Health Needs for Patients with Chronic Obstructive Pulmonary Disease: Suggested Self-Management Guidelines

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Abstract

Background: Chronic Obstructive Pulmonary Disease (COPD) is a highly prevalent chronic disease worldwide and is associated with a significant burden on both patients and society. The social, emotional, and medical needs of those with COPD are varied and complex, making it a challenging condition to self-manage. This study aimed to assess the health needs for patients with chronic obstructive pulmonary disease and suggest self-management guideline. Design descriptive explorative design was used in carrying out this study. It was conducted at the Chest Department and Out Patients` Clinic in El - Fayoum University Hospital. Study subjects a Purposive sample of 50 adult patients with COPD. Tools: Two tools were used to collect data pertinent to this study, these tools are: toll (I) Patients' interviewing questionnaire and tool (II) Patients' medical records. **Results:** about half of the studied patients had a high need of physical needs. More than one third of studied patients had a highly needs of psychological needs. Related social needs, slight less than two thirds of studied patients had social needs. According total Spirituality needs, more than two thirds of the studied patients had spiritual needs. Related educational needs, around three quarters of the studied patients had educational needs. **Conclusion:** there was a statistical significant relationship between demographic characteristics regarding to total needs of patients with COPD. **Recommendation**: it was recommended that further research studies are needed to focus on the assessment of the quality of life of patients with COPD.

Keywords: Chronic Obstructive Pulmonary Disease, Health Needs, Self-Management Guidelines.

Introduction:

Worldwide, chronic obstructive pulmonary disease (COPD) is the third leading cause of death. It is a preventable and treatable disease that characterized by progressive airflow limitation associated with an abnormal inflammatory response of the lung to noxious particles and/or gases. Airway obstruction results in prolonged episodes of coughing and dyspnea, exacerbations which can cause fear leading to avoidance of regular activity, causing additional deconditioning that can aggravate dyspnea even further **(Calvo et al., 2016 & Lewis et al., 2014)**.

Cigarette smoking is the principal risk factor for COPD. However, Occupational and environmental exposures to chemical fumes, dusts, and other lung irritants account for 10% to 20% of cases. Individuals with a history of severe lung infections in childhood are more likely to develop COPD. Alpha-1 antitrypsin deficiency is a rare cause of COPD but should be suspected in persons in whom emphysema develops before the age of 40 or those who lack the common risk factors **(Campos et al., 2016 & Nettina, 2014).**

Chronic obstructive pulmonary disease (COPD) imposes a substantial burden on individuals with the disease which can include a range of symptoms such as persistent cough particularly with mucus production, dyspnea, with exercise, wheezing and chest tightness. Patients often present with the first acute exacerbation of COPD at an advanced stage. Symptoms do not usually occur until forced expiratory volume in 1 second (FEV_1) is approximately 50% of the predicted normal value **(Williams & Ryan, 2017)**. As the disease progresses, exacerbations may become more frequent and life-threatening complications develop. End-stage COPD is characterized by severe airflow limitation, severely limited performance and systemic complications. Patients often succumb to respiratory failure or pulmonary infection. Extra pulmonary effects

associated with COPD include weight loss, nutritional abnormalities and muscle atrophy **(Miravitlles & Ribera, 2017).**

The needs were defined as 'the requirements of individuals to enable them to achieve, maintain or restore an acceptable level of social independence or quality of life. Health is defined as a "state of complete physical, mental and social wellbeing not merely absence of the disease or infirmity". This definition indicates that it is not only the physical needs of ill patients that need to be addressed but also their psychological, social, spiritual, and environmental needs **(Mansfield et al., 2011).**

The health needs for patient with COPD include: physical needs such as : adherence to medication, activities of daily living, smoking cessation, diet regimen, hygiene, exercises …etc. Psychological needs such as: reducing anxiety, fear from complications and information about emotional health lifestyle ….etc. Social needs such as: patient's social activities, work, driving and social support. Spiritual needs such as: sight for the future, motivation ….etc. Educational needs such as: information about COPD and self-management **(Sidhu et al., 2015 & Nettina, 2014).**

Self-management has been defined as the ability to deal with all that a chronic disease entails including symptoms, treatment, physical, social consequences and lifestyle changes. Successful long-term management of COPD requires active patients` involvement in self-management practices. Patients should be aware about the disease and take precautions about it to make their life better and safe from the disease. It is very essential to observe their awareness about COPD and its` prevention **(Nilay et al., 2015 & & Lewis et al., 2014)**.

Significance of the study:

COPD is a slowly progressive disease with a long asymptomatic phase during which lung function continues to decline. It is poorly reversible lung disease and one of the major causes of morbidity and mortality worldwide. In the United States, it is the fourth leading cause of death and by 2020 is projected to become the third leading cause of death worldwide. It was estimated that the prevalence of COPD in urban areas was (13.6%) and (9.7%) in rural areas and the majority of COPD-related deaths occurred in low– and middle-income countries **(Dewit et al., 2016 & Poureslami et al., 2016).** In an Egyptian study, the prevalence of COPD in the general population using the global initiative for COPD was 3.6 % **(Tageldine et al., 2014).**

Aim of the Study:

The study aims assess the health needs for patients with chronic obstructive pulmonary disease and suggest self-management guideline.

This aim will be achieved through the following*:*
o Assessment of the studied patients' health needs (physical, psychological, social, spiritual and educational) regarding COPD.
o Suggest self-management guideline based on studied patients' health needs assessment.

Research Questions:

1-What are the health needs (physical, psychological, social, spiritual and educational) of patients with chronic obstructive pulmonary disease (COPD)?

2-Is there a relation between patients' needs and the suggested self-management guideline?

Subjects and Methods:

The technical design: Includes settings, subject, size and tools for data collection used in the study.

Research design: Descriptive explorative was utilized for the conduction of this study

Setting: This study was conducted the Chest Departments and Out Patients` Clinics in El - Fayoum Unevirsty Hospital

Study Subjects
Sample type: A Purposive sample of adult patients with chronic obstructive pulmonary disease (COPD)

Inclusion criteria:
▪ Adult patients diagnosed with COPD with no other co-morbidities (e.g. renal failure, cancer, cerebrovascular stroke…etc.)

▪ Patients who were willing to participate in the study

Sample size: Purposive sample of 50 adult patients with COPD in previous mentioned settings.

Tools of data collection: Two tools were developed by researcher to collect data pertinent to this study, these tools are

1-Patients' characteristics form:

This form was designed by the researchers based on patients interview data collection and divided into 2 parts as the following:

A- Demographic data: it includes (age, gender, education level, marital status, occupation, residence).

B- Disease characteristics and patient habits: it covers (exposure of air pollution, smoking habits and main patient complain).

2-Patients health needs assessment sheet: this tool was modified by researcher to assess patient s health needs as regard to five domains (physical, psychological, social, spiritual and educational) needs as the following:

First domain (Physical needs): adopted from St. George's Respiratory Questionnaire for COPD patients **(Jones, Quirk and Baveystock, 2008)** to assess patient Physical needs and includes breathing problems (six questions) and the effect of daily living habits on breathing (21 questions).

Scoring system: the score of each item was as the following rarely (3), Sometimes (2) and always (1) the total score of Physical was 33 point. Score of less than 50% was always, the score from (50% -<75%) was Sometimes and the score equal or more than 75% was rarely.

Second domain (Psychological needs): adopted from Hospital Anxiety and Depression Scale (HADS) **(Spinhoven et al., 1997)** to assess psychological needs and it based on anxiety and depression scale and following scoring system: from 0-7 its normal, from 7-21 its borderline abnormal (borderline case) and above 21 abnormal (case).

Third domain (Social needs) and fourth domain (spiritual needs): adopted from St. George's Respiratory Questionnaire for COPD patients **(Jones, Quirk and Baveystock, 2008)** to assess social and spiritual needs and it include (10 items) for social needs and (7 items) for spiritual needs.

Scoring system: each item scored by answer yes =1 while answer no =zero. Score of less than 70% was no and the score equal or more than 70% was yes.

Fifth domain (Educational needs): adopted from Bristol COPD Knowledge Questionnaire **(White et al., 2006)** and was used to assess patient's educational needs of COPD disease and it includes 12 parts.

Scoring system: each item scored by answer I know =1 while answer I do not know =zero. Score of less than 70% was I do not know and the score equal or more than 70% was I know.

II- Patients' medical records:-

It was designed by researcher based on hospital patient file and it includs past and present medical and surgical history, onset of the disease, duration, signs, symptoms and medications.

Administrative design:

An official permission to carry out the study was submitted from the Dean of the Faculty of Nursing Ain Shams University, issued to the director of El Fayoum University Hospital to access sample elements and starting the data collection process. The purpose of the study and its procedure were included in the letter. Official permission to conduct the study was secured from pertinent authorities.

Operational Design:

This design included the preparatory phase description, validity, reliability, the pilot study and the fieldwork. The study was implemented through three phases:

Preparatory Phase:

Based on reviewing the literature the tools of data collection were prepared.

Validity of tool:

Tools submitted to a panel of seven

experts as five experts from faculty of nursing Ain Shams University (3 of them were professor and two were assistant professors) and two professor from faculty of medicine Al Fayoum University to ensure content validity as regard to comprehensiveness, accuracy, clarity and relevance of the tool. Based on the opinion of the jury a minimum modification was done and final form was developed.

Pilot Study:

After preparing the tools, A pilot study was conducted on 10 patients from the studied subjects representing almost (10%) of the main study. The aim of the pilot study was to test clarity and applicability feasibility and relevance of the designated tools and determining the time needed for filling the studied tools. The patients of the pilot study were excluded from the study sample. The pilot sample excluded from the study based on the modifications that done.

Field Work:

The actual field work of data collection has consumed 6 months; started from the beginning of January 2020 to the end of June 2020. Data were collected by the researcher 2 days per week at the morning and afternoon shift. The patient takes about 10-15 minutes to fill the interviewing questionnaire sheet, and the researcher takes about 5 minutes to review patients' medical records for assessment past and present medical and surgical history, onset of the disease, duration, signs, symptoms and medications. The suggested self - management guide content that consistent with the related literatures and based on patients` level of knowledge and practices were given to patients by the researcher after filling the interviewing questionnaire.

Ethical Considerations:

▪ Ethical approval was obtained from the research ethics committee of university president.
▪ Official permissions were obtained from the El Fayoum University..
▪ Ethical issues were considered in dealing with the obtained information.
▪ All patients have the right to withdraw from the study at any time, and their data were confidential.

▪ Tool of data collection didn't touch religious, culture or ethical issues among patients and patient's dignity was considered.

Statistical Design:

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20. Data were presented using descriptive statistics in the form of frequencies, percentages for qualitative variables, means and standard deviations for quantitative variables. Cronbach's Alpha coefficient was calculated to assess the reliability of the developed tool for its internal consistency. The differences were considered significant if the p-value was less than 0.05 at the appropriate degrees of freedom. Unpaired T-test was used to compare between two groups in quantitative data.

Results:

Table (1) describes that 60% of the studied patients with chronic obstructive pulmonary disease were aged between 45-60 years old, 72% of them were male and 78% were married. Regarding educational level 40% of them were university graduates and regarding working 56% were working. 56% of patients live in urban areas.

Table (2) shows the relationship between demographics characteristic and total physical needs as there is a significant difference between level of education marital status and total physical needs (0.005*) also there is a significant difference between Level of education and total physical needs (0.036*) and the significant difference between the residence and total physical needs (0.005*).

Table (3) shows the relationship between demographics characteristic and total psychological needs as there is a significant difference between residence and total psychological needs (0.046*).

Table (4) shows the relationship between demographic characteristic and total social needs as there is a significant difference between age and total social needs (0.003*), between marital status and total social needs (0.047*) and between level of education and total social needs (0.002*).

Table (5), shows the relationship between demographics characteristic and total spiritual needs as there is a significant difference between level of education and total spiritual needs (0.041*).

Table (6) shows the relationship between demographics characteristic and total educational needs as there is a significant difference between marital status and total educational needs (0.046) and there is a highly significant difference between residence and total educational needs (<0.001**).

Table (1): Demographic data of patients with chronic obstructive pulmonary disease under the study (n=50).

items	N	%
Age		
30 < 45	9	18
45 < 60	30	60
≥ 60	11	22
Gender		
Male	36	72
Female	14	28
Marital status		
Married	39	78
Single	11	22
Level of education		
Illiterate	16	32
Read and Write	5	10
Preparatory education	9	18
University and more	20	40
Occupation		
Working	28	56
not working	22	44
Residence		
Urban	28	56
Rural	22	44

Table (2): Relationship between demographics characteristic and total physical needs of the patients with chronic obstructive pulmonary disease under the study

Demographics characteristic	Total Physical needs among patients with COPD (N:50)							
	Always		Sometimes		Rarely		Chi-square	
	N	%	N	%	N	%	X^2	P-value
Age								
30 < 45	5	20.8	1	6.3	3	30.0	5.731	0.220
45 < 60	12	50.0	11	68.8	7	70.0		
≥ 60	7	29.2	4	25.0	0	0.0		
Gender								
Male	17	70.8	12	75.0	7	70.0	0.107	0.948
Female	7	29.2	4	25.0	3	30.0		
Marital status								
Married	14	58.3	15	93.8	10	100.0	10.543	0.005*
Single	10	41.7	1	6.3	0	0.0		
Level of education								
Illiterate	13	54.2	2	12.5	1	10.0	13.495	0.036*
Read and Write	2	8.3	2	12.5	0	0.0		
Preparatory education	4	16.7	4	25.0	2	20.0		
University and more	5	20.8	8	50.0	7	70.0		
Residence								
Urban	12	50.0	6	37.5	10	100.0	10.430	0.005*
Rural	12	50.0	10	62.5	0	0.0		

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value< 0.01: highly significant (HS) *:Chi-square test

Table (3): Relationship between demographics characteristic and total psychological needs of the patients with chronic obstructive pulmonary disease under the study

Demographics characteristic	Total Psychological needs among patients with COPD (N:50)								Chi-square	
	0		1		2		3			
	N	%	N	%	N	%	N	%	X²	P-value
Age										
30- 45	3	42.9	0	0.0	3	21.4	3	15.8	8.502	0.204
46-60	4	57.1	8	80.0	6	42.9	12	63.2		
+60	0	0.0	2	20.0	5	35.7	4	21.1		
Gender										
Male	4	57.1	9	90.0	8	57.1	15	78.9	4.361	0.225
Female	3	42.9	1	10.0	6	42.9	4	21.1		
Marital status										
Married	7	100.0	9	90.0	9	64.3	14	73.7	4.554	0.208
Single	0	0.0	1	10.0	5	35.7	5	26.3		
Level of education										
Illiterate	0	0.0	3	30.0	6	42.9	7	36.8	7.116	0.625
Read and Write	0	0.0	1	10.0	2	14.3	1	5.3		
Preparatory education	2	28.6	2	20.0	2	14.3	4	21.1		
University and more	5	71.4	4	40.0	4	28.6	7	36.8		
Residence										
Urban	7	100.0	6	60.0	5	35.7	10	52.6	7.991	0.046*
Rural	0	0.0	4	40.0	9	64.3	9	47.4		

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S); P-value< 0.01: highly significant (HS)

Table (4): Relationship between demographics characteristic and total social needs of the patients with chronic obstructive pulmonary disease under the study.

Demographics characteristic	Total social needs among patients with COPD (N:50)				Chi-square	
	Yes		No			
	N	%	N	%	X²	P-value
Age						
30 < 45	6	19.4	3	15.8	11.787	0.003*
45 < 60	23	74.2	7	36.8		
≥ 60	2	6.5	9	47.4		
Gender						
Male	24	77.4	12	63.2	1.188	0.276
Female	7	22.6	7	36.8		
Marital status						
Married	27	87.1	12	63.2	3.934	0.047*
Single	4	12.9	7	36.8		
Level of education						
Illiterate	5	16.1	11	57.9	14.612	0.002*
Read and Write	1	3.2	3	15.8		
Preparatory education	8	25.8	2	10.5		
University and more	17	54.8	3	15.8		
Residence						
Urban	18	58.1	10	52.6	0.141	0.707
Rural	13	41.9	9	47.4		

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S);
P-value< 0.01: highly significant (HS)

Table (5): Relationship between demographics characteristic and total spiritual needs of the patients with chronic obstructive pulmonary disease under the study.

Demographics characteristic	Total Spirituality needs among patients with COPD (N:50)					
	Yes		No		Chi-square	
	N	%	N	%	X^2	P-value
Age						
30 < 45	6	17.6	3	18.8	1.315	0.518
45 < 60	22	64.7	8	50.0		
≥ 60	6	17.6	5	31.3		
Gender						
Male	26	76.5	10	62.5	1.053	0.305
Female	8	23.5	6	37.5		
Marital status						
Married	27	79.4	12	75.0	0.123	0.725
Single	7	20.6	4	25.0		
Level of education						
Illiterate	7	20.6	9	56.3		
Read and Write	2	5.9	2	12.5		
Preparatory education	8	23.5	2	12.5	8.238	0.041*
University and more	17	50.0	3	18.8		
Residence						
Urban	21	61.8	7	43.8	1.433	0.231
Rural	13	38.2	9	56.3		

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S);
P-value< 0.01: highly significant (HS)

Table (6): **Relationship between demographic characteristic and total educational needs of the patients with chronic obstructive pulmonary disease under the study**.

Demographics characteristic	Total Educational needs among patients with COPD (N:50)					
	I know		I don't know		Chi-square	
	N	%	N	%	X^2	P-value
Age						
30 < 45	4	36.4	5	12.8	5.776	0.056
45 < 60	7	63.6	23	59.0		
≥ 60	0	0.0	11	28.2		
Gender						
Male	7	63.6	29	74.4	0.489	0.484
Female	4	36.4	10	25.6		
Marital status						
Married	11	100.0	28	71.8	3.978	0.046*
Single	0	0.0	11	28.2		
Level of education						
Illiterate	1	9.1	15	38.5		
Read and Write	0	0.0	4	10.3		
Preparatory education	2	18.2	8	20.5	7.241	0.065
University and more	8	72.7	12	30.8		
Residence						
Urban	11	100.0	17	43.6	11.081	<0.001**
Rural	0	0.0	22	56.4		

P-value >0.05: Non significant (NS); P-value <0.05: Significant (S);
P-value< 0.01: highly significant (HS)

Discussion:

Chronic obstructive pulmonary disease (COPD) causes almost as many deaths as lung cancer, yet evidence about the impact of COPD in the latter stages of illness is limited. Patients with advanced COPD receive inadequate healthcare and may need regular surveillance to maintain a suitable level of service and to ensure appropriate treatment. Chronic obstructive pulmonary disease (COPD) is a common chronic disease globally. Patients who

suffer from COPD have significant morbidity, and thus incur heavy utilization of healthcare resources *(Finks, Rumbak & Self, 2020).*

Chronic obstructive pulmonary disease (COPD) is a progressive life-threatening lung disease that causes breathlessness (initially with exertion) and predisposes to exacerbations and serious illness. The Global Burden of Disease Study reports a prevalence of 251 million cases of COPD globally in 2016. Globally, it is estimated that 3.17 million deaths were caused by the disease in 2015 (that is, 5% of all deaths globally in that year). More than 90% of COPD deaths occur in low and middle income countries *(Brandsma et al., 2020).*

COPD is a major health problem that causes distressing symptom burden, limits functional status and increases dependence on others, particularly in more severe stages (**Michalovic et al., 2020). So the current study aimed to** assess the health needs for patients with chronic obstructive pulmonary disease and suggest self-management guideline. This aim achieved through the following:
  o Assessment of the studied patients' health needs (physical, psychological, social, spiritual and educational) regarding COPD.
  o Suggest self-management guideline based on studied patients' health needs assessment.

Regarding sociodemographic characteristics of COPD patients, the present study revealed that more than half of the studied patients with chronic obstructive pulmonary disease were aged between 45-60 years old. This may be due to the old age doesn't have the immunity to fight the disease and by the time the case deteriorate unlike the youth so almost of hospital cases are old age.

These results consistent with the study performed by **Badway, Hamed & Yousef, (2016)** whose study entitled "Prevalence of chronic obstructive pulmonary disease (COPD) in Qena Governorate" who reported that near to three quarter aged between 40-60 years old.

These results inconsistent with the study conducted by **Sulku et al., (2019)** whose study entitled "A cross sectional study assessing appropriateness of inhaled corticosteroid treatment in primary and secondary care

patients with COPD in Sweden", who detected that the mean age ± SD was 69 ± 8 years.

Regarding to gender and social status, more than two thirds of them were male and more than three quarters were married. This may be due to males are the prominent gender who smoke in our society and not allowed for female to smoke as regard to society culture.

These results goes with the study conducted by **Suleymanova & Baranova, (2020)** whose study entitled "The relationship between vitamin D deficiency and the main characteristics of COPD patients", who found that more than three quarters of studied patients were male.

These results inconsistent with the study conducted by **Sulku et al., (2019)** whose study entitled "A cross sectional study assessing appropriateness of inhaled corticosteroid treatment in primary and secondary care patients with COPD in Sweden ", who detected that more than half of studied patients were women.

Regarding educational level more than one third of them had university graduates this may be due to more than half of patients live in urban areas and people live in urban care about education unlike rural area.

These results goes with the study performed by **Arjun et al., (2019)** whose study entitled " Assessing health-seeking behavior among Asthma and COPD patients in urban South India", who reported that around half of studied patient from urban areas and about one third had university and postgraduate education.

While, in consistent with the study conducted by **Suerdem et al., (2020)** whose study entitled "Demographic, Clinical and Management Characteristics of Newly Diagnosed COPD Patients in Turkey: A Real-Life Study", who showed that Education level of the study group was low, and approximately 80% of the patients had less than high school education.

Regarding working more than half of the studied subjects were working.

These results inconsistent with the study performed by **Badway, Hamed& Yousef,**

(2016) whose study entitled "Prevalence of chronic obstructive pulmonary disease (COPD) in Qena Governorate" who reported that 37.71 of patients were farmer.

Related to the relation between demographics characteristics of patients and total physical needs, the present study revealed that there was a significant relation between level of education, marital status and total physical needs at p value <0.05 and the significant relation between the residence and total physical needs at p value <0.05.

These results in disagreement with **Robinson, Williams, Curtis, Bridle & Jones, (2018)** whose study entitled "Facilitators and barriers to physical activity following pulmonary rehabilitation in COPD", who reported that age and BMI was barriers related physical activity for COPD patients.

Also, inconsistent with **Arbillaga-Etxarri et al., (2017)** whose study entitled "Socio-environmental correlates of physical activity in patients with chronic obstructive pulmonary disease", who showed that residence had no effect on physical needs of patients.

According to the relationship between demographics characteristic and total psychological needs of the patients, the current results detected that there was no significant relation between age, gender, educational level, income and marital status and psychological needs at p value >0.05. While, there was slight significant relation between residence and psychological needs at p value <0.05.

These results inconsistent with **Pierobon et al, (2017)** whose study entitled "COPD patients' self-reported adherence, psychosocial factors and mild cognitive impairment in pulmonary rehabilitation", who presented that Family support and BMI had relation with psychological status of COPD patients.

Meanwhile, consistent with **Kılınç, Yıldız & Kavak, (2019)** whose study entitled "The relationship between psychological resilience and life satisfaction in COPD patients", who stated that there was no relation between age, gender and psychological status of patients.

Regarding to the relationship between demographics characteristic and total social needs of the patients with chronic obstructive pulmonary disease, the current study revealed that there was a significant relation between age, marital status, income, educational level and total social needs at p value <0.05. But there was no significant relation between gender, residence and total social needs at p value >0.05.

These results supported by **Goodridge et al., (2019)** whose study entitled "Promoting chronic disease management in persons with complex social needs: a qualitative descriptive study", who demonstrated that personal factors, such as poverty, disability, personal attitudes and beliefs had negative effect on socialization of patient with chronic disease.

Also, regular with **Michalovic et al., (2020)** whose study entitled "Description of Participation in Daily and Social Activities for Individuals with COPD", who reported that income and employment had significant relation with social needs of patients.

Related to the relationship between demographics characteristic and total spiritual needs of the patients with chronic obstructive pulmonary disease, the current study showed that there was slight significant relation between level of education and spiritual needs at p value <0.05. While, there was no significant relation between age, gender, income, marital status and residence with their spiritual needs at p value >0.05.

These results supported by **Helvaci, Izgu & Ozdemir, (2020)** whose study entitled "Relationship between symptom burden, medication adherence and spiritual well‑being in patients with chronic obstructive pulmonary disease", who revealed that there was no relation between gender and spiritual wellbeing at p value >0.05.

Also, agreement with **Tong, Liu, Zhu, Zhang & Hu, (2019)** whose study entitled " the therapeutic effects of qigong in patients with chronic obstructive pulmonary disease in the stable stage", who detected that there was effect for educational level of patients and their knowledge on spiritual stability.

According to the relationship between demographic characteristic and total educational needs of the patients with chronic obstructive pulmonary disease, the present results reported that there was highly significant relation between residence and their educational needs at p value <0.01. Also, there was slight significant relation between marital status and income with their educational needs at p value <0.05. On other hand, there was no relation with age, gender and educational level at p value >0.05.

These results in cohort with **Baral, (2019)** whose study entitled "Knowledge and practice of dry powder inhalation among patients with chronic obstructive pulmonary disease in a regional hospital, Nepal", who reported that the correct knowledge and practice of inhalation as treatment for COPD was associated with younger age (p=0.008).

Also, inconsistent with **Lee et al., (2020)** whose study entitled "Predictors of Low-Level Disease-Specific Knowledge in Patients with Chronic Obstructive Pulmonary Disease", who revealed that there was correlation between educational level and patients knowledge about COPD.

Conclusion:

The result of this study supported the research questions:

In the light of the study findings, it is concluded that, about half of the studied patients had a high need of physical needs while around one third of them had moderate physical needs. More than one third of studied patients had a highly needs of psychological needs, while more than one quarter of them had a moderate needs as regarding psychological needs. Related social needs, slight less than two thirds of studied patients had social needs. According total Spirituality needs, more than two thirds of the studied patients had spiritual needs. Related educational needs, around three quarters of the studied patients had educational needs while about one quarter of them didn't have.

Recommendations:

Based on the results of the present study, the following recommendations are suggested:

▪ To increase patients awareness about COPD concept, symptoms of disease and exercise.

▪ To increase patients knowledge regarding diet and inhaled bronchodilators.

▪ An educational program should be prepared for such group of patients

▪ Patients are in a need to a simplified illustrated and comprehensive Arabic booklet.

Suggested researches:

▪ Assessment self-management of patients with chronic obstructive pulmonary disease.

▪ Effect of care protocol on the knowledge, practice and clinical outcomes of patients with chronic obstructive pulmonary disease.

▪ Assessment quality of life for patients with chronic obstructive pulmonary disease.

References:

Calvo, A., Canosa, A., Bertuzzo, D., Cugnasco, P., Solero, L., Clerico, M. & Manera, U. (2016): Influence of cigarette smoking on ALS outcome: A population-based study. J Neurol Neurosurg Psychiatry, jnnp, 20 (16). 24- 30.

Campos, L., Tan, W. & Soriano, J. (2016). Global burden of COPD. Respirology, 21(1): 14-23.

Dewit, S., Stromberg, H. & Dallred, C. (2016). Medical-surgical nursing: concepts and practice. Elsevier Health Sciences: 694-7.

Lewis, L., Dirksen, R., Kemper, M. & Bucher, L. (2014). Medical-surgical nursing: Assessment and management of clinical problems (9th ed.) Missouri: Mosby, 1037-38.

Miravitlles, M. & Ribera, A. (2017). Understanding the impact of symptoms on the burden of COPD. Respiratory research, 18(1): 67.

Nettina, S. (2014): Lippincott Manual of Nursing Practice, (10th ed.), Philadelphia: Wolters Kluwer health, 729-33.

Nilay, N., Khushali, P. & Jainam, S. (2015): A Study On Awareness Of Chronic Obstructive Pulmonary Disease Among Smokers. National Journal Of Community Medicine, 6 (4):548-53.

Poureslami, I., Kwan, S., Lam, S., Khan, N. & FitzGerald, M. (2016): Assessing the effect of culturally specific audiovisual educational interventions on attaining self-management skills for COPD in Mandarin- and Cantonese-speaking patients : A randomized controlled trial. International Journal of COPD, 11 :1811- 22.

Sidhu, M., Daley, A., Jordan, R., Coventry, P., Heneghan, C. & Jowet, S. (2015) : Patient self - management in primary care with mild COPD – protocol of a randomized controlled trial of telephone health coaching, Pulmonary Medicine, 15 (16) : 2.

Tageldine, M., Khan, A. & Nafti, S. (2014): The burden of chronic obstructive pulmonary disease in the Middle East and North Africa: Results of the BREATHE study. Respiratory Medicine, 106(23) : 45-59.

Wigal, **J**., **Creer**, **T**., & **Kotses**, **H**. (**1991**). The COPD Self-Efficacy Scale. Chest,99(5), 1193–1196

Williams, V. & Ryan,S. (2017). I just know : Exploring self knowledge in chronic obstructive pulmonary disease. Palgrave Communications. 3(17) : 89.

Finks, S. W., Rumbak, M. J., & Self, T. H. (2020). Treating hypertension in chronic obstructive pulmonary disease. *New England Journal of Medicine*, *382*(4), 353-363.

Brandsma, C. A., Van den Berge, M., Hackett, T. L., Brusselle, G., & Timens, W. (2020). Recent advances in chronic obstructive pulmonary disease pathogenesis: from disease mechanisms to precision medicine. *The Journal of pathology*, *250*(5), 624-635.

Michalovic, E., Jensen, D., Dandurand, R. J., Saad, N., Ezer, N., Moullec, G. & Sweet, S. N. (2020). Description of Participation in Daily and Social Activities for Individuals with COPD. COPD: Journal of Chronic Obstructive Pulmonary Disease, 1-14.

Sulku, J., Janson, C., Melhus, H., Malinovschi, A., Ställberg, B., Bröms, K.,... & Nielsen, E. I. (2019). A cross-sectional study assessing appropriateness of inhaled corticosteroid treatment in primary and secondary care patients with COPD in Sweden. International Journal of Chronic Obstructive Pulmonary Disease, 14, 2451.

Arjun, P., Nair, S., Jilisha, G., Anand, J., Babu, V., Moosan, H., & Kumari, A. K. (2019). Assessing health-seeking behavior among Asthma and COPD patients in urban South India. Journal of family medicine and primary care, 8(8), 2714.

Pierobon, A., Bottelli, E. S., Ranzini, L., Bruschi, C., Maestri, R., Bertolotti, G., & Giardini, A. (2017). COPD patients' self-reported adherence, psychosocial factors and mild cognitive impairment in pulmonary rehabilitation. International Journal of Chronic Obstructive Pulmonary Disease, 12, 2059.

Kılınç, G., Yıldız, E., & Kavak, F. (2019). The relationship between psychological resilience and life satisfaction in COPD patients. *Journal of Psychiatric Nursing/Psikiyatri Hemsireleri Dernegi*, *10*(2).

Robinson, H., Williams, V., Curtis, F., Bridle, C., & Jones, A. W. (2018). Facilitators and barriers to physical activity following pulmonary rehabilitation in COPD: a systematic review of qualitative studies. *NPJ primary care respiratory medicine*, *28*(1), 1-12.

Arbillaga-Etxarri, A., Gimeno-Santos, E., Barberan-Garcia, A., Benet, M., Borrell, E., Dadvand, P& Vall-Casas, P. (2017). Socio-environmental correlates of physical activity in patients with chronic obstructive pulmonary disease (COPD). *Thorax*, *72*(9), 796-802.

Goodridge, D., Bandara, T., Marciniuk, D., Hutchinson, S., Crossman, L., Kachur, B.,... & Bennett, A. (2019). Promoting chronic disease management in persons with complex social needs: a qualitative descriptive study. *Chronic Respiratory Disease*, *16*, 1479973119832025.

Michalovic, E., Jensen, D., Dandurand, R. J., Saad, N., Ezer, N., Moullec, G. & Sweet, S. N. (2020). Description of Participation in Daily and Social Activities for Individuals with COPD. *COPD: Journal of Chronic Obstructive Pulmonary Disease*, 1-14.

Helvaci, A., Izgu, N., & Ozdemir, L. (2020). Relationship between symptom burden, medication adherence and spiritual well-being in patients with chronic obstructive pulmonary disease. Journal of Clinical Nursing.

Tong, H., Liu, Y., Zhu, Y., Zhang, B., & Hu, J. (2019). The therapeutic effects of qigong in patients with chronic obstructive pulmonary disease in the stable stage: a meta-analysis. BMC complementary and alternative medicine, 19(1), 1-10.

Baral, M. A. (2019). Knowledge and practice of dry powder inhalation among patients with chronic obstructive pulmonary disease in a regional hospital, Nepal. *International Journal of General Medicine*, *12*, 31.

Lee, S. H., Lee, H., Kim, Y. S., Park, H. K., Lee, M. K., & Kim, K. U. (2020). Predictors of Low-Level Disease-Specific Knowledge in Patients with Chronic Obstructive Pulmonary Disease. International Journal of Chronic Obstructive Pulmonary Disease, 15, 1103-1110.