

Assessment of self-care practice prevalence among Chronic Respiratory Disease patients in rural field practice areas of Aligarh, Uttar Pradesh: A Cross Sectional Study

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ABSTRACT

Background

NCDs basically are chronic in their nature and are related to lifestyle in a very intricate manner. Particularly talking of the chronic respiratory illnesses in this study, selfcare holds great importance as personal tobacco habits, lack of physical activity and others affect respiratory health. The study here tried to get the prevalence of selfcare practice performed by Chronic Respiratory disease patients of the Rural field practice areas in Aligarh.

Methods

This cross-sectional study undertook 65 COPD patients calculated by the simple random sampling from the rural field practice areas under the Department of Community Medicine, AMU, Aligarh over a period of one year from December 2020 to December 2021. Informed consent was taken from all the study participants.

Result

52.8% of patients had stopped smoking. 69.2% of patients are taking medications for their condition. 55.4% patients visit any health facility for the treatment and around 26.2% patients have been doing exercises for their condition.

Conclusion

Medication adherence selfcare practice measure was seen more than physical activity levels in the study participants. The study also found that smoking cessation was a measure adopted by more than half of the participants.

Keywords: COPD, NCDs, smoking cessation, selfcare

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INTRODUCTION

People living with chronic non-communicable diseases (NCDs) such as diabetes mellitus, hypertension, cardiovascular diseases, chronic obstructive pulmonary disease, chronic kidney disease, and cancer are at higher risk for serious complications⁽¹⁾. This may be explained by particular lifestyle characteristics of patients with NCDs, including physical inactivity, tobacco smoking, and alcohol use, which may worsen the condition⁽²⁾. Each and every individual does take care of him/herself in one or the other manner. Broadly speaking, self-care involves all decisions which individuals, families, take for their own health particularly their own physical and mental wellbeing. Staying fit, exercising, avoiding hazardous behavior etc. will all compound to self-care as mentioned in the WHO Self Care Module. Practices of self-care, including adherence to prescribed medications, increasing physical activity, and eating a healthy diet, have varied prevalences^(3,4). Self-care is not a new concept. The first publication on selfcare came in 1946. About 50-60% of all care persons do for themselves is actually selfcare as said by the Director General of WHO⁽⁵⁾. Self-care role comes into play here as the behavioral practices affecting the disease and individual can be addressed by caring for oneself. Self-care should be followed on a routine basis; it should be considered an integral part of care. Although it should not be used as a replacement to the basic component of essential health care. It may offer an approach for countries to optimize management of NCDs and wellbeing. Through this research we tried to know about the prevalence of self-care practices that the diseased individuals of the rural community follow. The study tried to find what is the prevalence of selfcare practices in patients of COPD in Aligarh.

Material and Methods

It was a cross sectional study, conducted in the Rural field practice areas of Department of Community Medicine, Jawaharlal Nehru Medical College, AMU, Aligarh. Ethical approval was taken for conducting the study from the Institutional Ethics Committee (Regd.) J.N. Medical College, AMU, Aligarh. (D.No. 176/FM/IEC, 3-11-2020). It included all the cases of diabetes, hypertension and chronic respiratory diseases in the study area. Over a period of one year from December 2020 to December 2021, we covered the sample size of 316 participants out of the

calculated sample size of 486 chronic disease patients (calculated for a prevalence of overall satisfactory self-care activities among diabetes patients as 25.6% (taken approx. as 26%) based on Assessment of selfcare activities: A study among type 2 diabetes patients in a rural area of West Bengal by Shobhit garg et al;2017). Probability Proportionate to Size was used to choose the required sample size of 486 chronic disease patients (Diabetes, COPD and Hypertension). Simple random sampling was done to select the respective number of participants. There were 65 COPD patients taken. All those non-communicable disease patients who had chronic obstructive pulmonary disease as the only morbidity or one of the comorbidities were analyzed to assess the self-care practices.

Inclusion criteria

1. All patients of the selected non communicable diseases above 18 years of age.
2. All the patients who were residing in the rural areas of the field practice areas of the Department of Community Medicine, J.N.M.C, A.M.U, Aligarh.
3. All those patients who gave their consent for the study.

Exclusion criteria

1. The patients who did not give consent.
2. Terminally ill patients and those who were bedridden.

After data collection was completed, all the data was entered, analyzed and tabulated in the IBM SPSS 20.0. Data analysis was performed in the same software.

Operational definitions

- The study included the patients of COPD, diabetes and hypertension either present signally in a participant or present more than one.
- To assess selfcare for COPD patients' multiple response type and single option type questions were asked.
- The operational definitions of the cases taken in our study are mentioned below.

Current smoker: An adult who has smoked 100 cigarettes in his or her lifetime and who currently smokes cigarettes (7) Most of the participants were smokers of beedi so we also considered them.
Chronic obstructive pulmonary disease patient: Any patient who is a resident of the field practice areas of

RHTC, Department of Community Medicine who is above 18 years of age and was already diagnosed to be a patient of chronic obstructive pulmonary disease either at RHTC or at any other health facility. Not all the patients in the rural areas are able to get a pulmonary function test done for appropriate diagnosis. The patients before recruitment into the study were also asked about their clinical history especially focusing on the key indicators for considering a diagnosis of COPD; progressive dyspnea, chronic cough and chronic sputum production. Apart from these, The Modified British Medical Research Council (mMRC) scale score was also taken for each patient ⁽⁶⁾. Written informed consent was taken from the participants before the

interview and taking vitals and anthropometric measurements. Adequate counseling to the participants was given after the interview.

Results

As shown in **Figure 1**, 62 had two comorbidities of which, 10(16.1%) had both COPD and HTN, 51 had diabetes with HTN (82.2%) and only one participant had diabetes and COPD. 3 (0.9%) participants had all the 3 NCDs. According to the disease condition per se, 121 out of 316 participants (38.3%) had diabetes mellitus, 198 out of 316 (62.7%) participants had hypertension and 65 out of 316 (20.6%) had Chronic Obstructive Pulmonary Disease. There were 65 COPD patients taken.

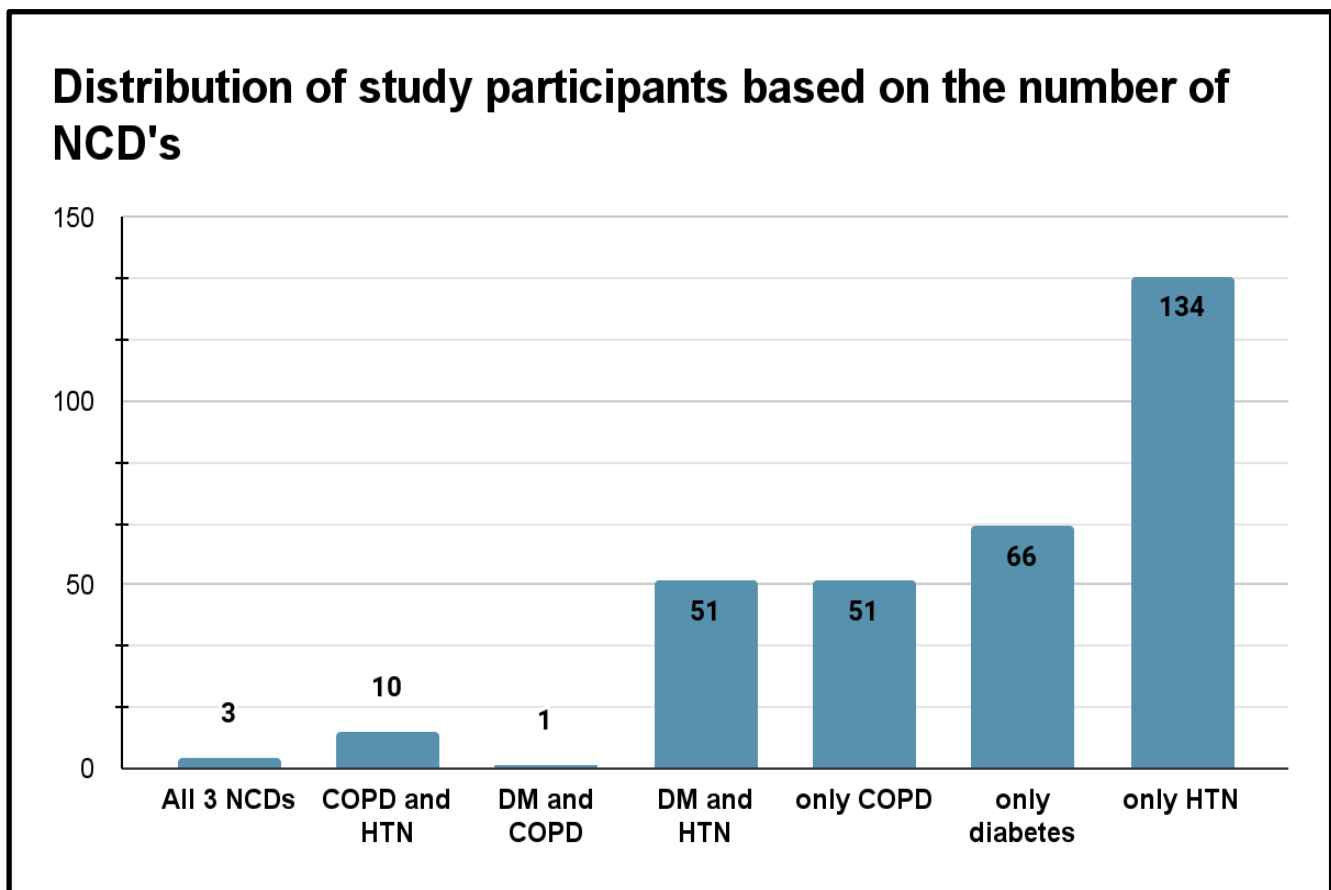


Figure 1: Distribution of the study participants based on the number of NCDs

As shown in table 1, the median duration of illness was found to be 7 years (IQR= 3.5-11.5). The mean weight of the participants was 57.87kgs (S. D= 12.88kgs), mean BMI was 24.24± 5.58 kg/m², mean chest

circumference was 90.86±8.2 cms, mean spO₂= 97.75± 0.77% and mean respiratory rate was 18.25± 2.38 per minute. The above table shows that out of all, 55.4% of patients had ever smoked in their life.

Table 1: General characteristics reported in patients with Chronic Obstructive Pulmonary Disease (COPD) as a chronic disease condition. (N=65)

<u>Characteristic</u>	<u>COPD chronic condition present in the study unit. (N=65)</u>	
Duration of illness (years) ²	7years, (3.5-11.5)	
Have you ever smoked in your life? ³	YES= 36(55.4)	NO=29(44.6)
Total duration of smoking ? ¹ (N=36)	33.17 ± 9.8 years	
How often do you take your medicines in a day? ²	1 time/day, (0.00-2.00) Range=0 to 6.	
Anthropometric measures (at present)	Weight (kgs) ¹	57.87±12.88 kgs
	Chest circumference ¹	90.86±8.2 cms
	BMI ¹	24.24± 5.58 kg/m ²
Level of oxygen saturation spO ₂ ¹	97.75±0.771 %	
Respiratory rate ¹	18.25±2.38 per minute	

Figure 2 shows that out of all the COPD patients, 45 patients were found to be exposed to other forms of smoke. The above table shows that 8.9% of patients were exposed to passive smoking, 4.4 % had inadequate

ventilation in their homes. 23 (51.1%) patients were exposed to chulha and hookah and 35.6% patients were exposed to more than one of these forms.

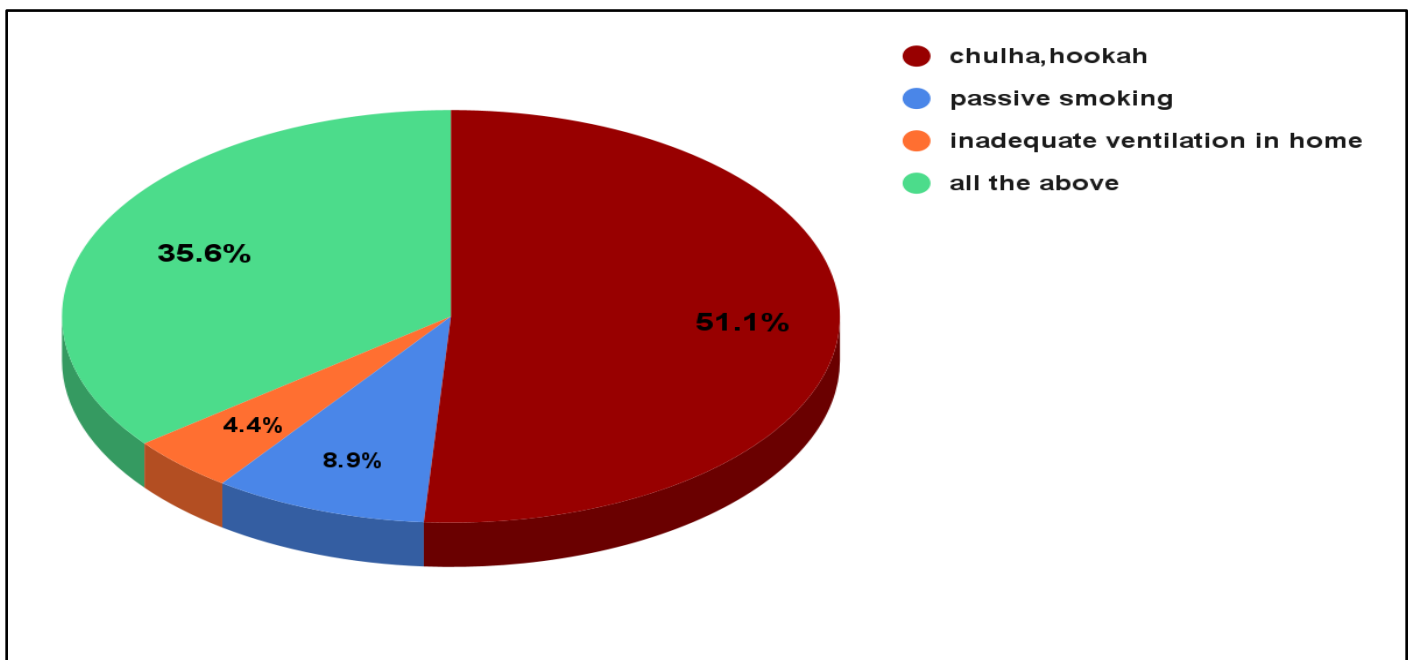


Figure 2 Exposure to other sources of smoke in 45 COPD patients.

The pie chart in figure 3 depicts that 50.35% of COPD patients had to stop after walking for 100 meters or after a few minutes on the level. Out of the rest, a similar proportion of people (15.52%) were either too breathless to leave the house or were walking slower than the people of their same age. Only 10.8% were

feeling breathless with strenuous exercise whereas 7.7% felt short of breath while hurrying on the level. The table 2 describes the self-care practices of smoking, medication intake, visits to any healthcare facility and physical activity; performed by the patients of chronic obstructive pulmonary disease.

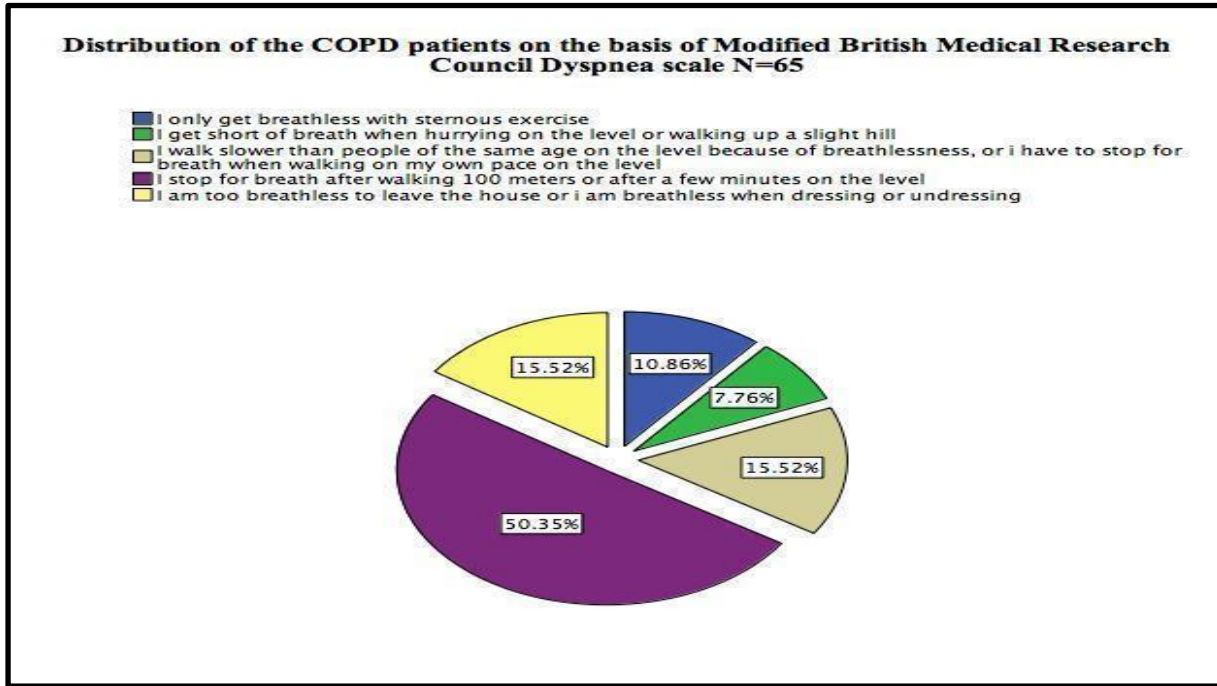


Figure 3: Distribution of the COPD patients on the basis of Modified British Medical Research Council Dyspnea Scale N=65

Table 2: Prevalence of self-care practices performed by patients having COPD N=65

		Yes N (%)	No N (%)
Smoking	Ever smoked	36(55.3)	29(44.6)
	Have you stopped smoking? N=36*	19(52.8)*	17(47.2)*
	Currently smoking	17(26.2)	48(73.8)
Medication	Medication intake	45(69.2)	20(30.8)
	Do you take them every day? N=45#	32(71.1)#	13(28.9)#
Do you visit any health facility presently?		36(55.4)	29(44.6)
Do you do any exercise?		17(26.2)	48(73.8)

Note: *=> N=36, #=> N=45

Smoking:

Out of all the 65 patients with either COPD alone or COPD along with any other NCD, 36 (55.3%) patients had ever smoked in their life, out of these, 29% had stopped smoking.

Out of all, 26.2% were found to be currently smoking.

Medication:

Out of all, 69.2% were taking medicines out of which 71.1 % were taking them every day.

Presently Visiting Any Healthcare Facility:

55.4 % patients were visiting a health care facility presently for their ailment.

Physical Activity:

Among all, 26.2% patients with COPD performed one or other physical activity like walking or breathing exercises. 20% of COPD patients were walking and only 6.1% were walking along with some other breathing exercises. 16.9% of individuals were found to be exercising less than twice a week. As more than half of the patients were breathless after walking 100 meters (mMRC grade III) so they had a low level of physical activity behavior. Most of the patients were visiting one or the other health care facility hence must have been counseled for smoking cessation although they must have not been counseled about the breathing exercises by their health care providers.

DISCUSSION

Similar to our prevalence of medication intake and medication adherence, few studies ^(7,15) reported the

medication adherence to be around 58% and 40-60 % in another study ⁽⁸⁾. Medication adherence has been a positive selfcare practice probably because it provides instant relief in difficult of breathing. Hence, people are able to cope up and continue their living and work. Another study, ⁽⁹⁾ examined the self-care approaches done by COPD patients which showed significant similarity in the proportion of patients attending any health facility for the management (44% patients visited health facility once every 3 months). Medication adherence was found to be greater than the present study (90% versus 71%)(9). "Physical activity" selfcare practice was not seen to be a common and utilized method to cope with their illness despite the benefits. A study ⁽¹⁰⁾ showed that only 35% elderly COPD patients were physically active which was almost similar to our study. The difference occurring is mainly due to the age group spectrum of our study which also includes the middle-aged individuals and younger individuals(10). Another study reported⁽¹¹⁾ that patients with COPD have a lower physical activity level than the healthy controls. Lack of awareness of the physical activity routine required for COPD patients could be one of the causes. A study ⁽¹²⁾ reported the prevalence of smoking to be 54–77% among COPD patients with mild symptoms. Similar to our study, another study ⁽¹³⁾ quotes the current smoking prevalence as 24%. Around 22% persons were found to be currently smoking in another study⁽¹⁴⁾ which was consistent with our finding.

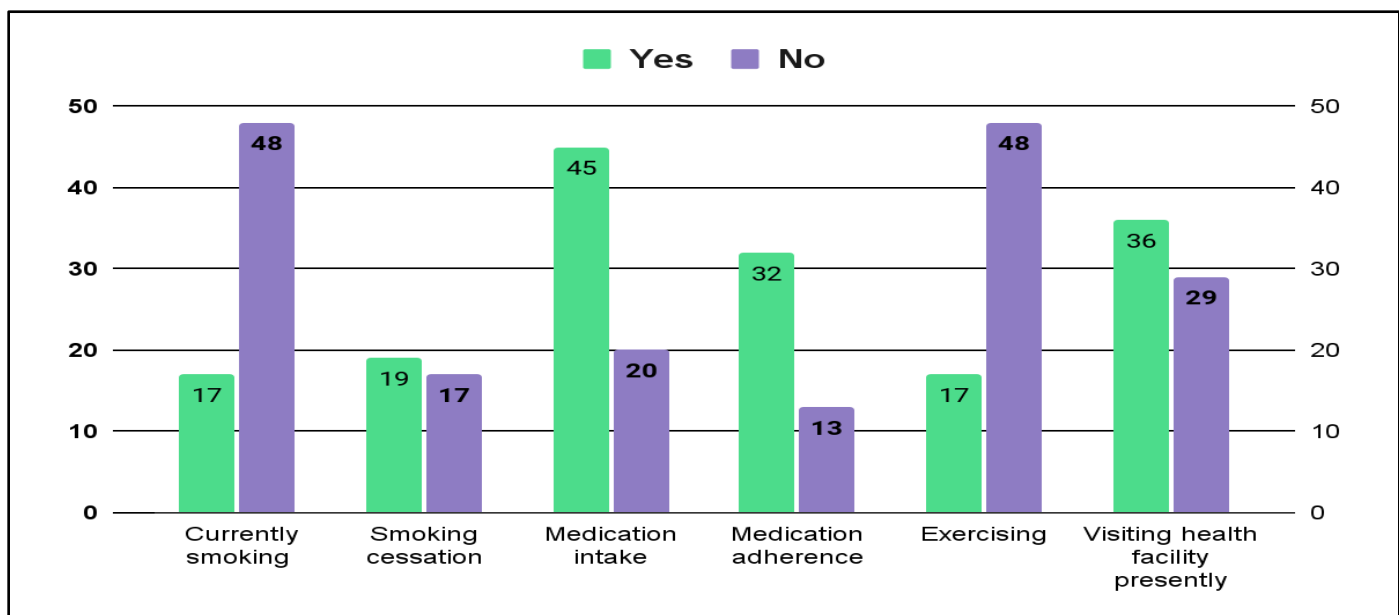


Figure 4 : Depiction of the prevalence of self-care practices.

CONCLUSION

The findings showed that the prevalence of self-care practices in patients of COPD was not very high. Medication intake and adherence was better than “physical activity” selfcare practice. According to our understanding, these findings seen in our rural field practice areas are because of the need felt by COPD patients to take medicine and easier availability of medicines like salbutamol tablets or inhalers in the government setups which people visited.

LIMITATIONS AND RECOMMENDATIONS

A composite scoring to get overall prevalence of self-

care practices in the patients of COPD was not used in this study. Hence, a separate level of good practice was calculated. Knowledge of the patients regarding the disease was inadequately assessed. The patients have poor disease awareness regarding COPD. Lack of access to a pulmonologist, smoking cessation programmes, pulmonary rehabilitation programmes in the rural areas needs to be addressed for early detection of the disease and proper management. COPD being the third leading cause of death among patients of NCDs needs to be paid attention to. For further insights and fruitful conclusions regarding the topic, analytical research designs must be conducted.

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