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Effect of an Empowerment Educational Program on Quality of Life of Patients with Asthma

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Authors' contributions

This work was carried out in collaboration between all authors. Author AN designed the study, wrote the protocol, and wrote the first draft of the manuscript. Authors HR and MJ wrote the protocol, wrote the first draft of the manuscript, managed the analyses of the study and performed the statistical analysis. Author JM managed the literature searches and wrote the first draft of the manuscript. All authors read and approved the final manuscript.

Original Research Article

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ABSTRACT

Aim: One of the main goals of caring of asthmatics patients is QOL improvement. The present study was conducted to examine the effect of empowerment education on QoL in patients' whit asthma.
Methods: In this quasi experimental study, we examined 70 patients with asthma who had

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referred to Be'sat clinic in Kerman in Southeast of Iran. Patients randomly were assigned in intervention or control groups. Based on empowerment education model patients were trained for four two-hour sessions in the experimental group, while the control group did not receive any training. QoL in patients before and eight weeks after the intervention was measured using Asthma Quality of Life Questionnaire (AQLQ).
Results: The mean overall AQLQ score was 32.85±12.31 and 37.40±15.6 in intervention and the control groups before training respectively. This difference was not statistically significant (P>0.05). After training program, the mean score of QoL in the intervention group decreased to 20.37±10.18 and in the control group it was increased to 37.37±15.38. This difference was statistically significant (p<0.05).
Conclusions: Results of present study showed that empowerment education program will considerably improve the QoL of patients with asthma.

Keywords: Asthma; quality of life; education program; empowerment.

1. INTRODUCTION

Nowadays, due to the high prevalence of chronic diseases, increasing attention is given to evaluating and improving the Quality of Life (QoL) for patients with chronic diseases; in a way that improving the QoL of these patients has become a goal [1]. In addition to changes in physiological status, patients with chronic diseases face multiple stressors such as psychological, social, economical and familial, which in turn could reduce the quality of their life [2]. Because asthma is the most common chronic diseases in the world [3], QoL is important for asthmatic patients [4]. Results of previous studies in relation to the QoL of patients with asthma reflect poor QoL for this group of patients [5].

Education can improve the QoL of patients with asthma [6]. Meszaros et al. [7] surveyed QoL in patients with asthma and its influencing factors resulted in significant correlation between the training and improving the QoL of patients. According to the research conducted in Canada, Côté, et al. [8] found that education had a significant role in improving the QoL in patients with asthma. In a study carried out to evaluate the effect of training in breathing exercises and its relation with QoL, results showed that pulmonary rehabilitation education had a significant effect on improving QoL for patients with asthma [9].

Considering the importance of education in improving the QoL of these group of patients, the present study deals with one of educational models called empowerment model. The approach of education in empowerment model is the use of active teaching methods to engage patients in solving problems related to illness and taking into account their cultural, psychological and social needs. In this model, using patients' experiences, a curriculum is designed to suit the needs of the educational content of their own [10]. In a review study by Gibson et al. [11] with the aim of investigating the effect of training on life quality of patients with asthma, it was found that quality of life is improved after empowerment training.

Since educational models may show different results in the different cultures and any model selected should be commensurate with the level of knowledge and culture of a society, this study examines the impact of educational empowerment model on QoL of patients with asthma in Kerman, southeast of Iran.

2. METHODS

This semi-experimental study examined the effect of empowerment educational model on the QoL of 70 patients with asthma who were admitted to a medical clinic in Kerman in 2011. The written permission was obtained from deputy of research and also the Ethics' Board of the Kerman University of Medical Sciences. Seventy patients were selected from accessible population and were then randomly put into two groups. Inclusion criteria were: history of asthma confirmed by a physician and diagnostic tests, age 18 and older, ability to communicate, not previously participated in the educational program with regards to asthma and at least one year history of developing asthma. Samples were matched based on demographics variables such as gender, employment status, education level, marital status, age, duration of asthma morbidity, and quality of life. Before the implementation of the test, the research methodology of the study was explained to all the patients and written consent was obtained. All participants were promised that all data would remain anonymous, kept confidential and be stored safely.

Quality of Life Questionnaire was completed for the first time in the control group, and eight weeks later, second questionnaire was completed by patients. Upon completion of the work, empowerment training was presented for all the patients and also training pamphlets were provided for ethical approval.

In the experimental group, empowerment training was held four sessions per week, for duration of two hours in each session. To reduce fatigue, patients were allocated 30 minutes to rest in two-hour sessions. The instructor briefly stated topics of asthma self-management education program for experimental group and their learning needs were identified. According to individual learning needs, training sessions' topics were determined through interaction between instructors and participants. Curriculum contents were presented in each session by the instructor through discussion and interaction among individuals. Patients resolved their problems through problem solving method. Validity of educational content was confirmed by three faculty members of nursing school and pulmonologists.

In order to measure the patients QoL, Asthma Quality of Life Questionnaire (AQLQ) provided by Marks et al., in 1992 at the University of Sydney was used [12]. The internal reliability (0.92) and content validity of the questionnaire had been confirmed by Marks et al. But to ensure the validity of the questionnaire in Iranian society, the method used included forward and backward translation by 10 experts that content validity index (CVI) score of 0.90 with a correlation coefficient of internal reliability and 0.75 were obtained. The questionnaire consisted of 20 questions in four domains that are classified as "Physical, Mood Disturbance, Social Disruption, and Health Concerns". Items are scored at five-scale: not at all (score zero), rarely (score 1), somewhat (score 2), severe (score 3) or very severe (score 4), and a total score ranging from 0 to 80. Higher scores represent a greater impact of asthma on QoL. Data were analyzed with descriptive statistics (mean, percentage, frequency) and chi-square, paired t and independent t test using statistical software SPSS 18 (SPSS Inc., Chicago, USA). The threshold of statistical significance was set at $p<0.05$.

3. RESULTS

Majority of patients in the experimental and control groups were females, married, did not have a college education, and had not smoked and minority of them were self employed. The mean age of patients was 47.69 and 44.51 and the mean duration of asthma was 9.11

and 9.83 years in the control and experimental groups respectively. Chi-square test showed that regarding gender, age, employment status, education level, marital status, duration of asthma and QoL, the two groups were not significantly different. Two-sample K-S test was used to determine the normality of data of quality of life upon which the data were normally distributed. The groups were matched according to independent t-test.

(Table 1) show the mean score of QoL in patients before and after the intervention in two groups. As shown in this table paired t-test shows significant differences in mean overall scores for patients in the experimental group before and after training; while this difference was not significant in the control group. Also t-test results showed that the mean of QoL scores in both experimental and control groups were significantly different after training ($P<0.05$).

There was significant difference in AQLQ scores in the physical, mood disturbance, social disruption and health related concerns in the experimental group before and after training ($p=0.001$). Most and least changes were related to health concerns and social disruption dimensions respectively (Fig. 1). But the QoL of patients in the control group before and after the intervention was not statistically significant in each dimension ($P>0/05$) (Fig. 2). Between the experimental and control groups in all dimension of QoL after training there was a significant difference ($P<0.05$) (Fig. 3). Considering the physical, mood disturbance, social disruption and health related concerns there was a significant difference between two groups using independent t-test. In other words, Patients in the experimental group had experienced less physical, mood disturbance, social disruption and health concerns associated problems than the control group after training (Table 2).

Table 1. Mean of overall HRQoL scores of patients before and after the intervention

Groups	Before intervention	After intervention	*P value*
Control	37.40±15.6	37.37±15.38	0.89
Experimental	32.85±12.3	20.37±10.1	0.001
Independent-t	0.19	0.00	

Table 2. Comparison of the mean of HRQoL scores between two groups before and after intervention in each dimension

Dimensions	Groups	Before intervention	After intervention	p-value
Physical	Control	9.91±3.9	9.85±3.86	0.53
	Experimental	9.02±3.71	5.77±2.86	0.001
Mood disturbance	Control	8.51±4.48	8.51±4.48	0.50
	Experimental	7.80±4.19	4.17±3.4	0.001
Social disruption	Control	12.22±6.49	12.31±6.36	0.26
	Experimental	9.08± 4.82	5.97±4.02	0.001
Health concerns	Control	12.92±6.48	12.94±6.15	0.50
	Experimental	11.71±4.84	7.17±4.36	0.001

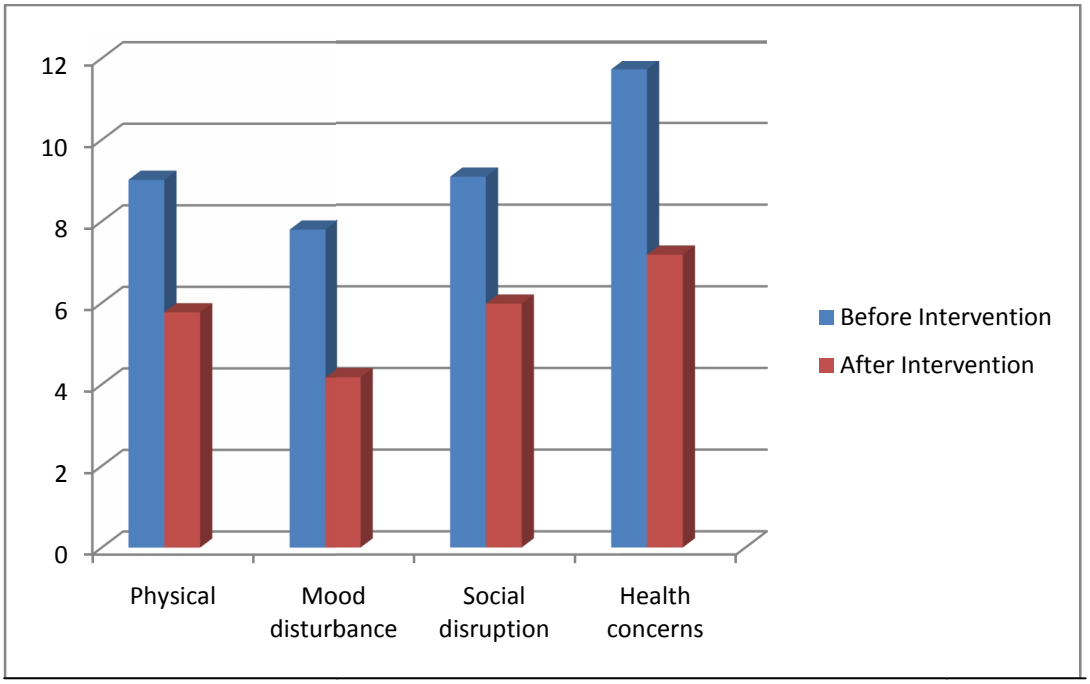

Fig. 1. Mean score of HRQoL before and after intervention in patients in experimental group

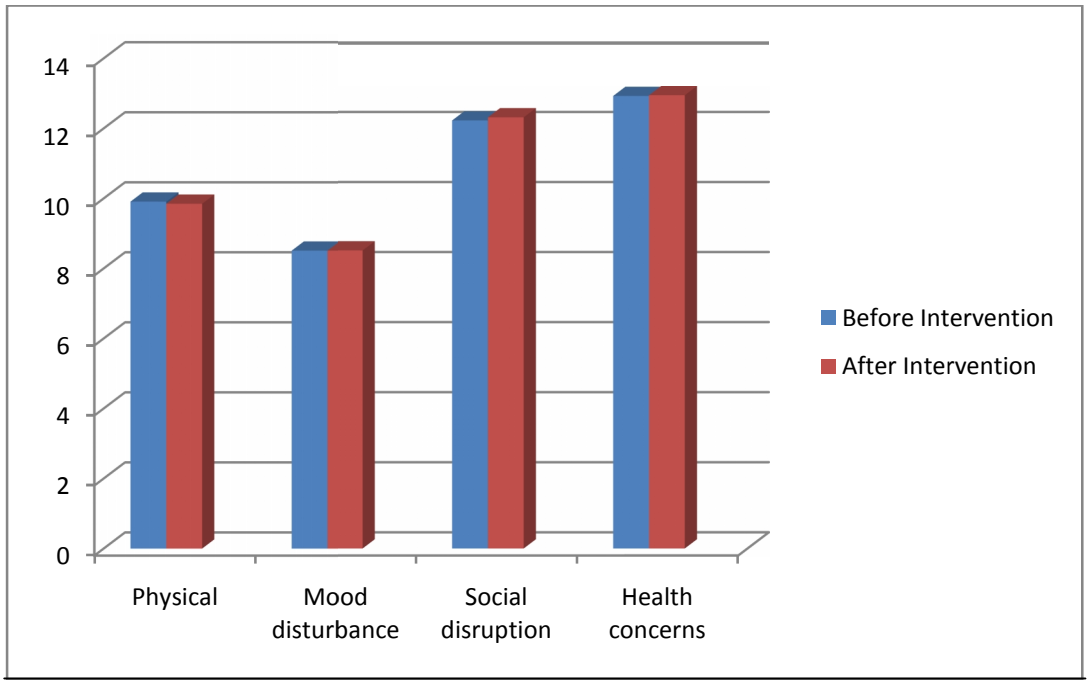

Fig. 2. Mean score of HRQoL before and after intervention in patients in control group

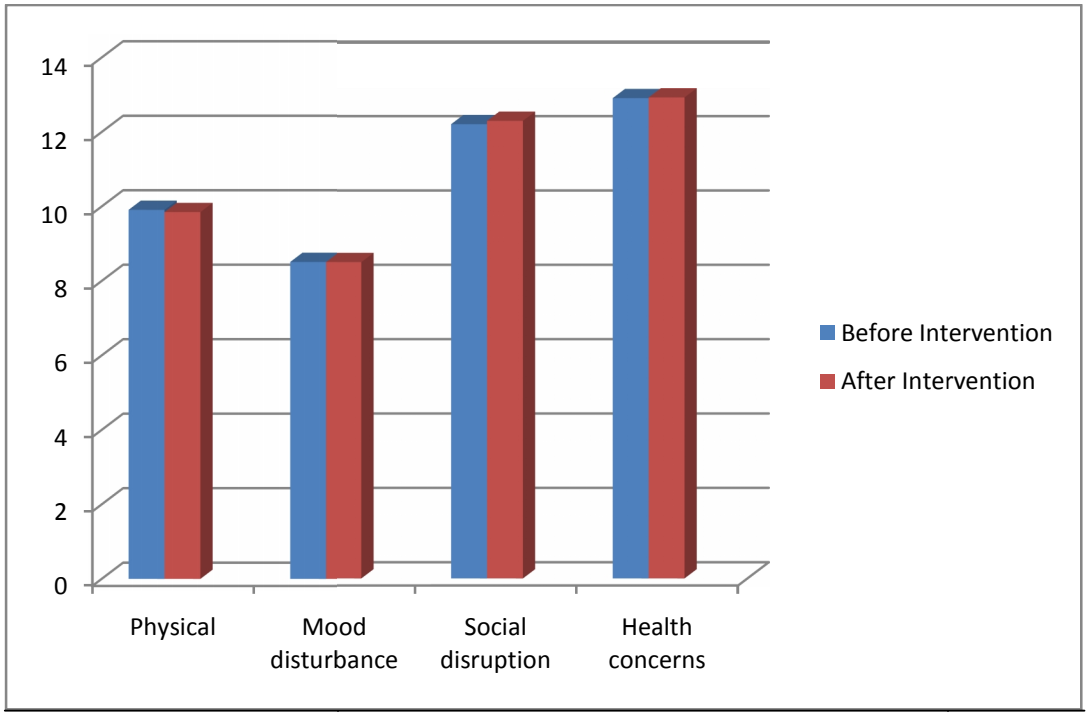

Fig. 3. Comparison in mean score of HRQoL in patients in control and intervention group

4. DISCUSSION

The QoL is defined as perception of people about their life, values, goals, standards, and interests [13]. QoL could be considered as a quality indicator of health care systems [14]. One of the main goals of caring of asthmatics patients is QOL improvement.

Results of present study showed that mean score of QoL of patients in the intervention group had a significant difference in compared to patients in control group after intervention. Regarding that the demographic characteristics and the mean overall QoL of the patients in both groups had no significant difference before training, it can be concluded that the improvement in QoL after the intervention was probably due to the educating methods have been performed by researchers.

Findings from other studies that have been done formerly confirm the results of present study. Similar to our finding, results of a review study by Gibson et al. [11] in 2009, showed that empowerment model improved the QoL for patients with asthma. Results of present study showed that patients had no good sense in all dimensions of the QoL. In this regards Ford et al. [15] reported that this disease has a negative impact on all aspects of QoL of patients with asthma. Asthma due to impairment in activity, sleep and social life of patients, significantly affects patients' mental health. Asnaashari et al. [16] in 2012 examined the mental status of patients with asthma and demonstrated highly prevalent depression and anxiety disorders in these patients. Inappropriate QoL in patients with asthma in physical, psychological and social dimensions is possibly because of inability to perform adequate ventilation and its associated symptoms that leads to impaired activity level and restricted

tolerance towards physical activity. As a result, it decreases the power to do their works and this will cause that they do not have good physical function compared with healthy subjects and patients get in trouble in individual and social responsibilities. Physical inability to perform the desired performance causes the feelings of inadequacy for patients and their confidence is disrupted. This is followed by severe anxiety, depression and grief which will also affect their social interactions and lead to social isolation [8]. In this regard the results of a study showed that asthma affects QoL in different aspects and limits physical, psychological and social activities and it makes changes in QoL

The findings of our study suggest that there was a significant difference in pre and post training means of QoL in experimental group. This difference is to improve the QoL in this group. Results of present study showed that physical dimension of QoL has improved after training. In one study in this regards, Gallefoss et al. [17] examined the effect of patient education on asthma and chronic obstructive pulmonary diseases in United Stat. Results of Gallefoss et al. [17] study showed that education have a major impacts on the improving of physical dimension of QoL in patients with asthma [18]. In the other study in this regards, Yang et al. [19] also reported similar finding. Of the other aspects of QoL in this study that improved after training was their mood and health concern. Results of Emtner et al. [20] showed similar finding in this regards. Improvement of the mood and health concerns of patients in the present study could be related to their increased confidence resulted in improved ability in performing daily activity. Patients in this study also improved the social aspect of QoL after performing educational program.

5. CONCLUSION

One of the main goals of asthma control in patients with asthma is improving HRQoL of them. Results of present study showed that HRQoL of patients with asthma improved after empowerment education program. Healthcare team members can design educational model according to patients needs. Future studies recommended examining the long-term effects of this educational model for providing appropriate information in the field.

6. LIMITATION

Limited duration of the training program is one of the limitations of present study. Thus, long term effects of educational programs have not been considered. Furthermore, use of the self reported questionnaires may have led to an overestimation of some of the findings because of the variance that is common in different methods.

CONSENT

All authors declare that ‘written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images.

ETHICAL APPROVAL

All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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