

A STUDY TO ASSESS THE EFFECTIVENESS OF SELF-MANAGEMENT EDUCATION ON QUALITY OF LIFE (QOL) IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD), AT SELECTED HOSPITAL, MYSURU

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ABSTRACT: COPD is predicted to be the most common cause of death globally including India by 2020. Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory lung disease that causes obstructed airflow from the lungs. Symptoms include breathing difficulty, cough, mucus (sputum) production and wheezing. It's caused by long-term exposure to irritating gases or particulate matter, most often from cigarette smoke. People with COPD are at increased risk of developing heart disease, lung cancer and a variety of other conditions. The aim of the study is to assess the effectiveness of self-management education on Quality Of Life (QOL) in patients with Chronic Obstructive Pulmonary Disease (COPD), at selected hospital, Mysuru. Research design adopted for the study is quasi experimental non equivalent control group design. Non probability purposive sampling technique is used to select the 60 COPD patients for experimental and control group. Quality Of Life (QOL) assessed through modified St. George's Respiratory Questionnaire and Self-management education was conducted as an intervention. After 15 days post test was conducted. The data reveals that there was a significance difference in the mean pre test and post test Quality Of Life scores of COPD patients in all components as well as the total QOL in experimental group whereas there is no improvement in the QOL of COPD patients in control group. Self management educational interventions was effective in increasing Quality of Life of COPD patients and the study finding that there was a significant difference in the pre test and post test Quality Of Life scores of COPD patients in experimental group regarding self-management education among COPD patients.

Index terms: Quality of Life; Chronic Obstructive Pulmonary Disease; Self management educational intervention.

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a type of obstructive lung disease characterized by long-term poor airflow. COPD denotes a group of respiratory disorders characterized by chronic and recurrent obstruction of airflow in the pulmonary airway. Airway obstruction usually is progressive and is accompanied by inflammatory responses to noxious particles or gases.

The risk factors for COPD include both host and environmental factors. Cigarette smoking is the primary causative factor of COPD in more than 90% of patients, as it causes changes in the airways and limit airflow.

Hereditary deficiency of alpha 1 antitrypsin is the only known genetic abnormality that leads to COPD. Environmental tobacco smoke also called second hand smoke or passive smoke is the exposure of unknown smoker to cigarette smoke and is the risk factor for COPD. High levels of air pollution, occupational exposure to toxins and infections are also considered as causative factors for a small percentage of patients with COPD.

The mechanism involved in the pathogenesis of COPD usually are multiple and includes inflammation and fibrosis of the bronchial wall, hypertrophy of the sub mucosal glands and hyper secretion of mucus and loss of elastic lung fibers and alveoli tissue. Inflammation and fibrosis of the bronchial wall, along with excess mucus secretion, obstruct airflow and cause mismatching of ventilation and perfusion. Destruction of alveolar tissue decreases the surface area for gas exchange and loss of elastic fibers leads to airway collapse. Hence, it impairs the expiratory flow rate, increases air trapping and predisposes to airway obstruction.

Advances in medicine have prolonged the life of many people with chronic diseases. Chronic diseases may not kill but they consume a lot of health care resources and threaten the QOL of the sufferers. The ultimate goal of health care is not only to delay death, but also to promote health in QOL. QOL also has been found to be predictive of health services utilization. Poor lifestyles choices, such as smoking overuse of alcohol, poor diet, and lack of physical activity and inadequate relief of chronic stress are key contributors in the development and progression of preventable chronic diseases including hypertension, COPD, cardio vascular disease and several types of cases. Even though people are aware of healthful behaviors to prevent and manage chronic conditions, many patients are inadequately prepared to start or maintain these healthy changes.

Self management is considered as an integral component of the chronic disease management. Self management helps the patient to acquire the knowledge and skills required to follow the interventions. It promotes individuals confidence in completing the behavior required to reach particular goal. COPD self management has focused on early recognition and treatment of the exacerbation. Self management strategies in COPD include smoking cessation, improving exercise and physical activity levels, proper nutrition, medication adherence and coping skills. A systematic review of self management in COPD concluded that it reduces hospital admission and has no side effects.

Taking these points into consideration investigator is interested to assess the Quality Of Life in COPD patients by using SGRQ. In order to help them to lead a high Quality Of Life education is necessary. Hence the investigator is motivated to conduct self management education to improve the Quality Of Life in COPD patients.

OBJECTIVES

The basic objectives of this study are as follows



1. To assess the Quality Of Life (QOL) in patients with Chronic Obstructive Pulmonary Disease (COPD) both in experimental and control group.
2. To find out the effectiveness of self-management education on Quality Of Life (QOL) in patients with Chronic Obstructive Pulmonary Disease (COPD).
3. To determine the difference between the Quality Of Life (QOL) of patients with Chronic Obstructive Pulmonary Disease (COPD) of experimental and control group.
4. To determine the association between Quality Of Life (QOL) of patients with Chronic Obstructive Pulmonary Disease (COPD) and their selected personal variables.

HYPOTHESIS

H₁: There will be significant difference between the pre test and post test Quality Of Life scores of patients with Chronic Obstructive Pulmonary Disease among experimental and control group.

H₂: There will be significant difference between in post Quality Of Life scores of COPD patients in experimental and control group.

H₃: There will be significant association between Quality Of Life in patients with Chronic Obstructive Pulmonary Disease with their selected personal variables.

RESEARCH METHODOLOGY

This research was conducted in the Karnataka district of state of Mysuru. The JSS Hospital was selected for the study. Quality Of Life (QOL) assessed through modified St. George's Respiratory Questionnaire. The questionnaire possessed three components were symptoms, activity and impact. The total sample taken were 30 COPD patients 30 in each experimental and control group conducted with non probability purposive sampling technique. The target population were only considered for the study who had been admitted to the JSS Hospital in pulmonology ward and medicine ward who diagnosed as COPD.

RESULTS

Frequency and percentage distribution of COPD patients in experimental and control group according to their selected personal variables

Findings of the present study showed that majority 14(66.6%) samples in experimental group and 16(53.3%) samples in control group were in the age group of 51-70 years, majority 22(66.6%) samples in experimental group and 20(73.3%) samples in control group were males.

Majority 14(46.6%) samples in experimental group and 18(60%) samples in control group belonged to Hindu religion. All samples 30 (100%) in both experimental and control group were married. Majority samples 15(50%) in experimental group was living in joint family and majority 13(43.3%) samples in control group were living in nuclear family.

Majority eight (26.6%) samples in experimental group were farmer and 10(33.3%) samples in control group were home makers. Majority 16(53.3%) samples in experimental group and 13(43.3%) samples in control groups were having family income <10000 rupees per month. Majority 19(60%) samples in experimental group were vegetarians and 16(53.3%) samples in control group were consumed mixed type of diet. Majority 17(56.6%) samples in experimental group and 16(53.3%) samples in control group were suffering from COPD since <1 year duration.

Majority 10(33.3%) samples in experimental group were in the severe stage of COPD and 13(43.3%) samples in control group were in the moderate stage of COPD. Majority 8(26.6%) samples in experimental group were heavy smokers and 6(20%) samples in control group were moderate smokers. None of them 30(100%) in both experimental and control group were not attended any educational programme regarding COPD.

TABLE 1

Distribution of Quality of Life SGRQ scores among COPD patients in experimental and control group

The data obtained from SGRQ tool was tabulated in SGRQ excel based calculator to obtain the transformed data. The Qualities Of Life were arbitrarily divided as symptom (662.5), activity (1209.1), and impacts (2117.8).

n=30+30

| Quality Of Life | Experimental group | Control group |
|-------------------------|--------------------|---------------|
| Transformed SGRQ scores | | |
| Pre-test | | |
| Symptoms | 2070.53 | 1974.16 |

| | | |
|------------------|----------------|----------------|
| Activity | 1890.68 | 1970.09 |
| Impact | 1807.10 | 1767.38 |
| Total | 1876.23 | 1863.16 |
| Post-test | | |
| Symptoms | 1538.20 | 1950.22 |
| Activity | 538.77 | 1852.57 |
| Impact | 504.64 | 1583.13 |
| Total | 686.79 | 1725.75 |

TABLE 2

Mean, COPD of mean difference, SD difference, SEMD, and paired 't' test of pre test and post test Quality Of Life scores among COPD patients in experimental and control group

| Group | Mean | Mean difference | SD difference | SEMD | 't' value |
|---------------------------|-------|-----------------|---------------|------|-----------|
| n=30+30 | | | | | |
| Experimental Group | | | | | |
| Symptom | | | | | |
| Pre test | 69.01 | 17.81 | ±10.8 | 1.97 | 11.09* |
| Post test | 51.2 | | | | |
| Activity | | | | | |
| Pre test | 63.02 | 45.12 | ±26.41 | 4.8 | 29.31* |
| Post test | 17.9 | | | | |
| Impact | | | | | |
| Pre test | 60.2 | 43.4 | ±19.06 | 3.48 | 12.5* |
| Post test | 16.8 | | | | |
| Total | | | | | |
| Pre test | 62.5 | 39.7 | ±16.05 | 3.51 | 11.3* |
| Post test | 22.8 | | | | |
| Control group | | | | | |
| Symptom | | | | | |
| Pre test | 65.8 | 0.8 | ±16.29 | 2.97 | 0.26 |
| Post test | 65 | | | | |
| Activity | | | | | |
| Pre test | 65.6 | 3.9 | ±16.39 | 2.99 | 1.30 |
| Post test | 61.7 | | | | |
| Impact | | | | | |
| Pre test | 58.9 | 6.2 | ±23.02 | 4.20 | 1.45 |
| Post test | 52.7 | | | | |
| Total | | | | | |
| Pre test | 62.1 | 4.6 | ±17.65 | 3.22 | 1.42 |
| Post test | 57.5 | | | | |

t (29)= 2.05; p<0.05; p<0.05*Significant;

The data presented in **Table 2** shows that, the mean difference between pre test and post test symptom score is 17.81, activity score is 45.12, impact score is 43.4 and total score is 39.7 in experimental group. To find the significance of difference in the pre test and post test Quality Of Life scores, the paired 't' test was computed and the obtained paired 't' value for symptom: 11.9, activity: 9.31, impact: 12.5 and total: 11.3 was found to be significant at 0.05 level of significance. Hence, the null hypothesis is not accepted and inferred that, there was a significance difference in the mean pre test and post test Quality Of Life scores of COPD patients in all components as well as the total QOL in experimental group. Thus, it was concluded that there is improvement in the QOL of COPD patients in control group.

The data presented in **Table 2** shows that, the mean difference between pre test and post test symptom score is 0.8, activity score is 3.9, impact score is 6.2 and total score is 4.6 in control group. To find the significance of difference in the pre test and post test Quality Of Life scores, the paired 't' test was computed and the obtained paired 't' value for symptom: 0.26, activity: 1.30, impact: 1.45 and total: 1.42 was found to be not significant at 0.05 level of significance. Hence, the null hypothesis is accepted and inferred that, there is no significance difference in the mean pre test and post test Quality Of Life scores of COPD patients in all components as well as the total QOL in control group. Thus, it was concluded that there is no improvement in the QOL of COPD patients in control group.

Mean, mean difference, SD difference, SEMD and independent 't' test of post test Quality Of Life scores in experimental and control group.

The mean difference in post test scores in experimental and control group is 34.7. To find the significance of difference in mean post test Quality Of Life score independent 't' value was computed and the obtained 't' value 10.6 was found to be significant at 0.05 level of significance. Hence, the null hypothesis H_{02} is accepted and inferred that the mean post test Quality Of Life scores in experimental group will be significantly lower than the mean post Quality Of Life score in control group. Hence, as the SGRQ QOL scores decreases the QOL patients is improved. Thus it was concluded that, Self-management education was effective in increasing the Quality Of Life in experimental group.

Chi square values between Quality Of Life and selected personal variables

There is no statistically significance association between QOL and their selected personal variables. Hence, the null hypothesis is accepted and inferred that QOL of COPD patients is not influenced by their selected personal variables.

RECOMMENDATIONS

1. Similar study can be carried out on a larger sample for broader generalization.
2. A comparative study can be performed about assessing Quality of Life among COPD patients in rural and urban residential hospitals.
3. Self management education programme can be organized for families, home makers and community health workers.
4. A descriptive survey can be done to find out the prevalence of COPD among COPD patients.

CONCLUSION

The self management education was effective in enhancing on Quality Of Life (QOL) in patients with Chronic Obstructive Pulmonary Disease (COPD). QOL is impaired in patients with COPD and it deteriorates considerably with increase severity of diseases. Therefore, the study reinforces the need to organize health campaigns and teaching programme which sensitize on Quality Of Life (QOL) in patients with Chronic Obstructive Pulmonary Disease (COPD) patients.

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