

# A study to assess the quality of life among COPD patients at PBM hospital, Bikaner

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## ABSTRACT

**BACKGROUND:** WHO estimates show that COPD associated deaths occur mostly in developing countries. China and India contribute 33% to the entire COPD population and these two countries account for 66% of death worldwide. Chronic obstructive pulmonary disease, asthma and other respiratory illnesses are the leading causes of mortality in Indians, aged 25-69 years. Cigarette smoking in men and women worldwide has increased the incidence of COPD. **AIM:** This study is aimed to study to assess the quality of life among COPD patients at PBM hospital, Bikaner. **METHODS:** A quantitative approach and descriptive cross sectional research design was used to assess the quality of life among COPD patients at P.B.M. hospital, Bikaner, district Rajasthan. The target accessible population comprises of COPD patients and sample COPD patients those meeting the inclusion criteria were selected by the researcher for the study. A sample of 100 COPD patients selected by Purposive sampling method. Data were collected by using socio demographic sheet and St. George's respiratory questionnaire. **RESULTS:** The findings explored that majority of the patients (83%) were Low level Quality followed by 17% patients were Medium. No patient was High level with his/her quality of life. **CONCLUSION:** Thus, findings conclude the quality of life among COPD patients is majorly low.

**Key word:** COPD Patient, Quality of life

## INTRODUCTION

We start our life with cry that shows that we have taken the first breath in the world. Every cell, in our body needs oxygen in order to live. The air we breathe contains oxygen and other gases. The act of breathing achieves the gas exchange, which is the primary role of respiratory system. Alterations, in the lung function may occur due to several non-modifiable factors such as age, heredity and modifiable factors such as unhealthy diet, physical inactivity, tobacco use, indoor air pollution, outdoor air pollution, allergens and occupational agents. Impairment in lung functions may lead to chronic respiratory diseases and these diseases disturb the quality of life of the person. The four leading chronic diseases in India, as measured by their prevalence, are in descending order includes cardiovascular diseases (CVDs), Diabetes mellitus, Chronic Obstructive Pulmonary Disease (COPD) and cancer. All the four of these diseases are projected to increase globally in their prevalence in the near future. (Taylor, 2010). World is presently facing the global problem of environmental pollution, due to urbanization, industrialization, and increased use of vehicles, which pollutes the environment. Environmental pollution adds on to the risk of development of Chronic obstructive pulmonary disease (COPD), commonly existing disease of the lungs in which the airways become narrowed. At a global level, 7 of the 10 leading causes of deaths in 2019 were non-communicable diseases. These seven causes accounted for 44% of all deaths or 80% of the top 10. However, all non-communicable diseases together accounted for 74% of deaths globally in 2019.

WHO estimates show that COPD associated deaths occur mostly in developing countries. China and India contribute 33% to the entire COPD population and these two countries account for 66% of death worldwide. Chronic obstructive pulmonary disease, asthma and other respiratory illnesses are the leading causes of mortality in Indians, aged 25-69 years. Burden of obstructive lung disease (BOLD) conducted a research in Srinagar, Pune, and Mumbai and reported that the prevalence of COPD was 16.05%, 6.25% and 6.8%, respectively. Cigarette smoking in men and women worldwide has increased the incidence of COPD (Rajkumar, et al., 2017).

## MATERIALS AND METHOD

**A quantitative approach** and descriptive cross sectional research design was used to assess the quality of life among COPD patients at P.B.M. hospital, Bikaner, district Rajasthan. The target accessible population comprises of COPD patients and sample COPD patients those meeting the inclusion criteria were selected by the researcher for the study. A sample of 100 COPD patients selected by Purposive sampling method. Tools were used to measure variable under study divide in 2 section, Section 1 Socio-demographic variable sheet, Section 2 St. George's respiratory questionnaire. Study approval was taken from ethical committee of the GCON SPMC &AGH, Bikaner and permission was obtained from department of pulmonary medicine, S.P. Medical College, Bikaner of PBM Hospital, Bikaner to protect the rights of the subjects. Data obtained are analyzed on the basis of the objectives of the study using descriptive and inferential statistics.

## RESULTS AND DISCUSSION

**Table -1. Frequency and percentages of distribution of socio - demographic variables of samples.**

**N=100**

S. No.	Demographical Variables	Frequency and percentage	
		N	(%)
<b>1</b>	<b>Age of samples (In years)</b>		
	30-40	22	22
	41-50	19	19
	51-60	33	33
	Above 60	26	26
<b>2</b>	<b>Gender</b>		
	Male	65	65
	Female	35	35
<b>3</b>	<b>Religion</b>		
	Hindu	78	78
	Muslim	19	19
	Christian	3	3
	Others	0	0
<b>4</b>	<b>Habitat</b>		
	Urban	44	44

	Semi-urban	23	23
	Rural	33	33
<b>5</b>	<b>Educational qualification</b>		
	No primary education	23	23
	Primary education	34	34
	Senior Sec education	24	24
	Graduate and above	19	19
<b>6</b>	<b>Occupation</b>		
	Unskilled worker	25	25
	Skilled worker	28	28
	Business	17	17
	Others	30	30
<b>7</b>	<b>Family monthly income</b>		
	Less than 10,000	11	11
	10,000-20,000	17	17
	20,001-30,000	37	37
	More than 30,000	35	35
<b>8</b>	<b>Smoking status</b>		
	Non-smoker	35	35
	Active smoker	40	40
	Passive smoker	25	25
<b>9</b>	<b>Years of suffering from COPD</b>		
	< 3 years	27	27
	4 to 6 years	32	32
	7 to 9 years	25	25
	More than 9 years	16	16
<b>10</b>	<b>Family history of respiratory disease</b>		
	Yes	35	35
	No	65	65

The above table highlighted description of sample characteristics of patients with COPD. As regarding to age 33% samples belong to 51-60 years age group, 26% samples belong to above 60 years. 22% patients were from 30-40 year while 19% patients were in 41-50 years age group. As regarding to gender of samples, 65% were male and 35% were female. In terms of religion, majority of patients (78%) were Hindu followed by 19% were Muslim. Only 3% were Christian and no patient was belongs to other religion. Habitat of the patients explored that majority of patients (44%) were living in urban area followed by 33 patients were living in rural area. 23%

patients were living in semi-urban area. As regards to education of samples, 34 % were having primary education, 19 % were bachelor degree and above. 24 % were Sr. secondary and 23% were no primary education. Occupational status highlighted that 25% patients were unskilled worker while 28% patients were skilled worker. 30% patients were doing other occupation but 17% patients were having business. According to family monthly income, majority of patients (37%) were having 20,001-30,000 Rs. per month followed 35% patients were having more than 30,000 Rs. per month income. 17% patients have 10,000-20,000 Rs. per month but 11% patients have less than 10,000 Rs. per month. As per smoking status, majority of patients (37%) were active smoker followed by 35% patients were non-smoker. One-fourth patients were passive smoker. The majority of patients (32%) were suffering from COPD from 4-6 years followed by 27% were suffering from COPD from less than 3 years. One-fourth patients were suffering from COPD from 7-9 years. Only 16% patients were suffering from COPD from more than 9 years.

Family history of respiratory disease explored that nearly two-third patients (65%) were having no family history but 35% patients have family history of respiratory disease.

### **Finding related to Quality of life among COPD patients**

Out of 100 patient majority of patients (43%) were having cough form several days and 37% were having cough most days. 19% COPD patients have cough With chest infections. (37%) were bring sputum form several days and 37% were bring sputum most days. 24% COPD patients have sputum with chest infections and 2% COPD patients have “not at all” sputum. (46%) patients were having shortness of breath most days and 37% were having shortness of breath several days. 12% COPD patients having shortness of breath “not at all” sputum. Majority of patients (37%) were having attacks of wheezing form several days and 25% were having attacks of wheezing a few days. 23% COPD patients having attacks of wheezing most days and 12% were having attacks of wheezing with chest infections and 3% COPD patients have “not at all” wheezing. (45%) patients were having attacks of chest trouble 1 or 2 and 30% were having none attack of chest trouble. 25% COPD patients having 3 or more attacks of chest trouble. When asked to patient “How often do you have good days (with little chest trouble)”. They respond (39%) patients were having a few good days (with little chest trouble) and 30% were having most are good days (with little chest trouble) days. 29% COPD patients having none good days (with little chest trouble) and 2% COPD patients have good every days (with little chest trouble). Majority of patients (81%) were having a wheeze, it worse in the morning and 19% a wheeze, not worse in the morning. (50%) patients have stated that their chest condition causes them a few problems and 30% described that their chest condition is the most important problem. 14% COPD patients stated that chest condition causes no problem. (31%) patients were washed or dressed usually make feel breathless and 26% were walking around the home usually make feel breathless. 23% COPD patients walking outside on the level usually make feel breathless and 19% were walking up a flight of stairs usually make feel breathless and 1% COPD patient has walking up hills usually make feel breathless. Majority of patients (36%) stated that cough hurts and 19% were tired because of cough. 16% COPD patients get breathless when talk and 14% were get breathless when bend over and 8% COPD patient were get exhausted easily while 7% COPD patient were disturbed sleep because of cough. (25%) patients stated that my cough or breathing is embarrassing in public and 20% stated that their chest trouble is a nuisance to family, friends or neighbours. 18% COPD patients get afraid or panic when they cannot get breath and 15% were feel that no control of chest problem and 11% COPD patient stated that

everything seems too much of an effort while 6% COPD patient have become frail or an invalid because of my chest. Majority of patients (41%) stated that breathing makes it difficult to do things such as carry heavy loads, dig the garden or shovel snow, jog or walk at 5 miles per hour, play tennis or swim and 19% stated that their breathing makes it difficult to do things such as walk up hills, carry things up stairs, light gardening such as weeding, dance, play bowls or play golf. 11% COPD patients get hurry or walk fast, than have to stop or slow down and 8% were walk more slowly than other people, or stop for rests. 7% COPD patients take long time on jobs such as housework or have to stop for rests. (33%) patients were able not go out of the house to do the shopping and 30% weren't able play sports or games. 21% COPD patients cannot go out for entertainment or recreation. 09% were cannot do housework and 7% COPD patient cannot move far from my bed or chair. Maximum patients (42%) stopped doing most of the things and 29% stopped doing one or two things. 24% COPD patients have stated that they stopped doing everything and 5% COPD patients does not stopped doing anything.

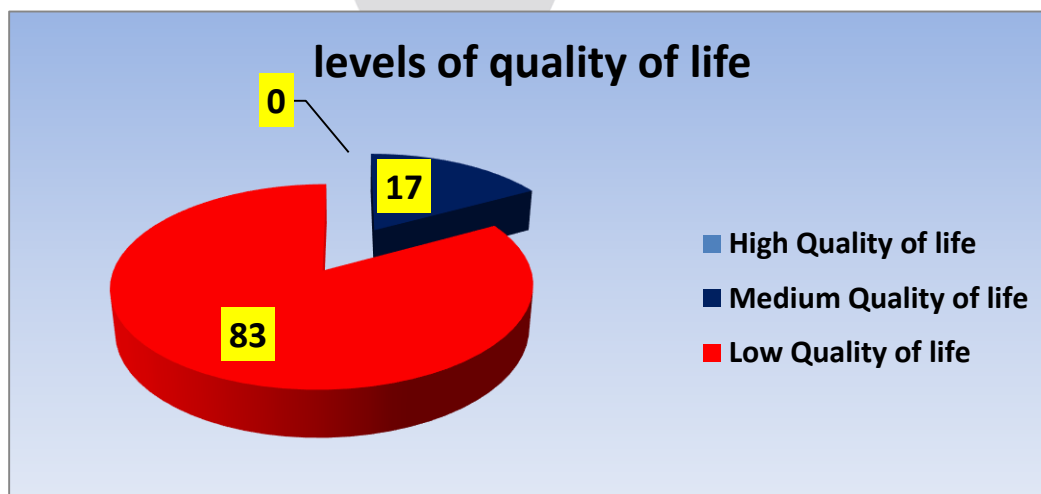
### Levels of quality of life among COPD patients

**Table -2. Distribution of levels of quality of life among COPD patients as per SGRQ scores.**

**N=100**

S. No.	levels of quality of life	SGRQ scores range	Frequency	Percentage
1.	High Quality of life	0-30	00	00
2.	Medium Quality of life	30.1 – 60.0	17	17
3.	Low Quality of life	60.1- 100	83	83

The above table highlighted levels of quality of life among COPD patients as per SGRQ scores. The obtained scores were further categorized in 3 sections as High, Medium and Low Quality of life. SGRQ scores form 0-30 considered as High Quality of life, 30.1-60.0 as Medium Quality of life and score 60.1- 100 considered as Low Quality of life. The findings explored that majority of the patients (83%) were Low level Quality followed by 17% patients were Medium. No patient was High level with his/her quality of life.



**Figure-1- Distribution of levels of quality of life among COPD patients.**

**Finding related to association between Quality of life of patients Table -3. Association between Quality of life of patients with COPD and their selected demographic variables.**

**N=100**

S. No.	Demographical Variables	Quality of life			Chi-square value	p-value	result
		Satisfied (00)	Neutral (17)	Unsatisfied (83)			
1	Age of samples						
	30-40 yrs	00	03	19	4.791 df=3	0.188	NS
	41-50 yrs	00	02	17			
	51-60 yrs	00	04	29			
	Above 60 yrs	00	08	18			
2	Gender				1.309 df=1	0.252	NS
	Male	00	09	56			
	Female	00	08	27			
3	Religion				4.394 df=2	0.111	NS
	Hindu	00	10	68			
	Muslim	00	06	13			
	Christian	00	1	02			
	Others	00	00	00			
4	Habitat				0.966 df=2	0.616	NS
	Urban	00	08	36			
	Semi-urban	00	05	18			
	Rural	00	04	29			
5	Educational qualification				2.679 df=3	0.444	NS
	No primary education	00	05	18			
	Primary education	00	04	30			
	Sr. Sec. education	00	06	18			
	Graduate and more	00	02	17			
6	Occupation				0.654 df=3	0.883	NS
	Unskilled	00	03	22			
	Skilled worker	00	05	23			
	Business	00	03	14			
	Others	00	06	24			
7	Family monthly income Rs.				0.558 df=3	0.906	NS
	< 10,000	00	02	09			
	10,000-20,000	00	03	14			
	20,001-30,000	00	05	32			
	> 30,000	00	07	28			
8	Smoking status				1.645 df=2	0.439	NS
	Non-smoker	00	04	31			
	Active smoker	00	07	33			



	Passive smoker	00	06	19			
9	<b>Years of suffering from COPD</b>				1.033  df=3	0.793	NS
	< 3 years	00	06	21			
	4 to 6 years	00	04	28			
	7 to 9 years	00	04	21			
	>9 yrs	00	03	13			
10	<b>Family history of resp. disease</b>				2.711  df=1	0.099	NS
	Yes	00	03	32			
	No	00	14	51			

The above table highlighted association between Quality of life of patients with COPD and their selected demographic variables. In terms of age, the calculated chi-square value was 4.491 at df- 03. The finding showed that there was no significant ( $p= 0.188$ ) between age and levels of Quality of life. As regarding to gender, the calculated chi-square value was 1.309 at df- 01. The finding showed that there was no significant ( $p= 0.252$ ) between gender and levels of Quality of life. According to religion, the calculated chi-square value was 4.394 at df- 02. The finding showed that there was no significant ( $p= 0.111$ ) between religion and levels of Quality of life. Habitat of the patients explored that calculated chi-square value was 0.966 at df- 02. The finding showed that there was no significant ( $p= 0.616$ ) between habitat of the patients and levels of Quality of life. As per education, the calculated chi-square value was 2.679 at df- 03. The finding showed that there was no significant ( $p= 0.444$ ) between education and levels of Quality of life. Occupational status highlighted that calculated chi-square value was 0.654 at df- 03. The finding showed that there was no significant ( $p= 0.883$ ) between occupational status of the patients and levels of Quality of life. In terms of monthly income, the calculated chi-square value was 0.558 at df- 03. The finding showed that there was no significant ( $p= 0.906$ ) between monthly income and levels of Quality of life. As per smoking status, the calculated chi-square value was 1.645 at df- 02. The finding showed that there was no significant ( $p= 0.439$ ) between smoking status and levels of Quality of life. Suffering from COPD expressed that the calculated chi-square value was 1.033 at df- 03. The finding showed that there was no significant ( $p= 0.793$ ) between Suffering from COPD and levels of Quality of life. Family history of respiratory disease explored that the calculated chi-square value was 2.711 at df- 01. The finding showed that there was no significant ( $p= 0.099$ ) between Family history of respiratory disease and levels of Quality of life. Therefore a non-significant association (above 0.05) was present between selected demographic variables and levels of quality of life the COPD patients.

## CONCLUSION

The levels of quality of life among COPD patients as per SGRQ scores. The obtained scores were further categorized in 3 sections as High, Medium and Low Quality of life. SGRQ scores form 0-30 considered as High Quality of life, 30.1- 60.0 as Medium Quality of life and score 60.1- 100 considered as Low Quality of life. The findings explored that majority of the patients (83%) were Low level QoL followed by 17% patients were Medium. No patient was High level with his/her quality of life.

## IMPLICATIONS

Present study would help nurses to understand the quality of life of COPD patients. A nurse works as a health professional at ward to provide comprehensive nursing care and motivate the individual, family or community to achieve optimal health and also act as a resource person for their subordinates

## RECOMMENDATIONS

A similar study can be replicated on a large sample for wider generalization.

A similar study may be conducted to assess the knowledge, practice and awareness of care of quality of life among nursing students.

A pre-experimental study can be done to find out the knowledge of quality of life among staff nurses.

## LIMITATIONS

The present study is limited only for patients.

Purposive sampling technique is used to select the sample.

The present study is limited sample size.

Study limited to specific geographic area may limit the generalization.

**FINANCIAL AND MATERIAL SUPPORT:** Self

**CONFLICTS OF INTEREST:** Nil

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