EFFECT OF SUPPORTIVE EDUCATIVE ON SELF-CARE BEHAVIORS IN CHRONIC OBSTRUCTIVE LUNG DISEASES PATIENTS

1st Nita Arisanti Yulanda*, 2nd Muhammad Amin, 3rd Makhfudli*****

*1st Master of Nursing Program, Faculty of Nursing, Universitas Airlangga, Surabaya
**2nd Department of Pulmonology and Respiration Medicine, Faculty of Medicine, Universitas Airlangga, Surabaya
***3rd Community Departement, Faculty of Nursing, Universitas Airlangga Surabaya

ABSTRACT

Self care management is an aid to control and reduce most of the symptoms and complications of respiratory damage and teach COPD patient to achieve an ability of daily activities. The purpose of this study is to analyze the influence of self-efficacy supportive educative models on self-care independence.

This research uses experimental pre-post test control group design. Sample size was 16 patients with COPD at Jombang General Hospital and General Hospital Dr. Wahidin Sudiro Husodo Mojokerto. Sampling technique is with simple random sampling. The variables of this research are: supportive educative, self care knowledge, and self care behavior. Data collection using questionnaire, data was analyzed using paired t-test and simple linear regression.

The results showed supportive educative effect on self-care independence. The result of paired t-test was there was significant difference in the intervention group of self-care knowledge, self care behavior. While in the control group there were no significant of self-care knowledge, self care behavior. The result of regression test of supportive educative is to have an effect on the variable of self care knowledge and self care behaviour.

Advice for COPD patients is to perform physical activity according to their ability, regularly to maintaining the lung function and adhere to the treatment. For nurses need to conduct routine activities of counseling and breathing exercises as well as discussing as a means of sharing experiences about self care.

Index Terms: COPD, supportive educative, self care

INTRODUCTION

Chronic obstructive pulmonary disease is one of the lung diseases that leads to several disorders that affect the movement of air flow in and out of the lungs (Black & Hawks, 2009). According to GOLD (2016) Chronic Obstructive Pulmonary Disease (COPD) is the leading cause of morbidity and mortality worldwide. COPD is a preventable and treatable disease characterized by the constant limitations of air flow that are usually progressive and associated with chronic inflammatory responses in the airways and lungs to particles or gases.

COPD disease is a global health problem that the number is increasing from year to year. By 2020 it is estimated that COPD will rank fifth among the 12 most common diseases in the world and the third cause of death in the world. The prevalence of COPD incidence in the world is around 3-11% (GOLD, 2015). The results of a chronic obstructive pulmonary disease epidemiology study revealed that from developing countries COPD was ranked the sixth cause of death (Murray et al., 1996 in Oemiati, 2013). In Indonesia, COPD is ranked fifth (5th) as the cause of death and is expected to be ranked third (3rd) by 2020 (Senior, 2008).

Peripheral muscle dysfunction is one of the major causes of systemic abnormalities in COPD leading to exercise intolerance thereby decreasing the quality of life of COPD patients (Couillard A et al., 2005). This decrease in systemic effect plays an important role in decreasing daily activity (Nici, 2012). Activity limitations can cause difficulties in performing tasks and routine works which create barriers to socialize in the community (O'shea SD et al., 2004).

Along with the increasing prevalence of COPD and the chronic nature of the disease, the focus on treat COPD shifted the emphasis from medication and extends life expectancy now begins to focus on improving the quality of life, one of which is the belief in the ability to behave healthy. Magfiret & Alberto (2006) mentioned that patients who have confidence will be more likely to perform abilities towards health behavior. Therefore, individuals with high self-efficacy will be able to manage the disease better. It is important for COPD patients to improve their effectiveness in determining self-care regiments, as this is necessary to determine whether or not to take an action. Self-effectiveness assessment bridges the knowledge and behavior of self-care and plays an important role in the initiation and maintenance of health behaviors, so it is believed that increased effi- ciency in health behavior will lead to improved health.

Education on COPD adjusting the limited activity and prevents the speed of disease from worsening. One education that can be given to COPD patients is self care. The ability of

COPD patients for self-care in this study refers to the Nursing Theory of self-care by Orem (1971), according to Dorothea Orem self care is the action that others have the ability to develop or developed the ability to be used properly to maintain optimal function (Orem in Tomey & Alligood, 2006). The ability of self care acquired through the experience of suffering from chronic illness will have an impact on lifestyle changes and will directly affect the patient quality of life (Smeltzer & Bare, 2010)

The study by Sharma MK et al. (2016) mentions that patients provided with health education by using the self-management module of Self Care PPOK management have good knowledge compared to patients who are not given PPOK management by Self Care interventions such as lung rehabilitation, activity and exercise, diet, quit smoking, infection control, personal hygiene and method to get a normal sleep. This is in line with research by Gullick J and Stainton Mc (2008) research on self-instruction modules have high effectiveness. Education and motivation are important when adjusting for the diagnosis of COPD.

METHODS

Quasi Experiment Pre-Post with Control Group Design is application of supportive educative model intervention to self-reliance of self-care that emphasizes self-care knowledge, self-care behaviour of COPD patients. In this study, the experimental group was given intervention of supportive educative model while the control group received only regular or routine care by nurses and doctors at the clinic.

The experimental group used the supportive educative model, that is by the way: do teaching (Teaching), give guidance (Guidance) and the provision of a learning environment (providing environment) related to quitting smoking, physical exercise, breathing exercises, COPD patient nutrition and treatment. The supportive educative model consists of knowledge about COPD (definition, risk factors, signs of symptoms, management), Lung rehabilitation (Breathing exercises, effective cough and physical exercise) and self-care in (stop smoking, COPD nutrition, save energy)

The required sample size was 32, each group of control and intervention was 16 people. The study was conducted in two different hospitals. The study was conducted from 8 February to 17 March 2017

RESEARCH INSTRUMENT

(a) The self-care knowledge questionnaire used in this study has been modified from COPD self-care knowledge previously developed by Walth et al. (1991) which has been tested for the validity and reliability of r=0,707 and Cronbach's *alpha* 0,978.

(b) The self care behavior questionnaire used has been modified from the previous questionnaire developed by Alberto (1991) which has been tested by the validity and reliability of r = 0,707 and Cronbach's alpha 0,978

RESULT

Table 1. Value Distribution of Self-Reliance Components to Self-Care: Self-Care Knowledge

Variable		N	Mean	Min-Max	SD	t	p value
Paired t Test							
Self-Care Knowledge	Intervention						
	Pre test	16	15,00	12-17	1,549	-9,934	0,000
	Post test	16	18,13	16-20	1,310		
	Control						
	Pre test	16	15,44	12-19	2,159	-0,488	0,633
	Post test	16	15,56	13-19	1,861		
Simple Linier Regression							
Self Care Knowledge	Intervention	16	16,81		2,086	4,554	0,000
	Control	16					

Table 2. Value Distribution of Self-Reliance Components to Self-Care: Self Care Behavior

Variable		N	Mean	Min-Max	SD	t	p value
Paired t Test							
Self-Care Behavior	Intervention						
	Pre test	16	30,94	28-34	1,611	-7,506	0,000
	Post test	16	34,19	30-38	2,136		
	Control						
	Pre test	16	31,31	28-34	1,922	-1,291	0,216
	Post test	16	31,56	28-35	1,861		
Simple Linier Regression							
Self-Care Behavior	Intervention	16	32,88		2,379	3,707	0,001
	Control	16					

Table 1. Self Care Knowledge of intervention group in pre test has a mean value of self care knowledge of 15,00 (SD 1,549) post test result increased to 18,13 (SD 1,310). In the control group the mean value of pre test of 15,44 (SD 2,159) post test increased to 15,56 (SD 1,861). The results of self-care knowledge regression test showed an effect of supportive educative to self-care knowledge of patients with COPD (p = 0.000).

Table2. The intervention group had a mean pre test of self-care behavior of 30.94 (SD 1.611) and increased to 34.19 (SD 2.136). The control group had a mean pre test of 31.31 (SD 1.922) and the post test increased to 31.56 (SD 1.861). The results of self care behavior regression test showed an effect (p=0.001) of supportive educative to self care behavior of patients with COPD.

Table 3. Regression Results of Supportive Educative Value on Self-Reliance Self-care

Variabel		N	Mean	SD	Coef	t	p value
Self-Care Knowledge	Intervention	16	16,81	2,086	2,650	4,554	0,000
	Control	16					
Self-Care Behaviour	Intervention	16	32,88	2,379	2,625	3,707	0,001
	Control	16					

Table 3. Results showed that supportive educative had significant effect on self care knowledge (p = 0,000), self care behavior (p = 0,001). The coefficient value indicates that supportive educative intervention has the greatest effect on self care knowledge, secondly effect on self care behavior.

DISCUSSION

1. Supportive Educative on Self Care Knowledge

Self-care knowledge before the intervention (pre test) obtained the lowest value on the nutrition patterns aspect, while the pre-test in the control group which shows the lowest value was breathing exercises aspect. This is in line with Notoatmodjo's statement (2010) Knowledge is something that is known by a person by any way and something that other people know from the experience gained.

The value result of the nutritional pattern aspect on post test of the intervention group has increased. Giving supportive educative on self care knowledge variables have great impact on knowledge about nutrition patterns aspects. The results of this study are in accordance with research conducted by Sharma MK et al. (2016) mentions that self-instructional modules can improve the knowledge of COPD patients by a difference of 59.3% in the intervention group. Other studies were conducted by Efraimsson et al. (2008) also mention the same things that education on self-care can improve knowledge, quit smoking and quality of life of COPD patients.

The regression analysis result of supportive educative model influencing the knowledge of self care can increase the knowledge of COPD patient especially on nutrition pattern aspect about the energy used by patient with COPD will be more than normal person. So, the patient must be able to fulfill the nutritional needs in a balanced manner with the calories needed. This is in line with Sari & Oesman's research (2015) which states that patient education is effective in improving management of chronic disease drug use, especially COPD and asthma. Sharma MK et al. (2016) which states that self instructional modules with structured teaching programs can improve the knowledge of COPD patients. Education in COPD patients will help prevent disease progression to worsening. Teaching and guiding methods on educative supportive programs that provide teaching and discussion facilities for patients to solve problems that occur in patients by providing solutions that are more reliable and can be done by patients. Problem solving using guiding method with self-care self-reliance module especially on how to make patient able to improve eating habit are more effecting on nutrition pattern aspect.

2. Supportive Educative on Self Care Behavior

The results of pre-care self-care behavior in the intervention group showed the lowest score on aspect of breathing exercises, especially on the patient's participation component in respiratory exercise activity during the last 1 month. While in the control group the lowest value also on aspects of breathing exercises that occur in three components of respiratory exercise, participation in breathing exercises and the use of abdominal muscles when breathing. This is in line with Lerner & Steinberg's (2009) study, adding that independence is an individual's ability to behave individually and is part of achieving autonomy or self-responsibility that includes aspects of emotional independence, self-reliance aspects and value independence aspects. The mean value of post test of self care behavior of intervention group respondents increased, respondents began to increase intensity of

respiratory exercise every morning on a regular basis after knowing the benefits of such lethargy. The result of control group post test showed no significant difference with pre test result. Although there is an increase in value on the aspect of breathing exercises due to family motivation to exercise. This is in line with Magfiret & Alberto (2007) also mentions a positive relationship between family support with self-care behavior in Turkey. The result of regression analysis supportive educative able to influence self care behavior in COPD patient. This is in line with Gasquez (2012) that the results of logistic regression analysis states, a positive relationship between education with self care behavior score.

RESTRICTIONS

This study was conducted in 2 (two) different hospitals so that it can not control the therapy given which may influence the research result.

CONCLUSION

1) Supportive educative able to improve self-care knowledge of COPD patients, especially on knowledge about nutrition pattern
2) Supportive educative able to improve self-care behavior of patients with COPD, especially on breathing exercises

SUGGESTION

Patients with COPD need to increase their motivation in performing physical activity according to their ability regularly and evenly in order to increase self care ability which can be realized by physical exercise and self-breathing exercise and still adheres to medical therapy. For nurses the need to conduct counseling and breathing exercises routinely at least 2 times a week in accordance with the examination schedule for COPD patients as well as providing time to discuss as a means and ways for sharing experiences on self care to improve self care ability in order not to fall unto worse condition.

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Authors
First Author – Nita Arisanti Yulanda: Master of Nursing Program, Faculty of Nursing, Universitas Airlangga, Surabaya
Second Author –Mohammad Amin: Department of Pulmonology and Respiration Medicine, Faculty of Medicine, Universitas Airlangga, Surabaya
Third Author – Makhfudli : Community Departement, Faculty of Nursing, Universitas Airlangga Surabaya

Correspondence Author –Nita Arisanti yulanda. Master of Nursing Program, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia
Email: nitayulanda07@gmail.com