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Research Article

Effect of Planned Teaching on Knowledge and Practices Regarding Selected Aspects of Quality of Life among Patients with Chronic Obstructive Pulmonary Disorder in Selected Hospital

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Abstract

Aim: The aim of the study was to evaluate effect of planned teaching on knowledge and practices regarding selected aspects of quality of life among patients with chronic obstructive pulmonary disorder.

Materials and Methods: A descriptive evaluative research approach with one group pre-test and post-test research design was used for the study. The study was conducted at Mumbai district. The sample comprised 30 chronic obstructive pulmonary disease (COPD) patients who fulfilled the inclusion criteria for the sample selection. Sample was selected using non-probability convenient sampling technique. Data were analyzed using descriptive and inferential statistics. In that paired t-test to assess the effect of planned teaching on knowledge and practices regarding selected aspects of quality of life among patients with chronic obstructive pulmonary disorder.

Results: The result of this study showed that the pre-test the mean of the knowledge obtained by the COPD patients was 9.03 and in post-test it increased to 23.33. It is evidence by the calculated t value 11 is greater than tabulated value 2.0 at 5% level of significance. The pre-test the mean of the practices obtained by the COPD patients was 5.46 and in post-test it increased to 13.73. It is evidence by the calculated t value 8 is greater than tabulated value 2.0 at 5% level of significance.

Conclusion: Knowledge and practices in relation to selected aspects of quality of life among patients with COPD will improve their quality of life as COPD is chronic in nature. The planned teaching helped to increase the knowledge and practice of patients with COPD.

Keywords: Assess, effect, planned teaching program, chronic obstructive pulmonary disease

Introduction

Health is considered as one of the most important value in life. It is a key factor and is regarded as precious. Good health indicates good quality of life and when illness starts it affects our quality of life. Quality of life is a highly subjective measure of happiness that is an important component of many financial decisions. Factors that play a role in quality of life vary according to personal preferences, but they often include financial security, job satisfaction, family life, health, and safety. Financial decisions usually involve a trade-off where quality of life is decreased to save money or, conversely, quality of life is increased by spending more money.[1]

Chronic obstructive pulmonary disease (COPD) is a lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible. The more familiar terms "chronic bronchitis" and "emphysema" are no longer used but are now included within the COPD diagnosis (WHO).[2]

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Patients need to understand that their condition is chronic. Some days COPD patients' breathing will be worse than others and they may shy away from doing things they love. Many people may be afraid to exercise or exert themselves because they are worried that becoming out of breath will harm them. In fact, people with severe lung problems benefit a lot from exercise – even doing things in the home can be extremely beneficial. Hence, they should be reassured not to be afraid and be encouraged to keep active. India is in second place for harboring the greatest number of morbidity and mortality cases from OADs, after China. As per the countrywide estimates of the World Health Organization, the COPD morbidity assessed with disability adjusted life years was 690 per 100,000 populations in 2004.[3]

Quality of life is an important aspect for measuring the impact of chronic diseases. Quality of life measurement facilitates the evaluation of efficacy of medical interventions and also the detection of groups at risk of psychological or behavioral problems. Many studies have been conducted across the world to study the quality of life of COPD patients and the factors affecting it using both generic and disease-specific questionnaires.[4]

Disturbance of physical activity in patients with early COPD is restricted largely to leisure and recreation. These are areas of life over which individual may exert a wide range of choices, so these restrictions to be termed "life style limitation." Once the FEV1 falls below 50% predicted normal, essential activities of daily living become disturbed. At these level patients are clearly handicapped. Quality of life is used to signify the gap between desires and achievements that is specifically due to disease.[4]

Many studies conducted are saying that quality of life of COPD patients is markedly impaired across stages and lack of knowledge to promote the quality of life causing poor lung function, increased disease duration and smoking.[5]

Materials and Methods

Research approach

The research method adopted for the present study is descriptive approach.

Research design

In the present study, the investigator selected a non-experimental descriptive method to assess knowledge and practices among COPD patients.

Variables

- Dependent variables: The dependent variable of this study is knowledge of COPD patients
- Independent variables: The independent variable is planned teaching on selected aspects of quality of life.

Population

In this study, population is the students who are studying COPD patients.

Target population

Target population selected for this study consisted of COPD patients.

Accessible population

In this study, sample consisted of 30 patients who are diagnosed with COPD.

Sampling technique

The sampling technique used in this research study is convenient sampling technique.

Sample size

In this study, the study samples consisted of the 30 patients who are diagnosed with COPD.

Criteria for sample selection

Inclusion criteria

a. Patients with chronic obstructive pulmonary disorder
b. Patients in 1st and 2nd stage of COPD
c. Patients present at the time of data collection
d. Patient who are willing to participate in the study
e. Patients who can understand Hindi, Marathi, and English.

Exclusion criteria

a. Patients who are not willing to participate in the study
b. Patient with COPD exacerbation
c. Patient with 3rd and 4th stage of COPD.

Data analysis

The collected data were coded, tabulated, and analyzed using descriptive statistics (mean, percentage, standard deviation). The researcher planned to analyze the data in the following manner.

- The demographic data will be analyzed in terms of frequency and percentage and will be presented in the forms of tables and graphs
- Knowledge and practices will be analyzed using frequency and percentage and will be presented in the forms of tables and graphs
- One way analysis of variance will be used to assess correlation of knowledge with selected demographic variables.

Data management and analysis procedure

- Data analysis to be done using descriptive and inferential statistics
- Consolidation and organization of data
- Frequency and percentage for the analysis of demographic characteristics of the respondent
- Mean and standard deviation for pre- and post-test scores in knowledge and practice regarding selected aspects of quality of life among COPD patients

- The *t*-test for observation of significant level of difference in pre- and post-test score on knowledge regarding selected aspects of quality of life
- The Chi-square test to find out the association of knowledge score with selected demographic variables.

Results

The data were entered into master sheet for tabulation and statistical processing, the obtained data were analyzed, organized, and presented under the following headings:

- Section I: Description on demographic variable of the COPD patients
- Section II: Description of the pre-test knowledge regarding selected aspects of quality of life among patient with chronic obstructive pulmonary disorder
- Section III: Description of the post-test knowledge regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder
- Section IV: Description of pre-test the practice regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder
- Section V: Description of post-test practice regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder
- Section VI: Description on the effectiveness of planned teaching on knowledge and practice regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder
- Section VI: Description on the association of post-test knowledge and practice score of patients with chronic obstructive pulmonary disorder with their selected demographic variable.

Section I – Description of the demographic variables of the patients with chronic obstructive disorder

Table 1 shows that among the subjects majority of them, that is, 24 (80%) patients were above 51 years old and only 6 (20%) where 41–50 years of age. According to gender, majority of patients were male, that it, 27 (90%) and only 3 (10%) were female. According to marital status, majority of patients were married, that it, 25 (83.34%), from remaining patients 3 (10%) unmarried and 2 (6.66) divorced. According to educational qualification, 8 (26.66) of patients had education till primary, 7 (23.33%) patients had education till secondary, 6 (20.00%) were educated till higher secondary, 5 (16.66%) were graduates, and 4 (13.33%) were post graduates. According to religion, majority of them were Hindu 22 (73.33%) and few where Muslim 4 (13.33%) and few were Christian 4 (13.33%). According to family income, 3 patients are having income less than 1 lakh per year, 10 of them have above 1 lakh to 2 lakhs and 10 of them having income 2-3 lakhs, and 7 of them have income 4 lakhs and above. According to smoking history, majority of them are smokers, that it, 26 (86.66%) and only 4 do not have any smoking habit [Table 1].

Table 1: Percentage wise distribution of patients with chronic obstructive pulmonary disorder according to demographic characteristic

Demographic characteristics	Frequency (*n*)	Percentage
Age (years)		
25–30	0	0.00
31–40	0	0.00
41–50	6	20.00
51 and above	24	80.00
Gender		
Male	27	90.00
Female	3	10.00
Marital status		
Married	25	83.34
Unmarried	3	10.00
Divorced	2	6.66
Educational qualification		
Primary	8	26.66
Secondary	7	23.33
Higher secondary	6	20.00
Graduation	5	16.66
Post-graduation	4	13.33
Religion		
Hindu	22	73.33
Muslim	4	13.33
Christian	4	13.34
Any other specify	0	0.00
Family income per year		
Less than 1 lakh	3	10.00
1–2 lakhs	10	33.33
2–3 lakhs	10	33.33
Above 4 lakhs	7	23.34
Smoking		
Yes	26	86.66
No	4	13.34

Section II – Description of the pre-test knowledge score of the COPD patients regarding selected aspects of quality of life

Table 2 shows assessment of knowledge scores of the COPD patients regarding selected aspects of quality of life and its interpretation. It reveals that majority, that it, 17 (56.66%) of COPD patients have an average knowledge. Whereas 6 of them have good level of knowledge and 6 are having poor level of knowledge and only 1 of them have very good level of knowledge. The mean score of the pre-test is 9.03 and the standard deviation is 3.32 [Table 2].

Section III – Description of the post-test knowledge score of the COPD patients regarding selected aspects of quality of life

Table 3 shows the post-test knowledge score of COPD patients regarding selected aspects of quality of life where majority having excellent score, that it, 18 (60%), and remaining of having very good level of knowledge after administration. Mean score of post-test is 23.33 and SD is 3.81 [Table 3].

Section IV – Description of pre-test the practices regarding selected aspects of quality of life among patient with chronic obstructive pulmonary disorder

Table 4 shows assessment of practices scores of the COPD patients regarding selected aspects of quality of life and its interpretation. It reveals that majority, that it, 16 (53.33%) of patients have average knowledge and practices score grading, 8 (26.66%) of patients have good knowledge, and 6 (20%) have poor knowledge. The mean score of the pre-test is 6 and standard deviation is 5.93 [Table 4].

Section V – Description of post-test, practice regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder

Table 5 shows assessment of practices scores of the COPD patients regarding selected aspects of quality of life and its interpretation. It reveals that majority, that it, 23 (76.66%) of patients have excellent practices score grading, 7 (23.33%) of patients very good practices. The mean score of the pre-test is 6 and standard deviation is 7.60 [Table 5].

Section VI – Description on the effectiveness of planned teaching on knowledge regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder

Table 6 shows assessment of comparison of pre- and post-test knowledge score of the COPD patients regarding selected aspects of quality of life and its interpretation. It reveals that majority, that it, 17 (56.66%) of COPD patients have an average knowledge. Whereas 6 of them have good level of knowledge and 6 are having poor level of knowledge and only 1 of them have very good level of knowledge in pre-test score. Whereas majority having excellent score, that it, 18 (60%), and remaining of having very good level of knowledge after administration, that it, post-test [Table 6].

Table 7 shows that in the pre-test the mean of the knowledge obtained by the COPD patients was 9.03 and in post-test it increased to 23.33. It is evidence by the calculated t value 11 is greater than tabulated value 2.0 at 5% level of significance. Hence, the research hypothesis H1 is accepted. Which states that planned teaching program on knowledge and practices regarding selected

Table 2: Assessment of pre-test knowledge scores of COPD patients regarding selected aspects of quality of life

Level of knowledge score in pre-test	Frequency (*n*)	Percentage	Mean	SD
Excellent (25–30)	0	0.00	9.03	3.32
Very good (19–24)	1	3.33		
Good (13–18)	6	20		
Average (7–12)	17	56.66		
Poor (0–6)	6	20		

Table 3: Assessment of post-test knowledge scores of COPD patients regarding selected aspects of quality of life

Level of knowledge score in pre-test	Frequency (*n*)	Percentage	Mean	SD
Excellent (25–30)	18	60	23.33	3.81
Very good (19–24)	12	40		
Good (13–18)	0	0.00		
Average (7–12)	0	0.00		
Poor (0–6)	0	0.00		

Table 4: Assessment of pre-test practices regarding selected aspects of quality of life among COPD patients and its interpretation

Level of knowledge score in pre-test	Frequency (*n*)	Percentage	Mean score	SD
Excellent 13–16	0	0	5.46	1.96
Very good 10–12	0	0		
Good 7–9	8	26.66		
Average 4–6	16	53.33		
Poor 0–3	6	20		

Table 5: Assessment of pre-test practices regarding selected aspects of quality of life among COPD patients and its interpretation

Level of knowledge score in pre-test	Frequency (*n*)	Percentage	Mean score	SD
Excellent 13–16	23	76.66	13.73	1.59
Very good 10–12	7	23.33		
Good 7–9	0	0.00		
Average 4–6	0	0.00		
Poor 0–3	0	0.00		

aspects of quality of life among patients with chronic obstructive pulmonary disorder and its interpretation was effective [Table 7].

Section VII – Description on the effectiveness of planned teaching on practices regarding selected aspects of quality of life and its interpretation among patient with chronic obstructive pulmonary disorder

Table 8 shows assessment of comparison of pre- and post-test practice score of the COPD patients regarding selected aspects of quality of life. It reveals that majority, that it, 23 (76.66%) people have excellent score on follow-up of self-reported practices after a week and remaining 7 (23.33%) have scored very good on practices related to selected aspects of quality of life quality of life. Which reveals that, there is an increase in the practices of COPD patients after planned teaching program [Table 8].

Table 9 shows that in the pre-test the mean of the practices obtained by the COPD patients was 5.46 and in post-test it increased to 13.73. It is evidence by the calculated t value 8 is greater than tabulated value 2.0 at 5% level of significance. Hence, the research hypothesis H1 is accepted. Which states that planned teaching program on knowledge and practices regarding selected aspects of quality of life among patients with chronic obstructive pulmonary disorder and its interpretation was effective [Table 9].

Discussion

The findings of this study have been discussed with reference to the objectives and hypothesis. The study was carried out to assess the effect of planned teaching on knowledge and practices regarding selected aspects of quality of life among patients with chronic obstructive pulmonary disorder in selected hospital.

In this study, the pre-test the mean of the knowledge obtained by the COPD patients was 9.03 and in post-test it increased to 23.33. It is evidence by the calculated t value 11 is greater than tabulated value 2.0 at 5% level of significance. Hence, the research hypothesis H1 is accepted. Which states that planned teaching program on knowledge and practices regarding selected aspects of quality of life among patients with chronic obstructive pulmonary disorder and its interpretation was effective.

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Similar study conducted by Reda Abdel Salam Ibrahim and Mona Mohamed Abd El-Maksoud on "Effect of educational program on knowledge and self-management of patients with chronic obstructive pulmonary disease." Revealed that the education of patients regarding knowledge for COPD and health care practice is very effective in improving their self-management skills but they need reinforcement follow-up. Therefore, this study recommended that health care personnel should provide health education for COPD patients on self-care to improve knowledge which helps prevent complications and maintain their life.[6]

Similar study conducted by Prasanna Kumar. E on efficacy of selected pulmonary rehabilitation program on health well-being among patients with COPD reveals that the paired *t*-test of the health well-being score within the control group was 0.03 and $P = 0.97$. in experimental group, the paired *t*-test of the health well-being score was 0.52 and $P > 0.05$. The unpaired *t*-test of the health well-being score between control and experimental group was 15.07 and $P = 0.001$.[7]

Table 6: Comparison of pre- and post-test knowledge score

Level of knowledge score	Percentage score	Knowledge score			
		Pre-test		Post-test	
		n	%	*n*	%
Poor	0–6 (0–19)	6	0.00	0	0.00
Average	7–12 (20–39)	17	56.66	0	0.00
Good	13–18 (40–59)	6	20	0	0.00
Very good	19–24 (60–79)	1	3.33	12	40
Excellent	25–30 (>80)	0	0.00	18	60

Table 7: Effectiveness of planned teaching on knowledge score of pre-test and post-test of COPD patients regarding selected aspects of quality of life and its interpretation

Test	Mean	SD	MD	SEMD	*t*-value	*P*-value
Pre-test	9.03	3.32	14.30	1.3	11	0.00001
Post- test	23.33	3.81				

Table 8: Comparison of pre- and post-test practice score

Level of knowledge score	Percentage score	Knowledge score			
		Pre-test		Post-test	
		n	%	*n*	%
Poor	0–3 (0–18.75)	6	20	0	0
Average	4–6 (25–37.5)	16	53.33	0	0
Good	7–9 (43.75–56.25)	8	26.66	0	0
Very good	10–12 (62.5–75)	0	0	7	23.33
Excellent	13–16 (81.25–100)	0	0	23	76.66

Table 9: Effectiveness of planned teaching on practices score of pre-test and post-test of COPD patients regarding selected aspects of quality of life

Test	Mean	SD	MD	SEMD	*t*-value	*P*-value
Pre-test	5.46	1.96	8	0.64	12.5	0.00001
Post-test	13.73	1.59				

Conclusion

Knowledge and practices in relation to selected aspects of quality of life among patients with COPD will improve their quality of life as COPD is chronic in nature. It will help in adherence to treatment and early detection of complications. This study shows that the planned teaching was effective in

improving the knowledge and practices in relation to self-care management among patients with COPD. The planned teaching helped to increase the knowledge and practice of patients with COPD. All subjects were keen to participate in the study.

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