

ESTIMATION OF BURDEN OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ITS CLINICAL PROFILE ALONG WITH RISK FACTORS AMONG NON-SMOKERS IN URBAN AREA

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Received: 11/06/2015

Revised: 04/09/2015

Accepted: 011/09/2015

ABSTRACT:

Background: 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 females (3.2%). 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. **Material & Methods:** The present prospective study was conducted at the department of respiratory medicine of our tertiary care hospital. In the present study, we enrolled 100 study participants from outdoor and from the 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 the start of the study. Written informed consent was taken from each study participant. **Results:** In the present study, Systemic examination finding of total study participants was recorded. Based on the Systemic examination finding, the most common finding was rhonchi among 95% of patients which was followed by hyper resonance among 33% of patients followed by obliterated liver dullness (29%), obliterated cardiac dullness, and crepitation among 28% of patients respectively. 27% of patients had loud p2 sound which was followed by reduced chest movements (25%), and Reduced Crico-sternal distance among 23% of patients respectively. 19% of patients had barrel chest which was followed by the finding of accessory muscles among 13% of patients. Reduced air entry was seen in 9% of patients and 5% of patients had Intercostal chest retractions. **Conclusion:** We concluded from the present study that Dyspnea, Rhonchi, and cough are the commonest symptoms of COPD. Basic hazard factors for non-smoker COPD are Indoor Air Pollution, Cotton Mill laborers, and low socioeconomic class.

Keywords: COPD, clinical profile, risk factors.

INTRODUCTION:

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 females (3.2%) (1). 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 COPD (2). 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 are bound to possess the third spot of mortality by 2030 (3). It has been additionally assessed that in India the prevalence of COPD is approximately around 30 million.

Different elements like expanding age and female gender represent 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 COPD. malnourishment additionally goes about as a hazard factor for COPD. Rehashed diseases can prompt the advancement of COPD. Congestion additionally favors COPD. Having a family ancestry of COPD is a conspicuous hazard factor for the development of COPD. Chronic respiratory diseases in the youth are a significant hazard factor for COPD (4). Like an incessant nontransferable sickness, COPD additionally has various hazard factors. They can be hereditary or natural and a wide range of hazard factors assume their roles. Smoking has been accounted for and discovered to be a significant hazard factor in COPD (5). Yet, it 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 COPD patients (6).

Indoor air contamination, introduction to the gases, residue, and vapor at the workplace, in general, air contamination in the urban areas are a portion of the more ecological hazard factors that offer ascent to the danger of COPD (4). Different hazard factors identified with the natural causes other than smoking ascend to the danger of COPD. The present study was conducted to assess the burden, clinical profile, and risk factors of chronic obstructive pulmonary disease among non-smokers at our tertiary health care center.

MATERIALS & METHODS

The present prospective study was conducted at the department of respiratory medicine of our tertiary care hospital. The study duration was of six months. A sample size of 100 was calculated at a 95% confidence interval at a 10% acceptable margin of error by epi info software version 7.2. Patients were enrolled from the outdoor department and ward by simple random sampling. Institutional Ethics Committee Clearance was obtained before the start of the study and written and informed consent for the procedure was obtained from all the patients. Strict confidentiality was maintained with patient identity and data and not revealed, at any point in time.

The data were collected by a detailed history of chronic obstructive pulmonary disease, treatment history, 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. A spirometer was utilized to survey FEV1 in the first second. Patients who have COPD with a history or 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. On a follow-up visit, the same data were recorded and compared. All the data was recorded on a Microsoft Excel spreadsheet and data analysis was done at 10% alpha and 90% confidence interval using SPSS v22 software. Test of significance was applied on collected and organized data and a p-value less than 0.05 was considered as a statistically significant association between study variables.

RESULTS

In the present study, we enrolled 100 study participants from outdoor and from the 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 20 years to 72 years. The mean age of study participants was 61.5 ± 6.9 years.

The majority of the study participants 46 % were belonging to the age group of 60-70 years which was followed by 31% of study participants in 50-60 years age group which was followed by 17% of study participants in the age group of 30-50 years followed by 5% study participants in the age group of more than 70 years and 1% study participant was in the age group of 18-30 years of age. Out of the total study participants, it was reported that males were likely affected more than 65% than females 35%. (Table 1)

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

Study parameters		Number of subjects (%)
Age group	18-30 years	1%
	30-50 years	17%
	50-60 years	31%
	60-70 years	46%
	>70 years	5%
Gender	Male	65%
	Female	35%

In the present study, Systemic examination finding of total study participants was recorded. Based on the Systemic examination finding, the most common finding was rhonchi among 95% of patients which was followed by hyper resonance among 33% of patients followed by obliterated liver dullness (29%), obliterated cardiac dullness, and crepitation among 28% of patients respectively. 27% of patients had loud p2 sound which was followed by reduced chest movements (25%), and Reduced Crico-sternal distance among 23% of patients respectively. 19% of patients had barrel chest which was followed by the finding of accessory muscles among 13% of patients. Reduced air entry was seen in 9% of patients and 5% of patients had Intercostal chest retractions. (Table 2)

Table 2: Systemic examination finding the wise distribution of study subjects

Systemic examination	Number of subjects (%)
Rhonchi	95%
Hyper resonance	33%
Obliterated dullness	liver 29%
Obliterated dullness	cardiac 28%
Crepitation	28%
Loud P2	27%
Reduced movements	chest 25%
Reduced distance	Crico-sternal 23%
Barrel chest	19%
Accessory muscles	13%
Reduced air entry	9%
Intercostal retractions	chest 5%

In the present study, the symptoms of total study participants were recorded. Based on the symptoms all study participants had complained and symptoms of dyspnea. Out of the total, 94% of patients had a cough which was followed by expectoration in 61% of patients which was followed by wheeze in 34% of patients which was followed by fever among 12% of patients. (Table 3)

Table 3: Distribution of subjects according to symptoms.

Symptoms	Frequency (%)
Dyspnea	100%
Cough	94%
Expectoration	61%
Wheeze	34%
Fever	12%

DISCUSSION

In the present study, we enrolled 100 study participants from outdoor and from the 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 20 years to 72 years. The mean age of study participants was 61.5 ± 6.9 years. The majority of the study participants 46 % were belonging to the age group of 60-70 years which was followed by 31% of study participants in 50-60 years age group which was followed by 17% of study participants in the age group of 30-50 years followed by 5% study participants in the age group of more than 70 years and 1% study participant was in the age group of 18-30 years of age. Out of the total study participants, it was reported that males were likely affected more than 65% than females 35%. Similar results were obtained in a study conducted by A Pazare et al among 60 patients suffering from chronic obstructive pulmonary disease, they included the age group 18 to 88 years with male

preponderance in the study population and found similar results to the 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 95% of patients which was followed by hyper resonance among 33% of patients followed by obliterated liver dullness (29%), obliterated cardiac dullness, and crepitation among 28% patients respectively. 27% of patients had loud p2 sound which was followed by reduced chest movements (25%), and Reduced Crico-sternal distance among 23% of patients respectively. 19% of patients had barrel chest which was followed by the finding of accessory muscles among 13% of patients. Reduced air entry was seen in 9% of patients and 5% of 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, 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, because 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 were recorded. On the basis of the symptoms, all study participants had complaints and symptoms of dyspnoea. Out of the total, 94% of patients had a cough which was followed by expectoration in 61% of patients which was followed by wheeze in 34% of patients which was followed by fever among 12% of patients.

Similar results were obtained in a study conducted by C Behrendt et al among 13995 patients suffering from chronic obstructive pulmonary disease, reported Among nonsmokers, doctors analyzed asthma expanded the danger of gentle and particularly of moderate-to-serious COPD. Freely of asthma, the 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 a current introduction to tobacco smoke at home and work. Interestingly, the danger of moderate-to-extreme COPD in nonsmokers was uniquely connected with the 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 to asthma however in any case have particular segment profiles, proposing that moderate-to-extreme infection is certainly not a negligible movement of mellow COPD (9).

CONCLUSION

We concluded from the present study that Dyspnea, Rhonchi, and cough are the commonest symptoms of COPD. 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 with COPD in non-smokers.

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