	Result
1.	Pre test	9.86±4.95	32.86%	16.8****	HS P<0.05) df=39
2.	Post test	15.06±5.23	50.19%		
3.	Improvement	5.2±0.7	17.32%		

Note:**** represent that the highly significance

The table no.3 & Fig. no. 2 were showing that the caregiver of participants pre-test Mean±S.D. 9.86±4.95, Mean score % 32.86% but post test Mean±S.D. 15.06±5.23, Mean score % 50.19%. The participants enhancement of knowledge in Mean±S.D. 5.2±0.7, Mean score % 17.32%. The student paired "t" test 16.8*** have higher then the table value at the level of significance 0.05 in respective degree of freedom 39. The improvement of knowledge & student paired "t" test value have represent the video module was very effective in caregiver of COPD patients. N=40

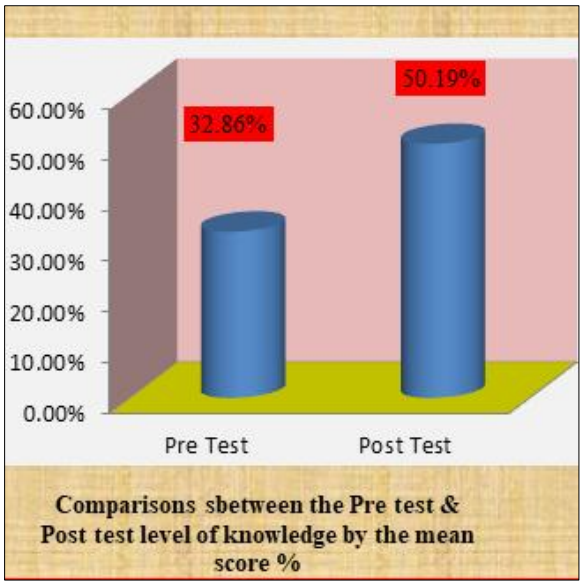

Fig. 2: Comparisons between the Pre test & Post test level of knowledge by the mean score %

Table 4: Association of the chi square with their selected socio demographic characteristics & Post test knowledge score regarding postural drainage among the caregiver of the COPD patient's N=40

S.N.	Characteristics	Chi square	df	Result	"p" value
1.	Age in year's	3.67	4	NS	P Value <0.05
2.	Gender	0.90	1	NS	
3.	Education Qualification	15.21	2	S	
4.	Residence area	4.6	1	S	
5.	Monthly income of the family member's in (RS)	2.9	1	NS	
6.	Source of Information regarding postural drainage among the caregiver of the COPD patient's.	8.56	3	S	

Data represented in table no.4 the association of chi square with their selected demographic variables & Post test knowledge score that Education qualification, Residence area & Source of information regarding postural drainage among the caregiver of the COPD patient's were significant and other socio demographic variables such as Age (Year's) & monthly income of the family member's (RS) were not significant at P< 0.05 level of significant.

DISCUSSION

This research study are supported to a cross sectional study to assess the awareness towards postural drainage in the informal caregivers in COPD patients conducted by Carrier Al, Luker KA, Chalmers KI et.al in university of Manchester, United kingdom, journal of clinical Nurses Feb.2014, 18(4): 479-91. The 407 participated was selected in accident sampling techniques. The revealed of the study that 48% were lack of awareness regarding postural drainage but after given of structured teaching programme that the level of awareness was good.

Nursing Implication: This part is important part in the area of nursing Practice, Nursing education, Nursing administration & nursing research.

Nursing Practice

Postural drainage is an easy and useful method to drain out cough from the chest cavity of the COPD patients & improve the quality of the life of those patient. Nurse should be able to teach the caregiver who accompany the patient of the hospital. This is especially useful for those who are chronically ill and those who aren't hospitalized or at a home. The patient who come the hospital for follow up & Suffering from congested chest cavity will have an improved quality of life if those secretion are drained out through giving position.

Nursing Education

Education is the base for knowledge, nursing education emphasize that health care system should pay more attention on training the student so that the nurses themselves will become more knowledgeable and can be their own selves as well as to the others by imparting education by using various methods of educational technology. The nurse educator are responsible for imparting knowledge among nurse in caring for the sick & they also have the additional responsibility to update their knowledge. The existing nursing curriculum on postural drainage should be strengthen where as student will be enhanced with the knowledge of postural drainage.

Nursing Administration

Staff development programmed in any organization is the prime responsibility of the nurse administrator. The availability of such staff development programme in nursing profession is inadequate at present. Administration play a major role in regulating & coordinating the laws. Institutions rendering services to the clients should review their policies & practices. Nursing administrator should co-ordinate & conduct various educational programme in order to improve & update nurses knowledge on postural drainage and making it easy for the nurses to impart it to the caregivers of the COPD patients.

Nursing Research

Nurses need to be vigilant when giving care to the patient. The scope of intervention for a wide variety of disease conditions & the research basis for practice are continuing to expand in phenomenal rate. Nurses need to be actively engaged in all phase of the research process, to address ongoing questions of interest to continually improve client care. There is a need for extensive & intensive research in this area so that strategies for educating caregivers & relive about the merits of postural drainage can be taken up. The nurse researcher should conduct the on various other method than postural drainage for the easy removal of secretions from the respiratory tract.

Limitations

1. The study is limited to only few caregivers of COPD patients in selected hospital.
2. This study was confined to Maheshwari Hospital, Gwalior.
3. The investigator was develop the research tools.
4. Due to time constrain second try out not done.
5. The research tools used for eliciting knowledge, prevention were structured, thus participation were restricted for free response.

Recommendation:

1. Similar study can be replicated on a large sample in order to generalize finding.
2. A comparative study can be conducted in government & private hospital.
3. A comparative study can be conducted in formal & informal caregiver of COPD patients regarding postural drainage.
4. Similar study can be conducted to assess the effectiveness of postural drainage by the different teaching module.
5. A comparative study can be conducted to assess awareness, attitude regarding postural drainage among the nursing and paramedical students.

CONCLUSION

The caregiver of COPD patients were inadequate knowledge regarding the postural drainage but after given the video demonstration programme the caregiver of COPD patients were adequate knowledge then the Caregiver were enhanced the knowledge & video demonstration module was very effective.

Acknowledgment: Author thanks to all the caregivers of COPD patients who gave their valuable time to complete questionnaire of this study.

Availability of Data & Materials: All the data analyzed or generate during the present study are not publicity due to ethical consideration.

Author Contribution: Author designed for this research study, collect the data then first prepares the manuscript. After then analysis of this study, supervised & edited the manuscript, final draft of the manuscript.

Ethical Consideration & Consent of the Participants:

All the necessary approval for carrying out research obtained. The study approval by the administrative & written consent, explaining the purpose of research prepare by the sign of participants. In order to maintain confidentially, questionnaires were made anonymous.

Conflict of Interest: This study was no conflict of interest.

Source of Funding: This study no contribution of financial source of participants & no funding source of agency.

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