

ASSESSMENT OF THE CLINICAL PROFILE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AMONG NON-SMOKERS AT TERTIARY CARE CENTRE

Dr. Manish Kumar Jain^{1*}, Dr. Nalin Joshi²

1.,2. Associate Professor, Pulmonary Department, NIMS Medical College, Jaipur.

*Corresponding author – Manish Kumar Jain

Email id – doctormanishjain2@gmail.com

Received:20/04/2020

Revised:20/06/2020

Accepted:27/06/2020

ABSTRACT

Background: Chronic pulmonary obstructive disease (COPD) has been liable for the diminished quality of life just as expanded grimness and mortality. All-inclusive it has been assessed that about 3,000,000 people worldwide died because of COPD and bound to possess the third spot of mortality by 2030. It has been additionally assessed that in India the prevalence of COPD is approximately around 30 million. **Material & Methods:** The present prospective study was conducted at department of respiratory medicine of our tertiary care hospital. In present study, we enrolled 50 study participants from outdoor and from ward by simple random sampling, who were presented with signs and symptoms of chronic obstructive pulmonary disease. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant. **Results:** On the basis of the Systemic examination finding, the most common finding was rhonchi among 96% patients which was followed by hyper resonance among 32% patients followed by obliterated liver dullness, obliterated cardiac dullness and crepitation among 28% patients respectively. 26% patients had loud p2 sound which was followed by reduced chest movements and Reduced Crico-sternal distance among 24% patients respectively. 18% patients had barrel chest which was followed by finding of accessory muscles among 12% patients. Reduced air entry seen in 8% patients and 4% patients had Intercostal chest retractions. On the basis of the symptoms all study participants had complain and symptom of dyspnoea. Out of the total, 92% patients had cough which was followed by expectoration in 56% patients which was followed by wheeze in 28% patients which was followed by fever among 10% patients. **Conclusion:** We concluded from the present study that introduction of COPD stay same in non-smokers which incorporates Dyspnea, Rhonchi and cough. Basic hazard factors for non-smoker COPD are Indoor Air Pollution, Cotton Mill laborers and low Socioeconomic class. Among indoor contamination, LPG, lamp fuel and wood/coal burning fumes are the hazard factors for non-smokers COPD in non-smokers.

Keywords: COPD, clinical profile, risk factors.

INTRODUCTION

Chronic pulmonary obstructive disease (COPD) has been liable for the diminished quality of life just as expanded grimness and mortality. All inclusive it has been assessed that about 3,000,000 people worldwide died because of COPD and bound to possess the third spot of mortality by 2030 (1). It has been additionally assessed that in India the

prevalence of COPD is approximately around 30 million. The incidence of COPD has been accounted for approximately 3.5% in India. The incidence of COPD is reported more in males (5%) as compared to the females (3.2%) (2). COPD likewise contributes essentially to the disability adjusted life years loss (DALY) in patients. COPD additionally

puts a great deal of additional weight on the pockets of the patients along with additional out of pocket expenditure. It can cost about 30% of the patient's salary on treatment and different issues identified with the COPD (3).

Like an incessant non-transferable sickness, COPD additionally has various hazard factors. They can be hereditary or natural both and a wide range of hazard factors assuming their roles. Smoking has been accounted for and discovered to be a significant hazard factor in COPD (4). Yet, it itself can't clarify the danger of COPD much of the time though being ensnared as the significant hazard factor. On the off chance that the patient abstains from smoking, a significant segment of incapacity can be bound to be forestalled in the COPD patients (5). Different elements like expanding age and female gender represents the danger of COPD. On the off chance that the lung development is affected during fetal life, at that point the kid is inclined to build up the COPD. Malnourishment additionally goes about as a hazard factor for COPD. Rehashed diseases can prompt the advancement of COPD. Congestion additionally favors the COPD. Having a family ancestry of COPD is a conspicuous hazard factor for the development of the COPD. Chronic respiratory diseases in the youth are a significant hazard factor for COPD (6).

Different hazard factors identified with the natural causes other than smoking that are ascend to the danger of the COPD. Indoor air contamination, introduction to the gases, residue and vapor at work place, in general air contamination in the urban areas are a portion of the more ecological hazard factors that offer ascent to the danger of the COPD (6). The present study was conducted to assess the clinical profile of chronic obstructive pulmonary disease among non-smokers at our tertiary health care centre.

MATERIALS & METHODS

The present prospective study was conducted at department of respiratory medicine of our tertiary care hospital. The study duration was of six months. A sample size of 50 was calculated at 95% confidence interval at 10% acceptable margin of

error by epi info software version 7.2. Patients were enrolled from outdoor and from ward by simple random sampling. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant.

The data were collected by detailed history of chronic obstructive pulmonary disease, treatment history, and general physical and clinical examination from each patient after taking the written consent. All the enrolled study participants were subjected to routine lab investigations including CBC, chest X ray, arterial blood gas analysis, electrolytes and spirometry. Spirometer was utilized to survey FEV1 in the first second. Patients who has COPD with a history or past history of smoking, Patients who were suffering from chronic lung diseases such as ILD or bronchial asthma and active tuberculosis, Patients with or history of congestive cardiac failure were excluded from the present study. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

In present study, we enrolled 50 study participants from outdoor and from ward by simple random sampling, who were presented with signs and symptoms of chronic obstructive pulmonary disease. The age of study participants was ranged from 18 years to 76 years. The mean age of study participants was 58.2 years. Majority of the study participants 42 % were belonging the age group of 60-70 years which was followed by 24% study participants in more than 70 years age group which was followed by 20% study participants in the age group of 50-60 years followed by 12% study participants in the age group of 30-50 years and 10% study participants were in age group of 18-30 years of age. Out of total study participants it was reported that males were likely affected more than females in the ratio of 1.77: 1. (Table 1)

Table 1: Distribution of study subjects according to the age and gender.

Study parameters		Number of subjects (%)
Age group	18-30 years	1 (2%)
	30-50 years	6 (12%)
	50-60 years	10 (20%)
	60-70 years	21 (42%)
	>70 years	12 (24%)
Gender	Male	32 (64%)
	Female	18 (36%)

In the present study, Systemic examination finding of total study participants was recorded. On the basis of the Systemic examination finding, the most common finding was rhonchi among 96% patients which was followed by hyper resonance among 32% patients followed by obliterated liver dullness, obliterated cardiac dullness and crepitation among 28% patients respectively. 26% patients had loud p2 sound which was followed by reduced chest movements and Reduced Crico-sternal distance among 24% patients respectively. 18% patients had barrel chest which was followed by finding of accessory muscles among 12% patients. Reduced air entry seen in 8% patients and 4% patients had Intercostal chest retractions. (Table 2)

Table 2: Systemic examination finding wise distribution of study subjects

Systemic examination	Number of subjects (%)
Rhonchi	48 (96%)
Hyper resonance	16 (32%)
Obliterated liver dullness	14 (28%)
Obliterated cardiac dullness	14 (28%)
Crepitation	14 (28%)
Loud P2	13 (26%)
Reduced chest movements	12 (24%)
Reduced Crico-sternal distance	12 (24%)
Barrel chest	9 (18%)
Accessory muscles	6 (12%)
Reduced air entry	4 (8%)
Intercostal chest retractions	2 (4%)

In the present study, the symptoms of total study participants was recorded. On the basis of the

symptoms all study participants had complain and symptom of dyspnoea. Out of the total, 92% patients had cough which was followed by expectoration in 56% patients which was followed by wheeze in 28% patients which was followed by fever among 10% patients. (Table 3)

Table 3: Distribution of subjects according to symptoms.

Symptoms	Frequency (%)
Dyspnoea	50 (100%)
Cough	46 (92%)
Expectoration	28 (56%)
Wheeze	14 (28%)
Fever	5 (10%)

DISCUSSION

In present study, we enrolled 50 study participants from outdoor and from ward by simple random sampling, who were presented with signs and symptoms of chronic obstructive pulmonary disease. The age of study participants was ranged from 18 years to 76 years. The mean age of study participants was 58.2 years. Majority of the study participants 42 % were belonging the age group of 60-70 years which was followed by 24% study participants in more than 70 years age group which was followed by 20% study participants in the age group of 50-60 years followed by 12% study participants in the age group of 30-50 years and 10% study participants were in age group of 18-30 years of age. Out of total study participants it was reported that males were likely affected more than females in the ratio of 1.77: 1. Similar results were obtained in a study conducted by A Pazare et al among 60 patients suffering from chronic obstructive pulmonary disease, they included age group 18 to 88 years with male preponderance in study population and found similar results to present study (7).

In the present study, Systemic examination finding of total study participants was recorded. On the basis of the Systemic examination finding, the most common finding was rhonchi among 96% patients which was followed by hyper resonance among 32% patients followed by obliterated liver dullness,

obliterated cardiac dullness and crepitation among 28% patients respectively. 26% patients had loud p2 sound which was followed by reduced chest movements and Reduced Crico-sternal distance among 24% patients respectively. 18% patients had barrel chest which was followed by finding of accessory muscles among 12% patients. Reduced air entry seen in 8% patients and 4% patients had Intercostal chest retractions. Similar results were obtained in a study conducted by R Bakr et al among 300 patients suffering from chronic obstructive pulmonary disease, they reported When managing COPD the board, clinicians must be situated with the diverse hazard factors, other than tobacco smoke, that assume a key job in the turn of events and pathogenesis of COPD, in light of the fact that notwithstanding smoking is the most significant hazard factor, its nonappearance doesn't bar COPD determination (8).

In the present study, the symptoms of total study participants was recorded. On the basis of the symptoms all study participants had complain and symptom of dyspnoea. Out of the total, 92% patients had cough which was followed by expectoration in 56% patients which was followed by wheeze in 28% patients which was followed by fever among 10% patients. Similar results were obtained in a study conducted by A Gudagunti et al among 200 patients suffering from chronic obstructive pulmonary disease, they reported Least extent of patients of the COPD had fever for example in 22% of the cases. Hack was found in 83% of the cases. Shortness of breath was discovered to be in 98% of the cases. 15% of the instances of the COPD had diabetes just as the co-bleakness alongside COPD and no other co-grimness. Windedness was the most widely recognized indication at introduction and diabetes and hypertension were the most well-known co-morbidities found (9).

Similar results were obtained in a study conducted by C Behrendt et al among 13995 patients suffering from chronic obstructive pulmonary disease, they reported Among nonsmokers, doctor analyzed asthma expanded the danger of gentle and particularly of moderate-to-serious COPD. Freely of asthma, danger of mellow COPD in nonsmokers

expanded with age (multiplying like clockwork), before age 60 was lower among men than ladies, and was conversely connected with current introduction to tobacco smoke at home and at work. Interestingly, the danger of moderate-to-extreme COPD in nonsmokers was uniquely connected with male sex, crested in middle age, and was conversely connected with nonwhite ethnicity. COPD dangers didn't shift by insignificant smoking history, longest-held occupation, urban habitation, pay, hypersensitivities, thyroid infection, or Helicobacter pylori immunizer. Among nonsmokers, gentle and moderate-to-serious COPD are related with asthma however in any case have particular segment profiles, proposing that moderate-to-extreme infection is certainly not a negligible movement of mellow COPD (10).

CONCLUSION

We concluded from the present study that Albeit smoking is the commonest etiology of COPD, etiology other than smoking is similarly normal and significant. Introduction of COPD stay same in non-smokers which incorporates Dyspnea, Rhonchi and cough. Basic hazard factors for non-smoker COPD are Indoor Air Pollution, Cotton Mill laborers and low Socioeconomic class. Among indoor contamination, LPG, lamp fuel and wood/coal burning fumes are the hazard factors for non-smokers COPD in non-smokers.

REFERENCES

1. WHO. Chronic obstructive pulmonary disease (COPD). Available from: [https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-\(copd\)](https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-(copd))
2. Koul P. Chronic obstructive pulmonary disease: Indian guidelines and the road ahead. Vol. 30, Lung India. Wolters Kluwer -- Medknow Publications; 2013. p. 175–7. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3775194/>
3. Ho T, Cusack RP, Chaudhary N, Satia I, Kurmi OP. Under-and over-diagnosis of COPD: A global perspective. Vol. 15, Breathe. European Respiratory Society; 2019. p. 24–35. Available from: [/pmc/articles/PMC6395975/?report=abstract](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6395975/?report=abstract)

4. Birring S, Brightling C, Bradding P, Entwisle JJ, Vara DD, Grigg J, et al. Clinical, radiologic, and induced sputum features of chronic obstructive pulmonary disease in nonsmokers: A descriptive study. *Am J Respir Crit Care Med*. 2002 Oct 15;166(8):1078–83. Available from: <https://pubmed.ncbi.nlm.nih.gov/12379551/>
5. John F. Devine. Chronic Obstructive Pulmonary Disease: An Overview. Vol. 30, *Lung India*. Wolters Kluwer -- Medknow Publications; 2013. p. 175–7. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3775194/>
6. Qureshi H, Sharafkhaneh A, Hanania NA. Chronic obstructive pulmonary disease exacerbations: Latest evidence and clinical implications. Vol. 5, *Therapeutic Advances in Chronic Disease*. SAGE Publications; 2014. p. 212–27. Available from: [/pmc/articles/PMC4131503/?report=abstract](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4131503/?report=abstract)
7. Pazare AR, Mehta PK. Etiology and clinical profile of COPD in non-smoker in urban area. *Int J Adv Med*. 2018;5(5):1100.
8. Bakr RM, Elmahallawy II. Prevalence characteristics of COPD in never smokers. *Egypt J Chest Dis Tuberc*. 2012 Jul 1;61(3):59–65.
9. Gudagunti AK, Hasabi I, S. A. A study of clinical profile of patients with chronic pulmonary obstructive disease at a tertiary care centre in North Karnataka, India. *Int J Adv Med*. 2019;6(2):455.
10. Behrendt CE. Mild and moderate-to-severe COPD in nonsmokers: Distinct demographic profiles. *Chest*. 2005;128(3):1239–44. Available from: <https://pubmed.ncbi.nlm.nih.gov/16162712/>

How to cite this article: Jain M.K., Joshi N., Assessment of the clinical profile of chronic obstructive pulmonary disease among non-smokers at tertiary care centre. *Int.J.Med.Sci.Educ* 2020;7(4): 23-27