Adherence to Treatment among Patients with Chronic Obstructive Pulmonary Disease in Erbil City

الالتزام بالعلاج بين المرضى المصابين بالانسداد الرئوي المزمن في مدينة اربيل

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الخلاصة

الهدف: تهدف الدراسة الى تقييمَ مستوى الالتزام بالعلاج بين المرضى المصابين بالانسداد الرئوي المزمن في مدينةِ أربيل وعلاقته بمتغيرات الدراسة إذ اصبح الان هذا المرض مشكلة صحية واسعة النطاق في أغلب شعوب العالم.

المنهجية: دراسة مقطعية اجريت على75 مريض مصاب بالانسداد الرئوي المزمن في عام 2015، ولجمع البيانات تم تصميم استبيان لغرض تحقيق اهداف الدراسة وتم جمع المعلومات من المرضى من خلال المقابلة الشخصية. وشمل الاستبيان على تلك المعلومات الديموغرافية ونموذج الالتزام لعلاج الانسداد الرئوي المزمن وتم تحليل البيانات باستعمال الإحصاء الوصفي والاستنتاجي.

النتائج: ان متوسط الدرجات الكلي للالتزام بالعلاج كانت(25.65 ±9.91)إذ ان اغلبية مرضى الانسداد الرئوي المزمن 61.3% لم يلتزموا بالعلاج والعامل الرئيسي لعدم الالتزام هو النسيان. كان هناك علاقة معنوية بين مستوى الالتزام والعمر (P =0.019)، والجنس (P = 0.018) ومستوى التعليم (P = 0.002)، وعدد مرات الدخول الى المستشفى (p= 0.011)، و تدخين السجائر (7 = 0.01P) .

الاستنتاج: حسب نتائج الدراسة أن اغلب العينة لمرضى الانسداد الرئوي المزمن كان التزامهم ضعيف للعلاج بإداء الانشطة البدنية والقيام بالسعال بشكل عام اكثر من نصف العينة من المصابين بالإنسداد الرئوي المزمن كانت التزامهم بالعلاج ضعيف.

التوصيات: يجب على الممرضات ان تقوم بإعداد مجموعة الانشطة التمريضية المثالية والتي تعزز فهم الالتزام بالعلاج بين مرضى الانسداد الرئوي المزمن.

الكلمات المفتاحية : مرض الانسداد الرئوي المزمن, الالتزام بالعلاج.

Abstract

Background and objectives: Chronic obstructive pulmonary disease is now widely recognized as a major global public health problem. The objective of this study was to assess the level of adherence to treatment among COPD patients and relationship with somevariables in the study.

Methodology:A cross sectional study design was undertaken among 75 COPD patients in 2015, to collect the data the questionnaire was used according objective of studythrough interviewing in 20 minutes. Itis including demographic information and adherence to treatment; data wereanalysis by descriptive and inferential statistics

Result: The total mean score of adherence to treatment 25.65 ±9.91. Majority of COPD patients was not adherence to treatment 61.3% and a major factor for non-adherence is forgetfulness. There were significant association between level of adherence and age (p=0.019), gender (p=0.018), level of education (p=0.002), readmission to hospital (p=0.011) and cigarette smoking (p= 0.017).

Conclusion: Accordingtoresults of the study most of COPD patients were poor adherence in physical exercise and effective cough. In general, more than half of COPD patients were poor adherence to treatment.

Recommendation: Nurses should set up a set of standard nursing care activities that promote the understanding of adherence to treatment among COPD patients.

Key words: Chronic obstructive pulmonary disease, adherence to treatment.

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INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is characterized by an irreversible decline in lung function, exercise capacity and health status[(1)].It is a major cause of morbidity and mortality throughout the world. The prevalence and burden of COPD are projected to increase in next decades due to continued exposure to COPD risk factors and the changing age structure of the world's population. It is projected to rank fifth in 2020 according to a study published by the World Bank/World Health Organization[(2)].

The WHO definition of adherence is the following: "the extent to which a person's behavior taking medication, following a diet, and/or executing lifestyle changes corresponds with agreed recommendations from a health-care provider" Non-adherence in COPD is a significant barrier to optimal disease treatment[(3)]. COPD is a chronic illness and poor adherence of patients to the disease management may result in increased rate of morbidity, health care expenditures, hospitalizations and reduced Quality of Life (QoL). Adherence to non-drug therapies, such as respiratory rehabilitation, exercise programs, healthy lifestyle or smoking cessation, is crucial in the management of COPD[(4)]. Findings from this study will be benefit to provide a nursing care plan which most appropriate to COPD patients and treatments will be more effective in controlling disease symptoms. Relapse and aggravation of the disease symptoms can also be controlled. Patients will be re-admitted at a lower rate. Finally, COPD patients will have higher quality of life and quality of nursing care will be more evident. The objective of this study was to assess the level of adherence to treatment among COPD patients.

METHODOLOGY

A cross sectional study design was used to assess the adherence to treatment among chronic obstructive pulmonary disease in medical wards both Hawler and Rizgary Teaching Hospitals in Erbil city about five month duration in 2015. In order to obtain the accurate data and representative sample, a non-probability (purposive)selected among 75COPD patientsaccording to the following criteria patients who agreed to participate the study, medical diagnosis of COPD, age more than 18 years old and have been taking medication for at least past one month ago. Data were collected through the use of questionnaire; it was developed by the researcher from review literature. The questionnaire consist of demographic data of the patients such as age, gender, level of education, marital status, residential area and medical data include readmission of hospitalization, family history and cigarette smoking and second part of questionnaire consist of adherence to treatment was composed 22 items about diet, rest, physical exercise, breathing exercise, effective cough, avoid irritant, taking medication and follow up and each questions was rated four point scale (never 0 , rarely 1, sometime 2 and regularly 3). The total score for each patient could range from 0 (minimum) and 66 (maximum). Also, the questionnaire

highlighted reason of non-adherence compose of 6 items of forget of medication, side effect of medication, polypharmacy, fatigue, ineffective of medication, lack of medical instruction. Data analysis was performed using SPSS version 19, information was summarized using frequency tables and cross tabulations. The **chi**-square test was used to compare proportions, P-value of equal or less than 0.05 was considered a statistically significant.

RESULT:

Table (1) Demographicdata of COPD patients

Demographic data		F	%
Age group	<45	16	21.3
	45-55	36	48
	>55	23	30.7
	Mean± SD	52.6±7.8	
Gender	Male	47	62.7
	Female	28	37.3
Level of education	Illiterate	59	78.7
	Read and write	12	16
	Primary school	4	5.3
Residency	Urban	48	64
	Rural	27	36
Readmission of hospitalization	≤ 10	38	50.7
	>10	37	49.3
Cigarette smoking	Ex-smoker	67	89.3
	Current	8	10.7

Table 1.shows that, there were 62.7 % male and 37.3 % female with a mean age of 52.6±7.8 (37-68) years and (78.7%) were illiterate in contrast (5.3%) of them their education was primary school. also, more than half of patient came from urban and 36% of them from rural. Patients readmitted of hospitalization less than or more ten time per year were nearly equal (50.7%, 49.3%) respectively. Moreover, the highestpercentage (89.3 %) was reported ex-smoker and the lowest percentage (10.7%) was current smoker.

Table (2) Adherence of treatment of COPD patients

Items	Poor≤33 score		Good>33 score	
	No.	%	No.	%
Diet	28	37.3	47	62.7
Physical exercise	55	73.3	20	26.7
Rest	15	20	60	80
Breathing exercise	49	65.3	26	34.7
Effective coughing	58	77.3	17	22.7
Avoid irritant	41	54.7	34	45.3

Follow up	48	64	27	36
Medication	37	49.3	38	50.7

Table 2 shows that the majority of patients were poor adherence in effective cough (77.3 %) and physical exercise (73.3%) while, the minority of patients were good adherence in rest (80%) and diet (62.7%).

Figure 1: Overall level of adherence of treatment of COPD

Figure 1 illustrate the highest proportion of overall adherence rate among COPD patients was poor (61.3%) while lowest percentage (38.7) of them was good adherence to treatment

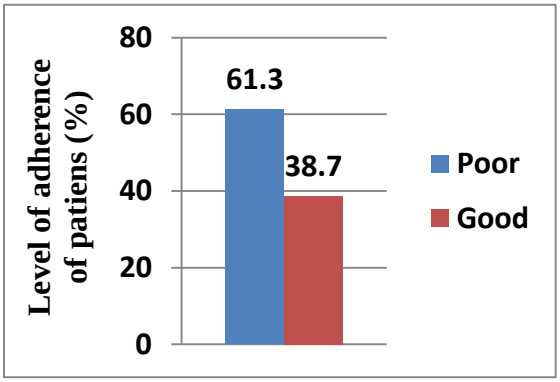

Table (3)Reasons of none adherence of treatment of COPD patients

Items	Yes		No	
	No	%	No	%
Forget of medication	52	69.3	23	30.7
Side effect of medication	29	38.7	46	61.3
Polypharmacy	17	22.7	58	77.3
Fatigue	41	54.7	34	45.3
Ineffective of medication	27	36.8	48	64
lack of medical instruction	33	44	42	56

Table 3 present the reason of non adherence to treatment among COPD patients 69.3 % reported forget taking medication, 54.7 % non adherence because they have physical symptoms like fatigue, 44 % reported lack of medical instruction, about 38.7% reported frequently not using medication due to fear of side effects, 36.8% of respondents reported frequently stopped medication due to ineffective of medication while about 22.7 % reported non adherence to treatment because polypharmacy.

Table (4) Association between adherence score and variable of the study

Characteristics of COPD patients		Adherence		df	Chi square &p. value
		Poor No. (%)	Good No. (%)		
Age group	<45	13 (81.3)	3(18.8)	2	7.88 0.019
	45-55	24(66.7)	12(33.3)		
	>55	9 (39.1)	14(60.9)		
Gender	Male	24(51.1)	23(48.9)	1	5.59 0.018
	Female	22(78.6)	6(21.4)		
level of education	Illiterate	41(69.5)	18(30.5)	2	12.06 0.002
	Read and Write	2(16.7)	10(83.3)		
	Primary school	1(25)	3(75)		
Residency	Urban	29(60.4)	19(39.6)	1	8.28

	Rural	17(63)	10(37)		0.047
Readmission of hospitalization	≤ 10	17(44.7)	21(55.3)	1	8.953
	>10	29(78.4)	8(21.6)		0.011
Cigarette smoking	Ex-smoker	38(56.7)	29(43.3)	1	5.646
	Current	6 (75)	2(25)		0.017

Table 4 shows association between adherence score and variable of the study concerning the age group the highest percentage of COPD patients less than 45 years were poor adherence to treatment, mostly female had poor adherence level than male, regarding educational level, most of those participants were illiterate (69.5%) had poor adherence. In general, the findings of study shows that the significant relationships between adherence of treatment of COPD patients and age group (p=0.019), gender (p=0.018) and level of education (p=0.002). Moreover, about residential area the highest percentage (63%) of patients come from rural area was poor adherence of treatment than who come from urban area. About duration of disease by years, the highest percentage (78.4%) of patients readmitted to hospitalization more than 10 time per years were poor adherence to treatment than patients readmitted equal or less than 10 time per year, with regard cigarette smoking three quarter (75 %) of patients were current smoker which had poor adherence level than ex-smoker. The findings of this study shows that significant association between adherence of treatment of COPD patients with residency (p=0.04), readmission of hospitalization (p=0.01) and cigarette smoking (p=0.017).

DISCUSSION

Poor adherence in patients with COPD is a significant impact to control symptoms and complications. Medication adherence of patients with COPD is generally poor, with reports showing adherence rates to various treatment regimens of approximately 50%[(5)].In this study the adherence to treatment of COPD patients were 61.3% which mostly shown in physical exercise and effective cough this may related most of study sample was old age, illiterate, change memory, unable to exercise due to physical symptoms and lack nursing discharge plan for teaching patients how to do effective cough, respiratory exercises such as lip-pursing or diaphragm respiration, are considered as a part of pulmonary rehabilitation programs, which could lead to an improvement in gas exchange, exercise tolerance and quality of life [(6)].

The goal of respiratory exercises in patients with COPD is for the patients to replace their ineffective respiratory techniques with effective ones and to discharge the lungs from secretions through deep respiratory exercises and effective coughing[(7)]. Furthermore, many patients not adhere to medical recommendations concerning taking drugs or non-pharmacological treatment[(8)].

Concerning the age group the highest percentage of COPD patients less than 45 years were poor adherence to treatment, female had as much as poor adherence level than male, illiterate COPD patients had poor adherence. Adherence to treatment is influenced by demographic factors patient age was not a factor that allowed prediction of adherence to treatment either, it has been shown that in some populations the elderly demonstrated better cooperation [(9)].However, it has not been confirmed by other study [(10)].It could be expected

that better adherence to treatment would be presented by educated patients who understand the need for regular treatment of the disease. Moreover, there was no relation with place of residence or family situation [11].

Regarding, duration of disease by years, the highest percentage of patients readmitted to hospitalization more than 10 time per years were significantly lower adherence to treatment than patients readmitted less than 10 time per year. In this study patient with more frequent past hospitalizations so probably with the most severe forms of the disease and less adhered to treatment accurately. That evident patient who followed recommendations more precisely had fewer hospitalizations per year. On the other hand, it is known that chronic, regular treatment of COPD reduces the number of exacerbations and hospitalizations [12, 13].

Result of this study show 69.7 % reported forget taking medication, 53.9 % non-adherence because they have physical symptoms like fatigue, 43.4 % reported lack of medical instruction. There are various reasons why patients not adhere to treatment. Few of patients omit drug doses unintentionally, because they forget, especially when they feel well or they are distracted by other activities, or when they misunderstood medical recommendations and others do it intentionally, e.g. due to high costs of the therapy or when they have achieved certain clinical improvement. Some patients stop the therapy when the drug prescribed during a doctor's appointment finishes. However, patients rarely omit drug doses due to its adverse effects [9, 10, 14].The quality of communication between patients and providers also influences adherence to therapy. Adherence improves when patients report better overall communication with their providers[15].Specific information about each medication as prescribed is also essential to enhancing secondary non-adherence related to misunderstandings[16].

CONCLUSION:

According to results of the study most of COPD patients were poor adherence in physical exercise and effective cough. In general, more than half of COPD patients were poor adherence to treatment.

RECOMMENDATION:

Nurses should set up a set of standard nursing care activities that promote the understanding of adherence to treatment among COPD patients.

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