Impact of an Educational Program on Self-Efficacy of Patients with Bronchial Asthma

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ABSTRACT

Back ground: Bronchial asthma is one of the medical problems that substantially reduce the quality of life of patients; asthma places a large burden on affected patients and their families. Although asthma is a major cause of patient disability and in rare cases causes premature death, asthma morbidity and mortality are largely preventable when patients and their families are adequately educated about the disease and have access to high quality health care. That is, poor outcomes for patient asthma, such as hospitalizations and deaths, are at least partially sensitive to the quality of ambulatory health care. ***The aim of the present study*** was to evaluate the impact of an educational program on self-efficacy for patients with bronchial asthma at chest department and out patients' clinics at Mansoura University Hospital. ***Subjects & methods:*** the study was carried out in chest department and out patient's clinics at chest department of Mansoura University Hospital. ***Research design*** was A Quazi experimental design was utilized, included (85) adult patients with bronchial asthma from both gender. Two tools in this study was used, patient's assessment questionnaire, and asthma self-efficacy scale. ***Results***: the study results concluded that there was a highly statistically significant improvement in total self-efficacy through the study periods after implementation of the educational program. ***Conclusion:*** patients have low self-efficacy regarding bronchial asthma, so the educational program, which was applied, has remarkable improvement on patients' level of self-efficacy. ***Recommendations***: Prospective follow up studies are needed to develop and refine interventions to improve patient's adherence to treatment and prevent further deterioration, awareness programs about asthma management should be held periodically for bronchial asthma patients with special attention should be given regarding teaching patients, family members who have an active role in patient care to help them comply with the prescribed medical and nursing intervention.

Keywords: Bronchial asthma, Educational program, Self Efficacy.

INTRODUCTION

Asthma is a serious health problem throughout the world, public attention in the developed world has recently focused on asthma because of its rapidly increasing prevalence *(Lilly, 2011).* Around 300 million patients worldwide suffer from bronchial asthma and an additional 100 million may be diagnosed with asthma by 2025. In 2009, 250 000 patients died of asthma, which is expected to become the third leading cause of death in the world by 2030 *(World health organization [WHO], 2013; Fanta, 2009).*

*A*sthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation is associated with airway hyper ressponsiveness, mucosal edema, and mucus production that leads to recurrent episodes of wheezing, breathlessness, chest tightness, cough and dyspnea, particularly at night or in early morning by a variety of triggering stimuli resulting in partially or completely reversible bronchoconstriction (*Global Initiative for Asthma [GINA], 2015; McCance & Huether, 2011).*

Nursing care is based on early management of patients during acute attack. Caring of patients with asthma is individualized depending on their age, type of asthma and severity of illness (*Smeltzer and Bare, 2010*).Meanwhile, the nurse should observe patient's condition after providing care in order to evaluate such improvement. Nurses don't act only as care providers but also as educators for patients and their families (*Linton, 2011*).

Self-efficacy is the measure of the belief in one's own ability to complete tasks and reach goals *(Ormrod, 2006).* In addition, *Veronica (2010*) stated that Self-efficacy is the belief that one is able to make changes necessary for self-management.

AIM OF STUDY:

This study was aimed to evaluate the impact of an educational program on self-efficacy for patients with bronchial asthma through:

Assessing the self-efficacy and needs of patients with bronchial asthma.

Developing and implementing an educational program for patients with bronchial asthma based on their needs.

Evaluating the impact of an educational program on the improvement of the self-efficacy for patients with bronchial asthma.

Hypotheses

- The level of self-efficacy of the study subjects positively improved after implementing the educational program regarding bronchial asthma.

SUBJECTS AND METHODS:

This study was portrayed under four main designs as following:

I.   Technical design.

II.   Operational design.

III.   Administrative design.

IV.   Statistical design.

I. Technical design:

The technical design includes; the research design, setting of the study, subjects, and data collection tools.

Research design:

A quasi-experimental design was evaluate in this study to measure the impact of an educational program on self-efficacy for patients with bronchial asthma.

Setting:

The current study was conducted in chest department and out patient's clinics at Mansoura University Hospital.

Subjects:

Purposive subject of (85) adult patients with bronchial asthma.

Tools for Data Collection:

Three tools used by the researcher to collect data including:

Tool (I): Patient's assessment Questionnaire sheet, it was developed and based on national and international literature and reviewing by supervisor and used by the researcher, to collect necessary data about patients in this study, comprised of two parts:

Part 1: Demographic characteristics of the patients: as age, gender, educational level, residence, and occupation. It composed of (5) closed ended questions.

Part 2: Medical history of the patients:

a. **Present, Past Medical History, and Family History:** it composed of (14) closed ended questions, which includes (presence of chronic disease, hospitalization with bronchial asthma, duration of disease, medication taken, ways of taken bronchodilators, family history, and family relation).

b. **Patients' Habits:** It included series of questions to elicit patient's habits related to:

I) **Smoking,** which includes (smoking status, and type of smoking).

II) **Stimulant drinks,** which includes (drinking tea or coffee).

Tool II: The Asthma Self-Efficacy Scale:

Self- Efficacy Measurement (SEM) which developed by *Martin et al., (2009)* to measure patient's perceived ability to incorporate several strategies to successfully deal with general problems in life. ASM consist of 21 items with 5 underlying dimension of asthma self-efficacy: managing acute attacks (6 items), asthma control (5 items), emotional and environment (4 items), doctor relationship (5 items), and regular control medicine use (1 item). This scale is translated into Arabic by the researcher and retranslated again to English. The ASM consists of Likert scale with 5 responses from "completely sure" to "not at all sure" scoring 5 to 1 with 5 representing higher self-efficacy.

Scoring system:

The self-efficacy asthma questionnaire used a rating scale ranging from 1 to 5. Items were scored as following: (1) =Not at all sure. (2) = a little bit sure. (3) = fairly sure. (4) = quite sure. (5) = completely sure. The total scores were ranged from 21 to 105. The higher scores mean the patients were surer in controlling asthma, managing an acute asthma attack, regular use of controller medicine, managing activities related to emotions and environment, and having good doctor relationship. The level of self-efficacy was divided into two levels:

Level 1: Low self-efficacy (21-60)

Level 2: High self-efficacy (61-105)

Tool III: Developing educational program for patients with bronchial asthma:

It was developed and written in Arabic language by researcher after reviewing relevant literature to raise the levels of self-efficacy of participants to improve their asthma. The instructional booklet was consisted of different elements; definition of asthma, physiology of respiratory tract (normal& abnormal), asthma triggers, signs and symptoms of asthma, asthma medication, asthma management, deep breathing, use of inhalers, use of nebulizer, and dealing with life changes.

II- Operational Design:

The operational design includes preparatory phase, validity and reliability, pilot study, and fieldwork.

Preparatory phase:

It includes reviewing of the current and relevant related literature and theoretical knowledge of the various related aspects using books, articles, and exploring web sites and periodical magazines in order to develop the tools and program for data collection.

Face & Content Validity:

It was ascertained by nine-jury expertise from nursing and medical staff. Juries were from different academic categories (one professors of chest medicine, faculty of medicine, Mansoura University, one assist professors of chest medicine, faculty of medicine, Mansoura University , two assist professors of medical –surgical nursing, faculty of Nursing, Mansoura University, three lecture of medical surgical nursing at the faculty of nursing, port said University and two lecture of medical surgical nursing at the faculty of nursing, Mansoura University) and the necessary modifications were done accordingly.

Reliability of the tool:

It was done using Chronbach's alpha test that measures the degree of reliability for the entire form (0.734& 0.784 & 0.983).

Ethical consideration:

Ethical approval was obtained from the Scientific Ethical Committee of Port –Said University. The purpose of the study was explained to the patients and oral consent

was obtained from them to participate in this study. They were given an opportunity to withdraw from the study without given a reason, they were assured that anonymity, and confidentiality of information was protected. Ethics, values, culture, and beliefs were respected.

Pilot study:

A pilot study was carried out on 10% of the study subjects (9) patients diagnosed with bronchial asthma in order to test the clarity and applicability of the study tools. Required modifications were done in the form of adding or omission of some questions. Patients involved in the pilot study were excluded from the main study subjects.

Field Work:

Data were collected in the following sequence:

The study protocol was approved and an official permission to carry out the study was obtained from pertinent authorities after explanation of its purpose.

Structured interview was conducted individually for patients eligible for the study (fulfilled the inclusion and exclusion criteria) in order to explain the purpose of the study, assure confidentiality and to obtain oral consent.

The actual fieldwork was started from end of January (2015) until the end of December (2015); the data were collected by using three tools as the following:

Tool I: Patient's assessment questionnaire sheet.

Tool II: Asthma self-efficacy scale.

Tool III: Developing educational program.

The researcher collected data over three days per week (Saturday, Monday, and Thursday) during morning shift by rotation at the chest department units and out patient's clinics of chest at Mansoura University Hospital.

Methods Used:

An educational program was used through (Lecture, posters, pictures, booklets, brochure and group discussion methods).

Procedure of the study:

The study was achieved through four phases namely assessment, planning, implementation, and evaluation.

A. Assessment phase:

This phase aimed to assess the studied patients' demographic characteristics, patients' medical and family history, Patients habits, and self- efficacy. Each adult asthmatic patient was interviewed individually before applying the planned program to collect the base line patients' data using all study tools.

B. Planning phase:

Educational program was planned and developed based on the findings of the assessment phase, and in the light of related literature. Program was designed to improve patients' self- efficacy.

C. Implementation phase:

Each patient with bronchial asthma in the study subjects received the developed educational program according to their needs and suitable for their level of understands. The session's numbers were two sessions per week and continued until patients become more satisfied with the provided knowledge. Each session lasted for around 30-45 minutes. Each patient received 2 sessions. In each session the researcher used face to face teaching methods in order to achieved the proposed goal, allow patient to asking, discussion, and reach high level of understanding.

D. Evaluation phase: Three evaluations were conducted for each patient in the present study.

- First, was done at the beginning of the study as a base line data for developing the educational program according to patient's needs.

- Second evaluation occurred immediately after completion of the program and within one month after pre – test to detect the effect of program on patients' level of self-efficacy.

- Third evaluation (follow up) occurred six months after posttest by using the same tools.

III- Administrative design:

An official written permission to conduct the study was obtained from the director of Mansoura University Hospital.

IV- Statistical analysis

All data coded, entered, and analyzed by using SPSS, (Statistical Package for Social Sciences), software program version 14, which was applied to frequency tables, the descriptive statistic was used for analysis of demographic data, and health information, which included frequency, percentages, mean and standard deviation. Paired t-test were used to compare mean score of self-efficacy within group, statistical significance and associations were assessed using Wilcoxon signed ranks test, and chi-square test to detect the relation between the variables (P value), alpha Chronbach's test was used to test reliability of the tool and factor analysis to test its validity.

The observed differences and associations were considered as the following:

Non-significant (NS) $p > 0.05$

Significant (S) $p \leq 0.05$

Highly significant (HS) $P < 0.001$

RESULTS:

Table (1): showed that the mean age of the studied subjects was **50.98 ± 13.76** as **56.5%** were in the age group of **40 - <60** years old. Females were more prevalent than males; they constituted **50.6%** of the studied subjects. As regard to the educational level **49.4%** of the studied subjects were illiterate. Regarding to occupation, the sample percent **37.6%** of the studied subjects were housewives. Regarding to residence **78.8%** of the studied subjects were from the rural area.

Table (2): showed that, **58.3%** of the studied subjects suffering from bronchial asthma since more than 5 years, In relation to drugs used **43.5%** of the studied subjects used bronchodilators only while the rest of the studied subjects used bronchodilators in combination with other drugs. It also demonstrated that **61.2%** of the studied subjects have health history of chronic illness. In addition, **41.2%** has positive history of hospitalization more than four times.

Figure (1): Illustrates that **31.8%** of the studied subjects have positive family history of bronchial asthma, **20.0%** from the first degree of family members affected with bronchial asthma.

Table (3): reveals that **32.9%** of the studied subjects were present smokers and **58.8%** of them were drink tea and coffee.

Figure (2): the graph showed that **20.0%, 100%, 90.6%** had satisfactory level of total self-efficacy pre, post, and follow up program respectively.

Table (4): revealed that, there was no statistical significant relation between sociodemographic characteristics and level of self-efficacy except with income with **(p value = 0.049)** follow up program implementation.

Table (1): Distribution of the Studied Subjects According to their demographic Characteristics (n = 85):

Demographic Characteristics	*N= (85)*	*%*
Age in years		
1) 20-	16	18.8
2) 40-	48	56.5
3) ≥60	21	24.7
Mean± SD= 50.98 ± 13.76		
Gender		
1) Male	42	49.4
2) Female	43	50.6
Level of education		
1) Illiterate	42	49.4
2) Read and write	31	36.5
3) Secondary	8	9.4
4) University	4	4.7
Occupation		
1) Employee	8	9.4
2) Worker	15	17.6
3) Farmer	22	25.9
4) House wife	32	37.6
5) Retired	8	9.4
Residence		
1) Urban	18	21.2
2) Rural	67	78.8

Table (2): Distribution of the Study Subjects According to their Present, and Past Health History (No=85).

| Present& Past Health History	N= (85)	%
Duration of disease		
<I Year	10	11.8
1-	12	14.1
3-	13	15.3
>5 Year	50	58.3
Drug used		
1) Bronchodilators only	37	43.5
2) Bronchodilators & Hypertensive drugs	14	16.5
3) Bronchodilators & Diabetics drugs	12	14.1
4) Bronchodilators &HTN&DM drugs	8	9.4
5) Bronchodilators& Kidney drugs	8	9.4
6) Bronchodilators& other drugs	6	7.1
Presence of chronic Illness	52	61.2
Types of chronic disease		
1) Diabetes	12	23.1
2) Hypertension	14	26.9
3) Diabetes and hypertension	8	15.4
4) Kidney diseases	8	15.4
5) Others(rheumatic diseases, liver diseases)	10	19.2
Previous Hospitalization		
1) No previous hospitalization	6	7.1
2) Once	12	14.1
3) From 2-4 times	32	37.6
4) More than 4 times	35	41.2
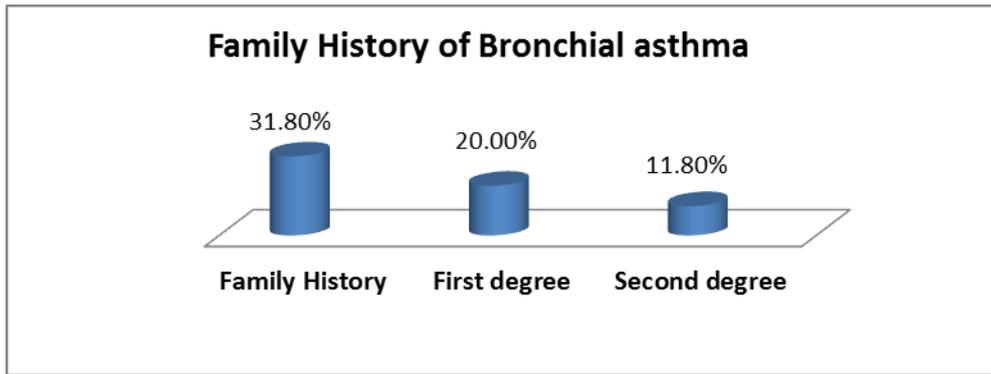
Figure (1): Distribution of the Studied Subjects According to Family Health History (No=85).

Table (3): Distribution of the Studied Subjects According to Patient Habits (No=85).

Patient Habits	N= (85)	%
Smoking Status		
1) *Current smoker*	28	32.9
2) *Past smoker*	47	55.3
3) *Not smoker*	10	11.8
Stimulant drinks(Tea, Coffee intake)		
1) *Yes*	50	58.8
2) *No*	35	41.2

Figure (2): Distribution of the Studied Subjects According to Improvement in Patient Total Self-Efficacy after Program Implementation (No=85).

Table (4): Relation between studied subjects' Self Efficacy and their demographic data post implementation of educational program (n=85).

Demographic characteristics	Level of Total self efficacy												X2	P value
	Pre				Post				Follow up					
	High		Low		High		Low		High		Low			
	No	%	No	%	No	%	No	%	No	%	No	%		
Age														
20- > 40	3	17.6	13	19.1	16	18.8	0	0.0	16	20.8	0	0.0	P10.048	**0.976**
40- > 60	10	58.8	38	55.9	28	56.5	0	0.0	43	55.8	5	62.5	P2 -	**-**
≤60	4	23.5	17	25.0	41	24.7	0	0.0	18	23.4	3	37.5	P32.304	**0.316**
Gender													P10.577	**0.488**
Male	7	41.2	35	51.5	42	49.4	0	0.0	39	50.6	3	37.5	P2 -	**-**
Female	10	58.8	33	48.5	43	50.6	0	0.0	38	49.4	5	62.5	P30.501	**0.479**
Marital status														
Single	1	5.9	8	11.8	9	10.6	0	0.0	9	11.7	0	0.0	P10.719	**0.869**
Married	13	76.5	47	69.1	60	70.6	0	0.0	54	70.1	6	75.0	P2 -	**-**
Divorced	1	5.9	6	8.8	7	8.2	0	0.0	7	9.1	0	0.0	P33.419	**0.331**
Widow	2	11.8	7	10.3	9	10.6	0	0.0	7	9.1	2	25.0		
Level of education														
Illiterate	9	52.9	33	48.5	42	49.4	0	0.0	37	48.1	5	62.5	P11.464	**0.691**
Read and write	7	41.2	24	35.3	31	36.5	0	0.0	28	36.4	3	37.5	P2 -	**-**
Secondary	1	5.9	7	10.3	8	9.4	0	0.0	8	10.4	0	0.0	P31.555	**0.670**
University	0	0.0	4	5.9	4	4.7	0	0.0	4	5.2	0	0.0		
Occupation														
Employee	3	17.6	5	7.4	8	9.4	0	0.0	8	10.4	0	0.0	P12.817	**0.589**
Worker	4	23.5	11	16.2	15	17.6	0	0.0	14	18.2	1	12.5	P2 -	**-**
Farmer	3	17.6	19	27.9	22	25.9	0	0.0	21	27.3	1	12.5	P33.113	**0.539**
House wife	6	35.3	26	38.2	32	37.6	0	0.0	27	35.1	5	62.5		
Retired	1	5.9	7	10.3	8	9.4	0	0.0	7	9.1	1	12.5		
Residence													P10.159	**0.690**
Rural	14	82.4	53	77.9	67	78.8	0	0.0	59	76.6	8	100	P2 -	**-**
Urban	3	17.6	15	22.1	18	21.2	0	0.0	18	23.4	0	0.0	P32.373	**0.123**

(P) 1 Comparing Pre and Post   (P) 2 Comparing Pre and Follow up   (P) 3 Comparing Post and follow up program implementation

**A highly statistically significant difference ($P \leq 0.001$).   *Significant ($P \leq 0.05$)

DISCUSSION:-

Asthma is a common chronic inflammatory disorder of the airways that is characterized by variable and recurring symptoms, airflow obstruction, bronchial hyper-responsiveness, and underlying inflammation. The interactions between these factors determine the range of symptoms, severity, and the response to treatment ***Expert Panel Report 3(2015).***

Findings of the current study revealed that, more than half of patients were in the same age group from 40years to less than 60 years old with mean age (50.98 ± 13.76). This may be due to that this period of age is the productive period, which associated with more stress. Thus make asthma worse and subsequently increase adult hospital admission. This finding is in accordance with ***Damanik (2009) & Mohammed (2008),*** who reported that the average age of his studied subjects were 46.09 years. As regard to gender, the result of the present study showed that, more than half of patients were females. This finding is in accordance with ***Kumar, Jose, Kumarswamy & Naveen, (2011),*** who found that more than half were males affected with asthma and less than half were females affected with asthma.

Concerning the educational level of the study subject near half of the study subjects were illiterate. This finding might be due to the majority of patients were from rural areas with less attention to education and poor level of health awareness. This finding is in agreement with ***Taha & Ali (2011),*** who reported that more than two third of the studied subject were illiterate. Regarding occupation, the current study portrayed that more than one third of the study subjects were housewives, this may be related to the fact that about half of them were illiterate or just read and write. In addition, about half of the studied subjects were females who are housewives. This finding is in accordance with ***Bakke (2009),*** who found that about two third of the studied subject were workers.

Regarding residence, the results of this study revealed that, more than two thirds of the study subjects were from the rural area. The possible explanation may be due to lack of health care centers. This finding is in accordance with ***Taha & Ali (2011),*** who reported that most of studied subjects were from rural areas.

Concerning the duration of bronchial asthma, the present study revealed that more than half of the study subjects were suffering from bronchial asthma for more than five years. This finding may be due to the chronicity of the disease. This finding is highly supported with *Damanik (2009)* who indicated that the majority of studied subjects were diagnosed with bronchial asthma for more than five years especially from five to ten years.

Concerning drugs, the present study portrayed that more than one third of the study subjects used bronchodilators only while the remaining patients used bronchodilators in combination with other drugs. The finding goes in the same line with *Mohammed (2008),* who mentioned that every one of patients was taking a group of medications.

Concerning presence of chronic illness, it was noticed that more than half of the study subjects had health history of chronic illness. This finding is in disagreement with *Mohamed (2008)* who ascertains that patients in her study were free from chronic illnesses (diabetes, renal failure, heart failure, coronary artery diseases, rheumatic diseases, liver cirrhosis or hepatic failure), and *Damanik (2009),* who found that 60% didn't have any underlying diseases.

As regard to history of hospitalization, more than one third of the study subjects had positive history of hospitalization more than four times. This could be due to chronic disease and its complication that suffers from that seek medical care and sometimes require hospitalization. This finding goes in the same line with *Desalu et al., (2013),* who found that more than one third had emergency room visit and around one third had admission due to asthma in the previous 12 months.

As regarding to family history, around one third of the study subjects had positive family of bronchial asthma with first-degree relation. The possible explanation for this result could be due to that patients with allergic diseases usually have a close family is also suffering from allergic diseases. The finding is in accordance with *Tageldin, Wagih& Maher, (2015),* who reported that 51.0% of studied sample had positive family history of bronchial asthma.

As regarding to smoking history the finding of the present study revealed that only one third of the study subjects were present smokers, and around two thirds of the study subjects were cigarettes smokers. This result might be due to that many of the

study subjects quit smoking because smoking aggravates asthma symptoms in addition to more than half of them were females. In the Egyptian culture females rarely smoke. The finding is supported by with ***Kumar et al., (2011),*** who reported that only one third of asthma affected patients were smokers.

The results of the current study revealed that the majority of the patients' had total low self-efficacy before implementation of the program. Post program phase showed a highly statistically significant improvement in patient's self-efficacy (p<0.001), with all Patients **.**

having total high self-efficacy. This improvement in self-efficacy persisted with minimum decline throughout the follow-up period with (p<0.001).

In addition there was a highly statistically significant improvement in all aspects of self efficacy scores after implementation of the educational program of the study group with significant increase in their mean scores, this finding is further supported by a subsequent study by ***Huang, Li& Wang, (2009)*** which indicated that the mean total self-efficacy scores for the educational group at the 6-month follow-up were significantly higher that the scores for the usual care group (p< 0.001).

These findings goes in the same line with ***Bobb, Ritz, Rowlands& Griffiths, (2010)*** who showed a significant improvement for asthma self-efficacy over a period of 13 months, ***Martin et al., (2009)*** who clarified that, intervention was associated with a significant improvement in asthma self-efficacy immediately post-intervention, and with ***Abedi et al., (2013)*** who mentioned that self-care scores in the experimental group were significantly higher after intervention.

There was no statistical significance relation between sociodemographic characteristics and level of self-efficacy except with income. This finding is in accordance with ***Holland (2014),*** who reported that there is no statistical significance difference between sociodemographic characteristics and level of self-efficacy in his study.

CONCLUSION:

Based on study findings, it can be concluded that: There was a highly statistically significant improvement in total self-efficacy for the studied subjects post implementation of the educational program.

RECOMMENDATIONS:

Promotion and enhancement of the self-care modalities to the patient; a strict written instruction with pictures about disease process, allowed foods through a rehabilitation program. Special attention should be given regarding teaching patients, family members who have an active role in patient care to help them comply with the prescribed medical and nursing intervention and Replication of the study using a large probability sample from different geographical areas to allow greater generalizability of the results.

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تأثير برنامج تعليمى على الكفاءة الذاتية للمرضى المصابين بالربو الشعبى

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الخلاصة

الدراسة الحالية دراسة شبه تجريبية هدفها تقييم تأثير برنامج تعليمى على الكفاءة الذاتية للمرضى المصابين بالربو الشعبى. وقد أجريت هذه الدراسة في قسم الصدر والعيادات الخارجية بمستشفى المنصورة الجامعي. وشملت عينة البحث (85) مريض من المرضى البالغين المصابين بمرض الربو الشعبى. وتم استخدام ثلاثة ادوات لجمع البيانات: استمارة استبيان تحتوي على بيانات المريض ومقياس الكفاءة الذاتية للمرضى المصابين بالربو الشعبى واعداد برنامج تعليمى. وقد أسفرت نتائج البحث أن هناك فروق ذات دلالة إحصائية في الكفاءة الذاتية لهؤلاء المرضى خلال فترات الدراسة بعد تنفيذ البرنامج التعليمي. وأن المرضى لديهم انخفاض في مستوى الكفاءة الذاتية المتعلقة بمرض الربو الشعبى، وبالتالي فإن البرنامج التعليمي الذي تم تطبيقه أظهر تحسنا ملحوظا في مستوى الكفاءة الذاتية للمرضى. بناءا على نتائج الدراسة أوصي بأن هناك حاجة مستقبلية لمتابعة الدراسات وذلك لتطوير وصقل التدخلات الرامية إلى تحسين التزام المرضى بالعلاج ومنع المزيد من

التدهور، وكذلك ينبغي أن تعقد برامج توعية حول مرض الربو بشكل دوري للمرضى المصابين بالربو الشعبى وأفراد الأسرة وذلك لما لهم من دور فعال في رعاية المرضى ومساعدتهم على الالتزام بالنظام الطبي والتمريضي المحدد لهم.

الكلمات المرشدة: الربو الشعبى، البرنامج التعليمى، الكفاءة الذاتية