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COMPARISON OF INDIVIDUAL VS GROUP SELF-MANAGEMENT EDUCATION ON HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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ABSTRACT

Introduction: One of the most important goals in the treatment of chronic obstructive pulmonary disease is self-management education to improve the health-related quality of life. While before providing education to patients should be deciding on the appropriate educational methods. This study aimed to compare the effect of individual vs group self-management education on health-related quality of life in patients with chronic obstructive pulmonary disease.
Methods: This study is a non-randomized controlled trial that performed in 2016 on selected hospitals of Shahrekord University of Medical Science on 100 patients with chronic obstructive pulmonary disease. We used available sampling method and participants were consecutively respectively allocated to individual and group education groups. The individual education group received the face to face self-management education and group education received group discussion self-management education. Health-related quality of life of patients before and three months after education with the use of St. George's questionnaire (SGRQ) was measured. Data using SPSS software and by chi-square, Fisher, paired-t and independent-t tests was analyzed.
Results: Health-related quality of life of patients at baseline in both groups showed no significant difference (p=0/380). Three months after the intervention, also significant differences between health-related quality of life of the two groups was not found (p=0/198). Between health-related quality of life scores before and after education in both groups significant differences were showed (respectively p=0/003. P<0/001). Mean changes in health-related quality of life scores between the two groups showed no significant difference (p=0/461).
Conclusion: Effect of individual and group self-management education in improving the health-related quality life in COPD patients is the same. So the use of both methods to improve the health-related quality of life of these patients is recommended.

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Introduction

Chronic obstructive pulmonary disease is a common, preventable and treatable disease that Marked by persistent respiratory symptoms and airflow limitation caused by alveoli or airway disorders(1). This disease is one of the most common cause of death worldwide and it is estimated that after cardiovascular and cerebrovascular diseases, is the third major cause of death.

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The prevalence of the disease in people over 40 years is estimated to be 10% (2)- And because of aging population it is predicted a 38% increase on the number of COPD patients between 2005 and 2025(3). Symptoms of COPD include shortness of breath, cough and sputum production, have negative impact on the patient's health status and could cause disability. Airway limitation is usually progressive and is not reversible(2). So the disease over time leads to loss of health-related quality of life of the patients(4). Due to the incurable nature of the disease, most care programs focusing on symptoms self-management and its impact on health related quality of life(5).

Patient self-management education programs refers to formal education that trains skills and provides support for health behaviors(6). In self-management education people are encouraged to actively participate in managing their symptoms and chronic disease(7). Because of its effect on important outcomes such as health-related quality of life, self-management education has attracted the many attention in recent years(8).

According to the educational goals different methods can be used in health education to achieve ultimate goal that is health promotion. Health education in terms of the relationship between educator and learner divided into two categories of individual and group education methods(9). Individual education can improve relations between the people and friendly relations between educators with the learner help to enhance learning(10). During group education a number of people placed in face to face together position, interact with each other and form a group. This type of education participation of members of the group can increase the learning(11).

One of the research mission to improve the quality of services provided to patients and the move toward evidence-based practice is evaluation the different methods of care and choice the effective and low cost methods. Therefore, evaluation of different educational methods is essential(12). So before providing education to patients should be deciding on the appropriate educational method(13). Thus, concerning low health-related quality of life in COPD patients, the effectiveness of self-management education in promotion of health-related quality of life, and lack of research comparing the effectiveness of individual education versus group education, we decided to survey the effect of these two methods on health-related quality of life in COPD patients in order to achieve an appropriate method to enhance health-related quality of life in COPD patients.

Method

This non-randomized controlled trial was performed during 2016 in Ayatollah Kashani and Hajar hospitals of Shahrekord University of Medical Science on 100 patients with COPD. The subjects were selected using convenience sampling method. For this purpose, the researcher choice the samples to reach full volume according to the inclusion criteria and after obtaining informed consent put them into individual and group education groups After obtaining informed consent. In this study, the individual education group determined by drawing lots as first intervention and samples put continuously in this group that the first 50 patients were grouped in individual education group. Then a week after discharge the latest sample in this group, the second 50 patients were assigned to group education group. Inclusion criteria were as follows: 40 to 75 years old, stages of 2 or 3 of the disease(verified by a physician), do not participate in previous self-management programs for COPD, any diagnoses of mental illness, pulmonary tuberculosis, cancer, and severe neurological problems, do not have hearing problems, do not have problems disturbing relationship, able to understand and speak Farsi, have the ability to read or write in Persian(or the patient's attendant), and have the physical ability to do interview and fill out the questionnaire. Patients were excluded if they were at stage 4 of the disease, expired, did not attend in one of the training session, were reluctant to continue the study, and if they catch asthma, bronchiectasis, pulmonary tuberculosis, pneumoconiosis, or acute congestive heart failure during study. Data were collected using demographic and St. George's Respiratory Questionnaire (SGRQ). SGRQ is one of the most common indexes used to evaluate health-related quality of life in respiratory patients. This questionnaire contains 50 questions and 76 levels that is divided to three sections, including symptoms, activity, and impact domains. The first part (symptoms) measures pulmonary problems in terms of frequency and intensity; the second part (activity) effect of disease on patients activities and the third part (impact) includes the social dysfunction and psychosocial disorders caused by chronic respiratory disease. This questionnaire is scored from 0 to 100 in a way that zero indicates perfect health and higher scores indicate lower health-related quality of life. Both groups completed the questionnaires at baseline and received usual care. Patients in the individual education group received face to face education and the group education members underwent discussion group education in groups of 8 to 10. Four education sessions held and each session lasted for one hour. At the end of education sessions, an educational manual, including all the presented trainings in four sessions were given to the patients. Educational content addressed self-management trainings for COPD patients involving basic information about COPD, choosing a healthy lifestyle, quitting smoking, nutrition and physical activity, effective techniques for breathing and cough, medication, inhaler techniques, energy conservation during daily activities, prevention and management of the disease exacerbations, and the understanding and use of action plan during exacerbation of COPD. SGRQ was re-completed by patients three months following the education and then it was compared with prior questionnaire. Data were analyzed using SPSS (version 24), running tests of chi-square, Fisher, paired t and student t.

Result

A total 100 patients were selected in this study, which there were 50 patients in each group and during the study 7 participants were lost since they did not accomplish the study. As seen in the table 1 most participants in individual education (68/1 %) and group education (71/7 %) were male. Both groups were similar in terms of age, gender, marital status, income, body mass index, disease history, comorbidity, stage of the disease and smoking status. According table 2, between health-related quality of life score before and 3 month after education in individual education (p=0/003) and in group education (p<0/001) statistically significant differences were observed. Regarding Table 3, both groups had no significant difference in health-related quality of life score at baseline (p=0/380). Three months after education, no significant difference was seen in health-related quality of life score among groups either (p=0/198). In addition by comparison the mean difference health-related quality of life score between groups, no significant difference was observed(p=0/461).

Table 1. Compares the demographic characteristics of the participants

Variable		Individual Education	Group Education	p
Age Mean		62/57±7/86	63/41±7/34	0/596
Gender	Male	32 (68/1)	33 (71/7)	0/701
	Female	15 (31/9)	13 (28/3)	
Marriage	Single	1 (2/1)	0 (0)	0/845
	Married	38 (80/9)	37 (78/3)	
	Divorced	3 (6/4)	2 (4/3)	
	Widow	5 (10/6)	7 (17/4)	
Income	Sufficient	9 (19/1)	8 (17/4)	0/239
	Quite Enough	21 (44/7)	28 (60/9)	
	Not Enough	1 (36/2)	10 (21/7)	
BMI	Thin	2 (4/3)	0 (0)	0/363
	Normal	21 (44/7)	25 (54/3)	
	Overweight	15 (31/9)	16 (34/8)	
	Obese	9 (19/1)	5 (10/9)	
History	Under 1 year	8 (17/0)	5 (10/9)	0/673
	1-5 year	17 (36/2)	19 (41/3)	
	Over 5 year	22 (46/8)	2 (47/8)	
Comorbidity	Yes	30 (63/8)	31 (67/4)	0/718
	No	17 (36/2)	15 (32/6)	
Stage (Gold Classification)	2	24 (51/1)	27 (58/7)	0/460
	3	23 (48/9)	19 (41/3)	
Smoking	Never	13 (27/7)	10 (21/7)	0/727
	Current	10 (21/3	9 (19/6)	
	Leave	24 (51/1)	7 (58/7)	

Table 2 . Comparison St. George's scores before and 3month after education (paired t)

	St. George's questionnaire	Before Education Mean ± SD	3 months after Education Mean ± SD	p
Individual	Symptom Score	48/46 ±15/04	45/70 ±15/34	0/008
	Activity Score	54/60 ±14/82	51/86 ±16/36	0/036
	Impact Score	38/42 ±14/35	34/51 ±14/00	0/001
	Total Score	45/08 ±14/09	41/78 ±14/28	0/003
Group	Symptom Score	44/83± 16/66	40/24± 16/72	0/000
	Activity Score	50/85± 16/47	47/72± 14/68	0/010
	Impact Score	36/55± 15/16	31/40± 14/13	0/000
	Total Score	42/38± 15/44	37/96± 14/07	0/000

Table 3 . Comparison St. George's scores between groups (student t)

	St. George's questionnaire	Individual Education Mean ± SD	Group Education Mean ± SD	p
Before Intervention	Symptom Score	48/46 ±15/04	44/83± 16/66	0/273
	Activity Score	54/60 ±14/82	50/85± 16/47	0/252
	Impact Score	38/42 ±14/35	36/55± 15/16	0/542
	Total Score	45/08 ±14/09	42/38± 15/44	0/380
Three Month After Intervention	Symptom Score	45/70 ±15/34	40/24± 16/72	0/104
	Activity Score	51/86 ±16/36	47/72± 14/68	0/203
	Impact Score	34/51 ±14/00	31/40± 14/13	0/290
	Total Score	41/78 ±14/28	37/96± 14/07	0/198
Mean Difference	Symptom Score	-2/76 ± 6/82	-4/59± 7/62	0/226
	Activity Score	-2/73 ± 8/71	- 3/12± 7/86	0/821
	Impact Score	-3/91 ± 7/25	-5/14± 8/03	0/440
	Total Score	-3/30 ± 7/16	-4/41± 7/30	0/461

Discussion

This study showed that both individual and group self-management education can improve symptom, activity, impact and total health-related quality of life scores in COPD patients.

A systematic review performed by Zwerink and colleagues with aim to evaluation self-management education on health outcomes and health utilization. The results of this study showed that self-management interventions can improve the symptom, activity and impact and total health-related quality of life scores(14). By compare the mean difference in our study with this study were found that mean difference of our study is in 95% confidence interval of mean difference of 10 study reviewed in this systematic review.

Our study showed no difference between individual and group education methods to improve the health-related quality of life of patients with chronic obstructive pulmonary disease. Concerning comparison of this two methods on COPD patients any study wasn't found. However, studies done in other fields, have reported different results.

In confirming the findings of this study is Lang et al, walter et al and ghavamnasiri et al studies that their results also show the same effect in both individual and group education methods(12, 15, 16). Another study by Borimnejad et al. was designed to compare the effect of group versus individual education on patients' compliance and incidence of adverse effects of warfarin after cardiac valve replacement surgery. The results showed that group education leads to further improvement in patients' compliance and incidence of adverse effects and mortality of patients used warfarin after cardiac valve replacement surgery(17). Another study performed by Zendehtalab to compare the effect of face to face and group discussion education methods on improving the quality of life among patients suffering from MS. The results showed face to face education self-care programs is more helpful compared to group discussion programs for chronic disease sufferers such as MS(18).

This difference in results may be due to differences in the disease of the subjects, differences in outcomes measured and differences in educator skills.

Conclusion

Based on the findings of this study can be concluded that health-related quality of life is low in COPD patients and individual and group self-management education improves its equally. So health workers, especially nurses must consider self-management education as an important component in the care of chronic obstructive pulmonary disease patients.

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