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The Effect of Family-Centered Empowerment on the Life of Patients with Asthma

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Abstract: *Background and purpose: The aim of this study was to determine the effect of family-centered empowerment model on lifestyle in patients with asthma. Materials and methods: In this Clinical trial study, 70 patients with asthma referring to private clinics and department of lung of Amiral-Momenin Ali (PBUH) Zabol Hospital in 2016 were selected through convenience sampling and randomly in two experimental groups (35 patients) And control (35 people). The family-centered empowerment model was conducted for the experimental group based on the four stages of the model's implementation. The data collection tool was a questionnaire containing two sections of demographic characteristics and lifestyle that were completed before intervention, one week, one month and three months after the intervention in both groups. Data were analyzed using SPSS 16 software. Results: The results showed that the mean score of lifestyle in the dimensions of nutrition, sleep status, physical activity, stress and health status increased significantly in experimental group after intervention ($p < 0.001$) in group patients. The mean score of lifestyle scales varied in different stages, but most of life style dimensions decreased significantly three months after the intervention. ($p<0.05$). Conclusion: The results of this study showed that implementing a family-centered empowerment model could help to improve the ability of asthmatic patients and ultimately improve their lifestyle. Based on the findings of this study, it is suggested that the family-centered empowerment model be considered as one of the components basis in the field of medical and nursing education.*

Keywords: *Family-Centered Empowerment Model, Lifestyle, Asthma, Controlled Clinical Trial.*

INTRODUCTION

Asthma is a chronic inflammatory disease of the airways, due to obstruction of the airway into the lungs, the respiratory tract disorder is one of the most common chronic diseases and one of the most serious health problems worldwide (Masoli et al., 2004). Special symptoms of asthma include frequent wheezing, breathlessness, and feeling of pressure in the chest and shoulders, and these symptoms usually increase in the presence of certain factors such as dust, activity, tobacco and air pollution (Morales et al., 2010). The

global prevalence of this disease has been reported to be between 10% and 5% depending on the geographical situation (Asadi, 2012) and has increased over the past decades, both in industrialized societies and in developing countries. The prevalence of asthma in Iran has been reported from 3.8% in Shiraz (Hassanzadeh, Basiri and Mohammad-Beigi, 2012) to 35.4% in Tehran (Gharagozlou et al., 2006). The environmental factors associated with the lifestyle of today play an important role in the etiology of this disease (Haidari et al., 2016). Lifestyle includes behaviors such as eating habits, sleep and rest, physical activity and exercise, weight control, smoking and alcohol, immunization against disease, adjustment to stress, and the ability to use family and community support (Monahan et al., 2007).

Patients with asthma, due to their inability to ventilate properly, and the symptoms resulting from it, are impaired and their level of tolerance is limited to physical activity. As a result, the power of doing work falls on them. This makes them unlikely to be physically fit in comparison with healthy people, and the patient has difficulty performing individual and social responsibilities. Failure to perform a desirable physical function causes a person to feel ineffective and distrust his confidence and subsequently anxiety, depression and grief, which affects his social interactions and provides social isolation. brings. As a result, asthma affects different dimensions of the lives of patients, restricts their physical, mental and social activities, and changes their quality and lifestyle (Mirzakhanian et al., 2015).

Therefore, it is necessary to change the lifestyle of patients in order to promote it. One of the basic tools for changing a patient's lifestyle is the existence of a patient education program as part of care. Patient education may include interventional behavioral counseling and these interventions will affect many risk factors. Educational programs can reduce the mortality of asthma patients and the cost of treatment systems and improve their quality of life (Yang et al., 2003). To change the lifestyle of patients and control of the disease, various models and models, including motivational interviewing, counseling, health beliefs and education model have been used. One of the suggested strategies in this regard is the participation of the family in patient care (Mahmmodi, Mohalli and Alhani, 2013). Teaching family members for disease control and even prevention can be very helpful as there is a strong relationship between the family and the health status of its members. Individuals, especially in chronic diseases, are dependent on their family members, and even their attitudes are influenced by the family. Due to the fact that it is mostly inactive in the traditional education of the patient in the process of teaching and learning, the goals in the education may not be well realized (Sadeghi et al., 2013). Family-based care recognizes the importance of the family as the focal point of all health care (Masoodi et al., 2012). Family-based care empowers individuals and families, it strengthens their independence and independence, it also provides them with care, supports family planning and decision-making and respects the choice of patient, family and beliefs. (Alhany, 2004).

Therefore, the participation of patients and their families in care and treatment is very important and effective. Although it is important for the patient and their families to understand their conditions and treatment, knowledge alone is not enough to change behavior and needs empowerment. One of the effective ways of empowering chronic patients is the implementation of a family-centered empowerment model (Sadeghi et al., 2013). The family-centered empowerment model has been designed with emphasis on the effectiveness of the role of the individual and other family members in three dimensions of motivation, psychology (self-esteem, self-control and self-efficacy), and the characteristics of the problem itself (knowledge, attitude and intimidated threat) (Vahedian Azimi et al., 2009) and its main objective is the empowerment of the system Family (patient and other family members) to improve health. In family-based care, family members' abilities are promoted in certain areas in order to overcome barriers to health and well-being, because they will not be able to overcome obstacles without upgrading their abilities.

The results of various studies have shown that family-centered empowerment model is effective on the lifestyle of patients with heart failure (Rakhshan, Rahimi Kordshooli and Ghadakpoor, 2015), heart attack (Vahedian Azimi et al., 2009) and hypertension (Mahmmodi, Mohalli and Alhani, 2013). Teimouri et al. (2005) conducted a study on the effect of family-centered empowerment model on the quality of life of parents of

children with asthma. The findings of this study showed that knowledge, self-efficacy, self-esteem and quality of life of the parents of the test group increased significantly after the intervention after the intervention and four months after that (Teimouri, Alhani and Kazemnejad, 2014).

Many families of patients with asthma do not have the full potential of helping the patient to control and adapt to the illness, and on the other hand, for the proper management and control of asthma, they are distinct from other diseases, environmental control, family cooperation and the proper use of drugs (Pedram Razi et al., 2013), considering that the empowerment program was designed to increase the knowledge, motivation, self-esteem and self-efficacy to behavioral self-control and preventive behaviors (Alhany, 2004), this study was aimed at the effect of family-centered empowerment model on the life of patients with asthma.

Methodology

In this clinical trial study, 70 asthmatic patients referring to private and lung clinics of Amiral-Momenin Ali (PBUH) Zabol Hospital in 2016 were selected by convenience sampling. Using a randomized table in two experimental groups (35 N) and control (n = 35). After explaining the goals of the study and encouraging patients to cooperate in the study, demographic characteristics questionnaire including age, sex, marital status, occupation, education level and residence, and lifestyle questionnaire were completed by both groups.

Lifestyle Questionnaire

In order to assess the lifestyle of patients, a researcher-made questionnaire was used. The Beck questionnaire, the 21 questionnaire (DASS) and the research objectives were prepared using the Lali et al., Life Style Questionnaire, and the questionnaire consisted of 42 questions and 6 nutrition fields (11 questions), sleep status (4 questions), physical activity status (11 items), smoking status (3 questions), stress (7 items) and health status (6 questions). In the nutritional fields, the physical activity status and the smoking status of the scoring were performed based on the 5-degree Likert scale, and scoring was performed in the fields of sleep status and stress according to the 4-degree Likert range and in the health status area based on the Likert scale of 3 degrees.

The face and content validity of the questionnaire was verified by 10 professors of the nursing and midwifery faculties of Birjand and Zabol and two lung specialists. The reliability of the questionnaire in this study was calculated using the Cronbach's alpha coefficient in total and in the components of nutrition, sleep status, physical activity status, stress condition and health status of 0.95, 0.71, 0.76, 0.49, and 0.86.

For patients in the experimental group, the family-centered empowerment model based on the steps and steps mentioned in the model was conducted as a group discussion of 8-6 people and during 3-5 sessions (maximum 45 minutes) as follows:

Quadruple Executive Steps

The first step (understanding the threat): At this stage, through the promotion and perceived sensitivity of the patients, the nature and likelihood of the complications of the illness, the disease process and treatment were conducted in the group discussion.

The second step (Self-efficacy through Problem Solving): For this purpose, problem solving sessions were organized by group discussion in 6-8groups for patients, and patients actually faced their problems and the process of solving the problem, and were indirectly monitored by a researcher Mentioning concrete examples of their own situation and what they are doing to improve the problem is similar to others, and in this way they actually contributed to the choice of solutions.

The third step (Promoting Self-esteem Through Educational Contribution): At this stage, the subjects discussed at previous sessions were transferred to the original caregiver on the basis of educational colored cards. The patient was trained in group meetings under the direct supervision of the researcher and the patient trained the trained subjects to their main caregiver. In the family, as an essential source of support in

the learning process, interventions for empowerment were considered through improving self-esteem and self-esteem.

The fourth step (process evaluation): At this stage, with the special tools of empowerment assessment, the extent of patient and patient care capacity was evaluated about 7-10 days after the intervention. After a researcher was assured that the patient and his main caregiver were empowered, one month and a half were given to the patient to change their lifestyle. During the intervention, the self-control, self-esteem, and preventive behaviors adopted by the researcher in each session were evaluated for the previous session.

Patients in the control group did not receive any intervention. Patients in both groups completed a lifestyle questionnaire one week, one month and three months after intervention. In this study, all the ethical codes related to this research have been observed in accordance with the rules of ethics committee of the Vice-Chancellor of Research of Birjand University of Medical Sciences. This project is approved by the Iranian Center for Clinical Trials with IRCT2016071428927N1 code.

Data were analyzed using SPSS 16 software. To compare the frequency distribution of demographic characteristics in two groups, Chi-square test was used. Normal distribution of data was performed using Kolmogorov's Smirnov test. Sleepiness variables before intervention and three months after intervention, physical activity and stress before intervention in control group were not normal distribution and other variables had normal distribution. To compare the mean score of the variables in the two groups, the independent t was used; and Mann-Whitney U was used for the variables that did not have normal distribution. Also, for comparing the mean of variables' score, the quadruple executive steps were used, Friedman and Wilcoxon were also used for variables with normal distribution in-group analysis and non-normal variables; and the significance level was considered as $p \leq 0.05$.

Findings

Out of 70 patients, 35 patients (50%) were in the experimental group and 35 (50%) were in the control group. The two groups did not show significant differences in age, sex, marital status, occupation, level of education and place of residence ($p > 0.05$). (Table 1)

There was no significant difference between mean score of lifestyle in nutrition, sleep status and stress before intervention in patients with both experimental and control groups ($p > 0.05$). However, there was a significant difference between the components of work activity and occupational status ($p < 0.05$). Mean score of lifestyle components was significantly higher in control group than one week, one month and three months after intervention ($p < 0.001$). (Table 2)

Concerning the lifestyle score in the smoking component, all subjects reported that they did not consume tobacco. The result of in-group analysis of variance analysis (Friedman) showed that the mean score of lifestyle components was significantly different between patients in the experimental group and the control group in the four stages before intervention, one week, one month and three months after the intervention ($p < 0/05$) (Table 2)

The result of the statistical test showed that the mean score of lifestyle components in the experimental group one week after the intervention compared to the previous one and the mean score of nutrition parameters and sleep status one month after intervention compared to before and one week after the intervention significantly Increased. The average score of components of physical activity, stress and health condition increased one month after intervention compared to the previous one and decreased to one week after intervention. The mean score of nutrition parameters and sleep states in patients in the experimental group was increased three months after the intervention and before the intervention, and decreased significantly compared to one month after the intervention.

Mean score of physical activity increased three months after the intervention, before and one month after the intervention, and the mean stress score increased three months after the intervention, and decreased

significantly compared to one week and one month after the intervention. The mean score of health status in patients in the experimental group was significantly increased three months after the intervention compared to the previous one and decreased significantly ($p < 0.05$) after one week after the intervention. The results for the comparison of the stages in patients in the control group are presented in Table 2.

The results showed that the mean of lifestyle component changes before and one week after intervention, before and one month, before and three months after the intervention in the experimental group was significantly higher than the control group ($p < 0.001$). (Table 3)

Table 1: Comparison of demographic characteristics in two groups of experimental and control groups

p-value	Control	Experiment	Variable	
	Number (percent)	Number (percent)		
0/53	(28/6) 10 (28/6) 10 (42/9) 15	(40) 14 (28/6) 10 (31/4) 11	30 and below 40-31 More than 40	Age
0/43	(34/3) 12 (65/7) 23	(25/7) 9 (74/3) 26	Male Female	Sex
0/57	(25/7) 9 (74/3) 26	(20) 7 (80) 28	Divorced Married	Marriage status
0/34	(40) 14 (60) 21	(51/4) 18 (48/6) 17	Housewife Employed	Job
0/81	(60) 21 (40) 14	(57/1) 20 (42/9) 15	Reading and writing Diploma and higher	Level of education
0/06	(40) 14 (60) 21	(62/9) 22 (37/1) 13	City Village	Place pf living

Table 2: Comparison of mean score of lifestyle components in the control group before intervention, one week, one month and three months after intervention

P-value for variance and Friedman	Three month after intervention	One month after intervention	One week after intervention	Before intervention	Level	Variable
	SD ± Mean	SD ± Mean	SD ± Mean	SD ± Mean	Group	
<0/001	44/2±59/43[ac]	47/1±74/85[ab]	44/2±74/76[a]	26/6±74/25	Experiment	Nutrition
<0/001	23/3±69/07[ac]	26/3±31/01[ab]	23/3±94/03[a]	25/2±09/97	Control	
-	<0/001	<0/001	<0/001	0/16	P-value	
<0/001	12/1±88/81[ac]	13/1±74/31[ab]	12/1±89/81[a]	11/1±74/93	Experiment	Sleeping
<0/001	10/1±94/35[ac]	12/1±11/23[ab]	11/1±37/14	11/0±63/97	Control	
-	<0/001	<0/001	<0/001	0/94	P-value	
<0/001	31/3±20/06[ac]	26/3±46/003[ab]	31/3±20/06[a]	24/3±06/27	Experiment	Physical activity
<0/001	27/4±34/51[ac]	25/4±40/83[ab]	27/4±74/80[a]	26/5±49/05	Control	
-	<0/001	0/28	0/001	0/05	P-value	

<0/001	22/2±71/24[abc]	23/1±89/73[ab]	24/1±71/62[a]	19/4±74/37	Experiment	Stress
<0/001	19/4±89/54[ac]	21/4±17/52[ab]	19/4±66/68[a]	20/4±40/91	Control	
-	0/002	0/001	<0/001	0/36	P-value	
<0/001	13/1±49/50[ab]	13/1±49/50[ab]	13/1±60/44[a]	11/2±71/26	Experiment	Health status
<0/001	10/2±31/55[ac]	9/2±31/42[ab]	10/2±43/78[a]	9/2±89/77	Control	
-	<0/001	<0/001	<0/001	0/004	P-value	
b: before intervention, c: one week after intervention, d: three months after intervention						

Table 3: Comparison of the average changes in lifestyle components in the subjects in the experimental and control groups before intervention, one week, one month and three months after intervention

Variable	Level	Before and one week after intervention	Before and one month after intervention	Before and three months after intervention
	Group	SD ± Mean	SD ± Mean	SD ± Mean
Nutrition	Experiment	18/6±00/43	21/6±00/48	18/6±11/09
	Control	-1/1±14/33	1/1±23/33	-1/1±40/50
P-value		<0/001	<0/001	<0/001
	Experiment	1/1±14/09	2/1±00/50	1/1±14/09
	Control	-0/0±26/85	0/0±49/74	-0/0±69/99
P-value		<0/001	<0/001	<0/001
	Experiment	7/1±14/42	2/1±40/82	7/1±14/42
	Control	1/1±26/40	-1/1±08/82	0/1±86/26
P-value		<0/001	<0/001	<0/001
	Experiment	4/3±97/93	4/3±14/39	2/2±97/75
	Control	-0/0±74/85	0/1±77/78	-0/0±51/89
P-value		<0/001	<0/001	<0/001
	Experiment	1/1±89/66	1/1±77/55	1/1±77/55
	Control	0/1±54/09	-0/0±57/88	0/0±43/73
P-value		<0/001	<0/001	<0/001

Discussion

The aim of this study was to determine the effect of family-centered empowerment model on lifestyle in patients with asthma. The results of this study showed that the mean score of lifestyle in the nutritional components, sleep status, physical activity, stress and health status in the experimental group after the intervention significantly increased ($p < 0.05$) significantly in the patients The mean score of lifestyle scales varied in different stages, but the dimensions of lifestyle three months after intervention was significantly lower than before. ($p < 0.05$). The mean of pre-and post-intervention scores before and after the intervention was significantly higher in the experimental group than in the control group.

Rakhshan et al. (2015) showed that the family-centered empowerment model had a significant effect on the lifestyle of patients with heart failure ($p < 0.001$). The results of the study by Vahidian Azimi et al. (2009) regarding the effect of family-centered empowerment model on life style of patients with myocardial infarction showed that the mean score of lifestyle in different dimensions (except physical health) after intervention in

patients in the experimental group compared to The control was significantly higher ($p < 0.001$). Mahmoodi et al. (2013) in a study on the effect of family-centered empowerment model on life style of hypertensive patients, the mean score of lifestyle in general and different dimensions in the experimental group after intervention was significantly higher than before Had ($p = 0.001 = p$). In the above studies, the four stages of the present study were based on empowerment theory and the training was divided into four stages: perception of threat, self-efficacy, self-esteem and evaluation. Although the statistical population of these studies was different from the present study, the results were similar and the results showed The effect of family-centered empowerment model on patients' lifestyle.

Kargar Najafi (2010) in a study showed that family-based empowerment model has increased the quality of life in patients with thalassemia. Maintenance and upgrading of quality of life in chronic patients is possible with family members' ability. On the other hand, nurses, due to their close relationship with patients and their families, can use appropriate methods to increase the ability of family members in defined areas to overcome obstacles (Najafi, 2010). Empowerment from the perspective of many scholars is a dynamic, positive, interactive, and social process, a process that has been formed in relation to others, leading to accountability, better interaction with health authorities, satisfaction, better response to treatment, prevention of complications, reduction of treatment costs, a positive view of the disease, and ultimately improving the quality of life and quality of life of patients and their families (Vahedian Azimi et al., 2009). One of the effective ways of empowering patients is to implement family-centered empowerment model. The family as the most basic pillar of society is responsible for providing proper and appropriate health care to the patient and his relatives. Teaching family members for disease control and even prevention can be very helpful as there is a strong relationship between the family and the health status of its members. Teaching family members for disease control and even prevention can be very helpful as there is a strong relationship between the family and the health status of its members. Individuals, especially in chronic diseases, are dependent on their family members, and even their attitude is influenced by the family (Rabiei et al., 2013). Studies have shown that the implementation of family-based care creates positive emotions in health care staff and increases the satisfaction of patients and families. As a result of these measures, understanding and understanding and participation of families in the care of patients improve, their anxiety also decreases (Allahyari et al., 2006).

The purpose of nursing interventions in family-based care is to enhance the ability of family members in certain areas to overcome barriers to health and well-being. Because they will not be able to overcome obstacles without improving their capabilities. The Nurse guides families to problem solving, provides care services, and provides a sense of acceptance and kindness by listening carefully to the concerns and suggestions of family members. On the other hand, power and control in the family are a crucial issue. Therefore, considering the power factor in the family that empowerment is also affected by anemia, and the effect of the interactive communication that influences the change of an individual on the family system, one can expect that empowerment of a family element is effective on the ability of the family system to access health goals. Finally, family empowerment will lead to more effective and effective care for them and will help patients with chronic diseases with higher quality, resulting in an improvement in their health status (Potter and Perry, 2013). In the present study, patients with a family-centered approach were studied and the program was implemented and considering the impact of interactive communication that influences one's family on the family system, one can expect that empowering an element in the family is effective on the ability of the entire family system to achieve health goals. The results of this study showed that the implementation of family-centered empowerment model had a significant effect on the nutritional dimension of lifestyle in patients with asthma. The results of this study showed that the implementation of family-centered empowerment model had a significant effect on the nutritional dimension of lifestyle in patients with asthma. Rakhshan et al. (2015), quoted by Bernstein et al., showed that a family-based diet has increased the consumption of fruits, vegetables and calcium-rich foods for patients with cardiovascular risk factors, which

despite the difference in the statistical population This research with the present study yielded similar results indicating the effect of family-centered education on the nutrition of patients, and this finding was consistent with the results of the study of Vahidian et al. (2009) by implementing a family-centered empowerment model in patients with MI with improved nutrition of patients.

Bahraminejad et al. (2007) showed that family lifestyle education programs had a significant effect on the average consumption of fruits, dairy and unsaturated fats, which is consistent with the results of the present study. According to the results of this study and its studies, it can be stated that the reason for increasing dietary compliance is the presence of the family alongside the patient and increasing the patient's ability to monitor health with increased sense of responsibility. Based on the results of this study, the implementation of the family-centered empowerment model has a significant effect on the physical activity of the lifestyle of patients with asthma.

In the study of Vahidian et al. (2009), the results showed that the physical activity of the experimental group after the implementation of the family-centered empowerment model increased significantly ($p < 0.001$). Also, the results of the study conducted by Arao et al. (2007) showed that the average changes in lifestyle score in the physical activity dimension were significantly higher in the control group than in the control group ($p < 0.001$), which is consistent with the results of the present study. Baljani et al. (2011) studied the impact of self-management program in patient education with a family member on adherence to the diet and lifestyle in cardiac patients, and the results showed that in the physical activity aspect, between There were no significant differences between the control and intervention groups ($p > 0.05$) which did not match the results of the present study. The reason for the difference in the results is that the average age group of the subjects in the study was 36.16 ± 11.79 years, who were younger than Baljani and his colleagues and could increase their physical activity. The findings of this study showed that family-centered empowerment model had a significant effect on sleep and lifestyle styles in patients with asthma. The results of the Khyber study showed that empowerment through group discussion with patients had a significant difference in sleep dimension in the intervention group ($p < 0.001$) (Khaybar, 2012). Also, Vahidyan Azimi et al. (2009) in their study showed that the implementation of the family-centered empowerment model has led to improved sleep status and reduced stress in patients with myocardial infarction, which, despite the difference in the statistical population, the result is consistent with the results of the present study.

In the current study, all people surveyed stated that they did not consume tobacco, which can be said that due to cultural and personal issues, some people use their tobacco to conceal and not disclose it. In the present study, none of the people used smoking, and the validity of the results in this area was low. On the other hand, quitting smoking due to the complexity of the nature and effectiveness of various personality and social reasons requires more powerful strategies and more specific interventions and programs. More intensive advice on this issue. According to the results of this study and the studies conducted, it can be said that the implementation of programs that set the foundation of the family has had a positive effect. In diseases and in health problems, families are definitely of paramount importance and they are supportive as their supporters. In the field of care and care, empowerment of the family, especially in patients with chronic illness, is inevitable. Considering the increasing trend of chronic patients and the lack of physical space in the treatment area, paying attention to family-based empowerment model is a pivotal element in the field of medical education and nursing.

Conclusion

Considering the results of the implementation of the family-based empowerment model on the lifestyle of patients with asthma, it can be stated that the efforts of community health authorities to improve the lifestyle of patients will be considered when family planning empowerment programs and models formed with the help of its members. One of the limitations of this research is the difference between individual characteristics and

psychosocial conditions of patients in response to intervention and its impact, the impact of environmental and cultural factors on their perceptions of family-centered empowerment model. Also, the length of the follow-up period is one of the limitations of the present study, which is recommended to implement such programs with follow-up of six months and one year. In the application of the findings of this study in nursing education, clinical education, nursing research and management, one of the roles of clinical nurses along with clinical work is patient education; therefore, it can be used to promote education and improve care and Increasing the ability of chronic patients to meet their needs by the patient and with the help of family members uses this template. In the field of research, considering the positive results of the study, this model can be used to improve the lifestyle of patients with other chronic diseases. In the nursing education program, a family-centered empowerment model that has been approved in this research and its similar studies can be taught as an effective model for students. Finally, since nursing directors are always looking for ways to provide quality care to clients and obtaining positive outcomes from this study, they can pave the way for a family-centered empowerment model by the clinical staff to improve the lifestyle of patients with chronic diseases. Nursing managers can also apply this model to patients in chronic patients and can be used as a training and care model if they are satisfied.

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