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"Effectiveness Of Nutritional Counseling On Knowledge Regarding COPD Among The Patients In Selected Areas At Vijayapur District, Karnataka"

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Abstract

Background: Diet can be an important factor in the prevention and treatment of chronic (COPD). The American Lung Association obstructive pulmonary disease (COPD). The recommends eating 20-30 grams of fiber per day, from nuts, seeds, fruits, vegetables, bread, and pasta. Good sources of protein, like milk, eggs, cheese, meat, fish, poultry, nuts, and dried beans or peas, can help maintain strong respiratory muscles. Other foods and nutrients that may be beneficial for COPD include: Whole grains, Minerals, Vitamin D, Coffee, and Fish and n-3 polyunsaturated fatty acids. **Objectives**: 1. To assess the knowledge regarding COPD among patients. 2. To evaluate the effectiveness of Nutritional counseling on knowledge regarding COPD. 3. To find the association between knowledge scores with selected socio demographic variables. **Hypothesis:** H1: There is significant difference between pre-test and post-test knowledge score regarding Nutritional counseling among COPD patients at 0.05 level of significance. H2. There is significant association between level of knowledge with selected socio demographical variables of COPD patients at 0.05 level of significance. **Methodology**: The research design consisted of pre-experimental research design of one group pretest and post-test design. The population selected for the study was COPD Patients of selected areas at Vijayapur

district. The study samples were 60 COPD Patients and were selected by using purposive sampling technique. The development of the tool involved steps of test construction i.e. preparing the blue print, selection of items, content validation and establishment of reliability. The content validity of the questionnaire was done and modifications were done according to the suggestions given by the experts. Pre-testing and reliability of the tools were done. The reliability coefficient of the knowledge questionnaire was found to be 0.893.The tool was found to be reliable. **Results**: In the pretest, level of knowledge of COPD patients living in selected areas at Vijayapur district before using Nutritional counseling. In that Majority 57(95.0%) of the COPD patients. had Inadequate knowledge and 3(5.0%) of the COPD patients had moderately adequate knowledge and there were no COPD patients having adequate knowledge regarding Nutritional counseling of COPD patients. After Nutritional counseling majority 47(78.3%) had adequate knowledge regarding Nutritional counseling, 6(10.0%) had moderately adequate knowledge and only 7(11.7%) remained with inadequate knowledge. The mean paired difference in knowledge score was -18.8 with t-value=-22.7 with p-value less than 0.0001 indicates that Nutritional counseling was effective in enhancing knowledge among COPD patients. The mean pretest knowledge score was 6.12 and mean post score was 24.8 and the difference in knowledge score was 18.8 with percentage improvement in knowledge was 75.8.Hence Nutritional counselling among COPD patients was effective in enhancing their knowledge**. Conclusion**: The study was concluded that, there was a significant improvement obtained following Nutritional counselling on Nutritional counseling. The study was recommended that there is an immense need for educational programme in areas to improve the knowledge of COPD Patients regarding Nutritional counseling.

Key words: Effectiveness, Nutritional counseling, COPD Patients.

INTRODUCTION

According to the World Health Organization, health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The apparent fullness of this definition carries a powerful intuitive appeal: A comprehensive definition of health should cover all aspects of life, it would seem. However, the WHO definition has been the target of criticism in the medical literature since its first appearance in that organization's constitution in 1948[1].

Disease is any harmful deviation from the normal structural or functional state of an organism, generally associated with certain signs and symptoms and differing in nature from physical injury. A diseased organism commonly exhibits signs or symptoms indicative of its abnormal state. Thus the normal condition of an organism must be understood in order to recognize the hallmarks of disease. Nevertheless, a sharp demarcation between disease and health is not always apparent[2].

Health promotion is a behavioral social science that draws from the biological, environmental, psychological, physical and medical sciences to promote health and prevent disease, disability and premature death through education-driven voluntary behavior change activities[3].

Preventive health, or prophylaxis, consists of measures taken for disease prevention. Disease and disability are affected by environmental factors, genetic predisposition, disease agents, and lifestyle choices

and are dynamic processes which begin before individuals realize they are affected. Disease prevention relies on anticipatory actions that can be categorized as primary, secondary, and tertiary prevention. Each year, millions of people die of preventable deaths. A 2004 study showed that about half of all deaths in the United States in 2000 were due to preventable behaviors and exposures. Leading causes included cardiovascular disease, chronic respiratory disease, unintentional injuries, diabetes, and certain infectious diseases. This same study estimates that 400,000 people die each year in the United States due to poor diet and a sedentary lifestyle[4].

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 typically 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[5].

COPD is often referred to as a "smoker's disease" however although smoking is one of the main risk factors for developing COPD, people who never smoke may also develop COPD. Other risk factors may include A history of childhood respiratory infections, Smoke exposure from coal or wood burning stove, Exposure to secondhand smoke, People with a history of asthma, People who have underdeveloped lungs[6].

Common symptoms of COPD include Shortness of breath, especially with physical activity. You may feel like breathing takes more effort or that you are gasping for air. An ongoing cough or a cough that produces a lot of mucus, sometimes called a smoker's cough. This is often the first symptom of COPD. Wheezing or a whistling or squeaky sound when you breathe Chest tightness or heaviness may feel like it is hard to take a deep breath or it's painful to breathe. Fatigue reduces the oxygen supply your body receives[7].

To assess lungs and overall health, your healthcare provider will take your medical history, perform a physical exam and order some tests, like breathing tests. Medical history and Physical exam. The healthcare provider may also want to run a few other tests, such as Pulse oximetry. This test measures the oxygen in your blood. Arterial blood gases (ABGs): These tests checkyour oxygen and carbon dioxide levels. Electrocardiogram (ECG or EKG): This test checks heart function and rules out heart disease as a cause of shortness of breath. Chest X-ray or chest CT scan: Imaging tests look for lung changes that COPD causes. Exercise testing: Your provider uses this to determine if the oxygen level in your blood drops when you exercises[8].

Treatments include stopping smoking- if you have COPD and you smoke, this is the most important thing you can do. Inhalers and tablets - to help make breathing easier. Theophylline is a type of bronchodilator. It's unclear exactly how theophylline works, but it seems to reduce swelling (inflammation) in the airways and relax the muscles lining them. Theophylline comes as tablets or capsules and is usually taken twice a day. Pulmonary rehabilitation a specialized programme of exercise and education. Surgery or a lung transplant - although this is only an option for a very small number of people[9].

The best way to prevent COPD is to quit smoking or, if you don't smoke, not to start. Smoking is the

leading cause of COPD. If you smoke, talk with your provider about programs and products that can help you quit. If you have trouble quitting smoking on your own, consider joining a support group. Many hospitals, workplaces, and community groups offer classes to help people quit smoking. Also try to avoid lung irritants that can contribute to COPD, such as air pollution, chemical fumes, dust, and secondhand smoke[10].

Material and Methods

Research approach: Evaluative Research Approach.

Research design: Pre-experimental; one group pre-test, post-test design.

Research setting: Selected areas at Vijayapur district.

Population: COPD Patients.

Sample: COPD Patients living in selected areas at Vijayapur district .

Sampling technique: Purposive sampling technique.

Sample size: 60 COPD Patients.

Criteria for selection of the sample

The criteria for sample selection are mainly depicted under two headings, which includes the inclusion and the exclusion criteria.

Inclusion criteria

The study includes: The COPD patients. who are;

- ✓ Living in the selected areas at Vijayapur district.
- ✓ Co-operative and willing to participate in the study.
- ✓ Available during the time of data collection. Able to read & write English

Exclusion criteria:

The study excludes: The COPD patients. who are;

- ✓ Not co-operative and non-willing to participate.
- ✓ Not available at the time of data collection.

Development of the tool

The tool used for research study was Self-administered knowledge questionnaire which was prepared to assess the nutritional counseling on knowledge regarding COPD. The tool was formulated on the basis of the experience of the investigator, review of literature, extensive library search and consultation with experts.

Description of tool: The tool consists of the following sections:

Section A

Socio-demographic variables: The first part of the tool consists of 7 items for obtaining information of the selected socio-demographic factors such as Age in years, Gender, Religion, Type of family, Family income in rupees, Place of residence and Source of information.

Section B

Self-administered knowledge questionnaire: Self-administered knowledge questionnaire was prepared in the form of COPD. It consists of 30 items regarding COPD. The total maximum score is 30.

Development of Nutritional counseling: Based on the objectives, the Nutritional counseling was prepared. Content validity was taken from seven experts and necessary modifications were done. The Nutritional counseling was pertaining to domains of learning i.e., knowledge.

The following steps were adopted to develop the Nutritional counseling.

- ✓ Development of content blue print.
- ✓ Preparation of Nutritional counseling.
- ✓ Establishment of content validity of Nutritional counseling.

Nutritional counseling: The script of Nutritional counseling was designed and developed by the investigator with the help of review of literature and suggestion of guide and experts. Nutritional counseling was based on following aspects: Introduction, Definition, Incidence, Etiology and risk factors, Pathophysiology, Clinical manifestations, Diagnostic evaluation, Management, Nutritional counseling, Preventive measures of COPD.

Results and Discussion

Majority 26(43.3%) of the COPD patients were between the age groups 51 - 60 years of age group, 25(41.7%) of the COPD patients were between the age groups 40 - 50 years of age and remaining 9(15.0%) of the COPD patients were 60 and above years of age. Majority 34(56.7%) of COPD patients were males and remaining 26(43.3%) of the COPD patients were females. Maximum 40(66.7%) COPD patients were Hindu followed by 10(16.7%) of the COPD patients were Muslims, 8(13.3%) of the COPD patients were Christians and remaining 2(3.3%) of the COPD patients were belongs to other caste. Majority 24(40.0%) of the COPD patients were belong to nuclear family, 28(46.7%) of the COPD patients were belongs to the joint family, 5(8.3%) had single parent, and very few 3(5.0%) of the COPD patients were belongs to the extended family. Majority 31(51.7%) of the COPD patients had family income between 10,001 – 15,000, 16(26.7%) of the COPD patients had family income between 5,000 – 10,000, 7(11.7%) of the COPD patients had family income between 15,001 – 20,000 Rs and 6(10.0%) of the COPD patients had family income 20,001 and above. Majority 48(80.5%) of the COPD patients were living in rural areas, 9(15.0%) of the COPD patients were living in rural areas and remaining 3(5.0%) of the COPD patients were living in rural areas. Majority 25(41.6%) of the COPD patients heard about Nutritional counselling through MHEP, 16(26.7%) through print material, 10(16.7%) through ICE programme, and remaining 9(15.0%) through electronic media.

Table 1. Assessing the knowledge regarding Nutritional counseling among COPD patients.

SI.No.	Level of knowledge	Frequency	Percentage
1	Inadequate	57	95.0
2	Moderately Adequate	03	5.0
3	Adequate	00	00
	Total	60	100.0

The data in the above table revealed that Majority 57(95.0%) of the COPD patients. had Inadequate knowledge and 3(5.0%) of the COPD patients had moderately adequate knowledge and there were no COPD patients having adequate knowledge regarding Nutritional counseling of COPD patients.

Table 2. Comparison of knowledge regarding Nutritional counseling among COPD patients

SI.No.	Level of knowledge	Pre-test		Post-test	
		Frequency	%	Frequency	%
1	Inadequate	57	95.0	07	11.7
2	Moderately Adequate	03	5.0	06	10.0
3	Adequate	00	00	47	78.3
	Total	60	100.0	60	100.0

The data noted that knowledge of COPD patients has increased after Nutritional counseling. After Nutritional counseling majority 47(78.3%) had adequate knowledge regarding Nutritional counseling, 6(10.0%) had moderately adequate knowledge and only 7(11.7%) remained with inadequate knowledge.

Table 3. Paired t test for knowledge regarding Nutritional counseling among COPD patients.

Paired Differences			t	df	Sig. (2-tailed)
Mean	Std. Deviation	SE Mean			
-18.8	6.40	0.83	-22.7	59	**<0.0001(S)**

The data showed that mean paired difference in knowledge score was -18.8 with t-value=-22.7 with p-value less than 0.0001 indicates that Nutritional counseling was effective in enhancing knowledge among COPD patients

Testing of hypotheses

H1. There will be significant difference between the pre-test knowledge and post-test knowledge scores of Nutritional counseling. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores. Hence the Nutritional counseling is proved to be effective.

Table 2 showed that enhancement in knowledge score on Nutritional counseling among COPD Patients after Nutritional counseling Programme was significant. So, research hypothesis $H_1$was accepted. This indicates the gain in the knowledge score is statistically significant at P value 0.05 level. The result indicates that Nutritional counseling on COPD is effective in improving the knowledge level of COPD Patients.

H_2: There is significant difference between pre-test and post-test knowledge score regarding Nutritional counseling among COPD Patients.

Conclusion

On the basis of the findings, the investigator concluded that the intervention using Nutritional counseling regarding COPD was effective in enhancing the knowledge of COPD Patients. The improved knowledge regarding Nutritional counseling will enable them to make informed choices in decision making and adopting a healthy lifestyle, which will, in turn, help the health workers to improve the education and Practice.

Implications of the Study

The findings of the study have implications for Research and administration. Based on the study results, the nurses can organize awareness campaign through different media to increase the awareness regarding Nutritional counseling. Nursing professionals can make significant contribution to health promotion among health workers.

Recommendations

On the basis of the findings of the study, the following recommendations have been made for further study:

1) The study can be conducted on a larger sample.

2) A comparative study can be conducted to find out the effectiveness of Nutritional counseling between other COPD Patients.

3) An evaluatory study can be conducted to find out the effectiveness of Nutritional counseling Programme among two different groups of health professionals.

Declarations

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Ethical Approval: The proposal for the study was approved by the Institutional Review Board of the Tulza Bhavani College of nursing Vijayapur.

Author Contributions: All authors contributed to the conception and design of the work, drafted the manuscript, revised it critically for important intellectual content, gave final approval of the version to be published and agreed to be accountable for all aspects of the work.

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