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Original Article

Assessment of the Level of Illness Perception Regarding General Health and Disease Severity Among Patients with Chronic Obstructive Pulmonary Disease

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ABSTRACT

Chronic Obstructive Pulmonary Disease (COPD) is one of the critical health challenges among respiratory disorders worldwide. **Objectives:** To assess the level of illness perception about overall health and disease severity among patients with chronic obstructive pulmonary disease. **Methods:** This study was a descriptive and cross-sectional study. Data was collected through purposive sampling technique from 137 patients visiting the pulmonary department of public hospitals of Lahore, Pakistan. The data analysis was done through SPSS version 23. **Results:** The perception score was assessed through modified translated illness perception questionnaire (IPQ). The descriptive analysis was performed. Reliability and validity of the instruments was also ensured through meeting criteria of Cronbach Alpha, Bartlett's test of Sphericity and Kaiser-Meyer-Olkin (KMO) values. The results of this study showed that overall perception of the patients regarding COPD disease was quite low as 72 (52.6%) of the total participants scored low in perception and 65 (47.4%) participants had good perception. **Conclusions:** The current study concluded that the perception related to health and disease is playing an important role in management of chronic illness. The study results showed the overall perception of the patient is poor which might be the reason of their anxiety and depression that ultimately leads to flare up attack more frequently, and they need to visit more often. So, there is a need to enhance patient's understanding about their illness by giving them knowledge along with treatment that will change their perception regarding the course of illness and their perception regarding their health. It will also help patients in dealing with their symptoms at home.

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) affects over a million of population, and ultimately thousands of people die every year with this disease [1]. This leads to billions of heath care cost annually [2]. Moreover, it compromises the quality of life of the patients, dealing with it. Unfortunately, the reason behind this ultimate issue is tobacco. The socioeconomic condition of the patient makes COPD more burdensome [3]. The emergency visits, rate of readmission is relatively getting higher due to acute exacerbation universally. Studies have reported that the less level of physical activity is observed in patients with COPD than other chronic diseases. Physical inactivity is also one of the reasons for recurrent exacerbation of COPD and can diminish the lung functions [4]. Although many strategies have been implemented like discharge bundles, hospital at home programs, telephonic consultation, and telemedicine but no strategy has emerged. Similarly, in 2017 National Action Plan was introduced regarding COPD. The purpose of that action plan was to make COPD as a public health priority with multi-stakeholder collaboration, like caregiver, researcher, physician, researcher and policymaker to take collaborative action for enhancement of the awareness for the diagnosis and treatment of the chronic obstructive pulmonary disease [5]. Statistics showed the COPD as 3rd leading cause of death and third cause of disability worldwide. Similarly, in United States it is forth-ultimate cause of death after cardiovascular disease. In Pakistan, the percentage is as high as 2.8% then other

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developing countries. The morbidity and mortality are both attributable to COPD that probably even greater globally and nationally than reported because many goes undiagnosed and untreated. According to recent statistics COPD has become effect the lives of million patients, not only the sufferers are dealing with this deadly increase but it has added more burden for obtaining care on health care system [6]. Many barriers are preventing COPD for obtaining proper care; one such barrier is patient's own perception regarding their health and severity of the disease [7]. Health care system has introduced many new interventions to limit this drastic impact due to deadly increase in COPD like home intervention and many more telemedicine's and intervention along with tele consultation. However, the patient way of perceiving their illness and general health is making this effort worthless. There is also a difference in patients' own assessment of disease severity and the intensity of breathlessness, activity limitation and airway obstruction [8]. COPD produces a very pertinent effect on the common well-being and quality of life of the sufferers who encountered from it. Other than the known indications of the illness, other aspects show significant daily challenges for patients with COPD, indeed in spite of the fact that they may go unnoticed by the doctor [9]. Perception related to general health and severity of the illness is directly linked with the understanding of the disease and its prognosis and it is associated with the information which the patient has been provided with the treatment during the course of illness [10]. While the patient's good perception is essential for the successful management of the disease. The concept of perception can be explained beyond more information and knowledge regarding the diagnosis and the prognosis of the disease [11]. Behavioral research approaches guiding education and focusing on the central role of illness perception: (patient's ideas, views and beliefs). Patient's perception towards their disease and symptoms is formed on the basis of information and by observed encounter with illness and awareness from medical sources such as physician's health care workers and books and also with internet resources [12]. The prevalence and incidence of COPD remained stationary over the years, but still very high [13]. If the current situation remains the same it will continue to increase the rate of COPD in the country. So, the comprehensive social and behavioral approaches needed to limit the risk factors along with other treatment and identification measures which is most important for the management of COPD [14]. Many Studies have emphasized on the concept of illness perception in the management of COPD and suggest research and clinical opportunities for assessing the level of patient's illness perception to improve medical outcomes in COPD patients [15]. So, the aim of the current study is to assess the level of illness perception regarding the severity of the disease among COPD patients.

METHODS

A cross-sectional study was conducted at Sheikh Zayed Hospital of Lahore, Pakistan. The study population was patients visiting to pulmonology Outpatient Department of Sheikh Zayed Hospital, Lahore, Pakistan. Patients were targeted through purposive sampling technique. The study sample size was calculated using Slovin's formula. The questionnaire was validated from five experts. The content validity index was 23/25=0.92 and the Cronbach's Alpha of the questionnaire was 0.831. A translated and modified illness perception questionnaire was used to gather the information from the sample about illness perception consisting of 25 ranging from strongly disagree to strongly agree. The researcher with the consent of patients who cannot read and write filled the questionnaire. Data was analyzed by using SPSS version 21.0.

RESULTS

The participants with age group 30-40 years were 7 (5.1%), 41-50 years were 59(43.1%) and 51-above years were 71(51.8%). Males were 98 (71.5%) and females were 39 (28.5%). There were 70 (51.1%) unmarried and 67 (48.9%) married participants. Participants having primary education, middle education, matriculation, intermediate, bachelors and others were 13 (9.5%), 24 (17.5%), 62 (45.3%), 20 (14.6%), 12 (8.8%) and 6 (4.4%) respectively (Table 1).

Variables	Frequency (%)
Age	
31-40	7 (5.1%)
41-50	59 (43.1%)
51-Above	71 (51.8%)
Gender	
Male	98 (71.5%)
Female	39 (28.5%)
Marital Status	
Married	67 (48.9%)
Single	70 (51.1%)
Education Status	
Primary	13 (9.5%)
Middle	24 (17.5%)
Matric	62 (45.3%)
Intermediate	20 (14.6%)
Bachelors	12 (8.8%)
Others	6 (4.4%)
Percentile	
Poor	72 (52.6%)
Good	65 (47.4%)
Total	137 (100.0%)

Table 1: Demographic Analysis

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According to Table 2, participants who expected to have this sickness for the rest of their lives included individuals who strongly disagreed were 15(10.9%), disagreed 5(3.6%), neither agreed nor disagreed 7 (5.1%), agreed 60 (63.5%), and strongly agreed 50 (36.5%). Similarly, when asked if their sickness had a substantial impact on their lives, 4(2.9%) strongly disagreed, 6(4.4%) disagreed, 23(16.8%) neither agreed nor disagreed, 61(44.5%) agreed, and 43(31.4%) strongly agreed. Participants who strongly disagreed that their illness was serious were 15 (10.9%), disagreed were 21 (15.3%), neither agreed nor disagreed were 30 (21.9%), agreed were 45 (32.8), and strongly agreed were 26 (19.0%). Participants who answered that their sickness was simple to live included individuals who disagreed 34(24.8%), disagreed 27(19.7%), neither agreed nor disagreed 30(21.9%), agreed 28(20.4%), and highly agreed 18(13.1%). Respondents who severely disagreed were 14(10.2%), disagreed were 18(13.1%), neither agreed nor disagreed were 54(39.4%), agreed were 31(22.6%), and highly agreed were 20(14.6%) in response to the question of having power to influence their illness. Participants who strongly disagreed believing their illness has a significant impact on how others perceive them were 19(13.9%), disagreed were 39(28.5%), neither agreed nor disagreed were 15(10.9%), agreed were 39(28.5%), and highly agreed were 25(18.2%). Participants who strongly disagreed with the statement that their illness causes difficulties for others close to them were 10(7.3%), disagreed were 23(16.8%), neither agreed nor disagreed were 40(29.2%), agreed were 34(24.8%), and strongly agreed were 30(21.9%). Participants who highly disagreed with the statement that nothing they do will affect their sickness were 13(9.5%), those who disagreed were 27(19.7%), those who did neither agree nor disagree were 32(23.4%), those who agreed were 41(29.9%), and those who strongly agreed were 24(17.5%). Participants who highly disagreed with the statement "there is a lot I can do to control my symptoms" were 6(4.4%), those who disagreed were 9(6.6%), those who neither agreed nor disagreed were 18(13.1%), agreed were 55(40.1%), and strongly agreed were 49(35.8%).

I expect to have this illness for the rest of my life				
Variables		**N (%)**	**Valid Percent**	**Cumulative Percent**
Valid	Strongly Disagree	15(10.9)	10.9	10.9
	Disagree	5(3.6)	3.6	14.6
	Neither Agree nor Disagree	7(5.1)	5.1	19.7
	Agree	60(43.8)	43.8	63.5
	Strongly Agree	50(36.5)	36.5	100.0
	Total	137(100)	100.0	
My illness has major consequences on my life				
Valid	Strongly Disagree	4(2.9)	2.9	2.9
	Disagree	6(4.4)	4.4	7.3
	Neither Agree nor Disagree	23(16.8)	16.8	24.1
	Agree	61(44.5)	44.5	68.6
	Strongly Agree	43(31.4)	31.4	100.0
	Total	137(100.0)	100.0	
My illness is easy to live with				
Valid	Strongly Disagree	34(24.8)	24.8	24.8
	Disagree	27(19.7)	19.7	44.5
	Neither Agree nor Disagree	30(19.7)	19.7	66.4
	Agree	28(20.4)	20.4	86.9
	Strongly Agree	18(13.1)	13.1	100.0
	Total	137(100.0)	100.0	
I have the power to influence my illness				
Valid	Strongly Disagree	14(10.2)	10.2	10.2
	Disagree	18(13.1)	13.1	23.4
	Neither Agree nor Disagree	54(39.4)	39.4	62.8
	Agree	31(22.6)	22.6	85.4
	Strongly Agree	20(14.6)	14.6	100.0
	Total	137(100.0)	100.0	
My illness strongly affects the way others to see me				
Valid	Strongly Disagree	19(13.9)	13.9	13.9
	Disagree	39(28.5)	28.5	42.3
	Neither Agree nor Disagree	15(10.9)	10.9	53.3
	Agree	39(28.5)	28.5	81.8
	Strongly Agree	25(18.2)	18.2	100.0
	Total	137(100.0)	100.0	
My illness causes difficulties for those who are close to me				
Valid	Strongly Disagree	10(7.3)	7.3	7.3
	Disagree	23(16.8)	16.8	24.1
	Neither Agree nor Disagree	40(29.2)	29.2	53.3
	Agree	34(24.8)	24.8	78.1
	Strongly Agree	30(21.9)	21.9	100.0
	Total	137(100.0)	100.0	
Nothing I do will affect my illness				
Valid	Strongly Disagree	13	9.5	9.5
	Disagree	27	19.7	29.2
	Neither Agree nor Disagree	32	23.4	52.6
	Agree	41	29.9	82.5
	Strongly Agree	24	17.5	100.0
	Total	137	100.0	
There is a lot which I can do to control my symptoms				
Valid	Strongly Disagree	6	4.4	4.4
	Disagree	9	6.6	10.9
	Neither Agree nor Disagree	18	13.1	24.1
	Agree	55	40.1	64.2
	Strongly Agree	49	35.8	100.0
	Total	137	100.0	

Table 2: Response of participants with COPD on questions regarding general health and disease severity

DISCUSSION

The perception score was assessed through modified translated illness perception questionnaire (IPQ). The descriptive analysis was performed. Cronbach Alpha, Bartlett's and KMO values has been checked to insure the reliability and validity of questionnaire in our context. Baiardini *et al.*, findings were consistent with our study [16].

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Similarly, people expecting to have this illness for the rest of their life, majority agreed were approximately 60 (63.5%) and strongly agreed were 50 (36.5%). Panjwani et al., study showed poor disease and health perception and thinking to have this illness for rest of their life [17]. Moreover, response to the question that their illness has major consequences on their life, majority participants agreed 61(44.5%), and strongly agreed were 43(31.4%). Total participants who responded to the question that their illness was easy to live with: strongly disagreed were 34 (24.8%), disagreed were 27 (19.7%), neither agreed nor disagreed were 30 (21.9%), agreed were 28 (20.4%) and strongly agreed were 18 (13.1%). On the other hand, responses to the question that their illness strongly affects the way other to see them: strongly disagreed were 19 (13.9%), disagreed were 39 (28,5%), neither agreed nor disagreed were 15 (10.9%), agreed were 39 (28.5%) and strongly agreed were 25(18.2%). The responses against the question that their illness causes difficulties for those who are close to them: strongly disagreed were 10 (7.3%), disagreed were 23 (16.8%), neither agreed nor disagreed were 40 (29.2%), agreed were 34 (24.8%) and strongly agreed were 30 (21.9%), these findings are consistent with the previous study findings [18]. Similarly, the responses to the next question that there is a lot which they can do to control their symptoms: strongly disagreed were 6 (4.4%), disagreed were 9 (6.6%), neither agreed nor disagreed were 18 (13.1%), agreed were 55 (40.1%), and strongly agreed were 49 (35.8%). Majority showed good perception. Regarding the question that nothing they do will affect their illness: strongly disagreed were 13 (9.5%), disagreed were 27 (19.7%), neither agreed nor disagreed were 32 (23.4%), agreed were 41 (29.9%), and strongly agreed were 24 (17.5%). Pavon Blanco et al., study findings were consistent with this study [19]. Participants who responded to the question that they have the power to influence their illness: strongly disagreed were 14 (10.2%) disagreed were 18 (13.1%), neither agreed nor disagreed were 54 (39.4%), agreed were 31 (22.6%) and strongly agreed were 20 (14.6%). The overall results showed the majority participants had illness perception score below average, with poor perception score were 72 (52.6%) and good perception score were 65 (47.4%). The study results were consistent with another study conducted by Ovcharenko and colleagues [20].

CONCLUSIONS

The current study concluded that the perception related to health and disease is playing an important role in management of chronic illness. The study results showed the overall perception of the patient is poor which might be the reason of their anxiety and depression that ultimately leads to flare up attack more frequently, and they need to visit more often. So, there is a need to enhance patient's understanding about their illness by giving them knowledge along with treatment that will change their perception regarding the course of illness and their perception regarding their health. It will also help patients in dealing with their symptoms at home.

Conflicts of Interest

The authors declare no conflict of interest.

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