



## **Epidemiological study of prevalence of COPD in a fishermen colony on the banks of Wular Lake in Laharwalpora, a far-flung rural area in District Bandipora. A cross-sectional study**

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### **Abstract**

**Background:** There is paucity of data available on the prevalence of COPD among hukka users in the rural community of fishermen in the far flung area of district bandipora situated on the banks of wular lake .The fishermen colony has more than 500 households each household having approximately 4-5 members. The community is mainly dependent on trade of fishing and waternuts with more than 80% of people doing the same trade of fishing in the Wular Lake. The women mostly remain indoors and contribute in the trade by cleaning, preparing and selling the fishes which includes travelling to different nearby villages to sell fish. The aim of the present study is to find out the prevalence of COPD in this particular community as the number of hukka users and smokers is high and the living conditions favorable for respiratory illnesses. The burning of wood for cooking purposes is still found here. **Results:** The total number of the participants was 836 ,293(35%)- males ,543(65%)-females .In the age group 30-44 years there were 338 (40.4%)subjects ,375(44.9%) in the age group of 45-59 years , 107(12.8%) in 60-74 years age group. Only16 (1.9%) were in the age of  $\geq 75$  years.

**Keywords:** purposes, Wular Lake

### **1. Introduction**

According to the World Health Organization report, the prevalence of COPD ranges between 4 and 20% in the Indian adults <sup>[1]</sup>. India is experiencing a continued increase in burden of chronic obstructive pulmonary disease (COPD). With an estimated prevalence of >57 000 000 people suffering from obstructive airway diseases (OADs), by the end of 2016.India is in second place for harboring the most number of morbidity and mortality cases from OADs, after China. In "Rural Residence and Poverty are Independent Risk Factors for COPD in the United States," Meredith C. McCormack, MD, MHS, and colleagues report that the prevalence of COPD in poor, rural areas was nearly twice that of the overall population—15.4% vs. 8.4%. The NCMH estimates of prevalence of COPD showed that the burden of COPD is more in rural India and is increasing all the time. Living in a rural area, community poverty, and indicators of household wealth were significant risk factors associated with higher COPD prevalence. Exposure to biomass combustion fuels inside the home, which lead to hazardous indoor air effluents that are associated with an increase of COPD, is worse in the rural areas where houses are more poorly ventilated <sup>[2]</sup> Among females, the prevalence was highest for the heavy kitchen smoke exposure .the factors related with COPD were age >65 years. These insights can help develop policies to reduce the risk for COPD in the underserved populations. The burden of cardiovascular diseases (CVD) is assuming an alarming proportion in India is experiencing a continued increase in burden of chronic obstructive pulmonary disease (COPD). With an estimated prevalence of >57000000 people suffering from obstructive airway diseases (OADs), by the end of 2016 <sup>[3]</sup>, developing countries and is turning out to be a leading cause of mortality in India <sup>[4]</sup>. In a recent single-day point prevalence study

across India (POSEIDON) study, 14.5% of people had visited a physician for OADs <sup>[5]</sup>. Added to this, the non-conventional forms of tobacco products such as bidi, hookah, chillum, which deliver relatively greater amounts of combustion by products, are excessively consumed in the rural areas. Poorly regulated occupational exposures to vapor's, dusts, gases and fumes also contribute to an increased prevalence.

### **2. Methods**

**Study population and sample size:** A cross-sectional study was conducted. The study population consisted of the members of the households (n=489) that were found during the visits and answered the pre-formed questionnaire from the month of June 22018 to the month of July 2018.The population consists of 300 households of the rural area Laharwalpora situated on the banks of the Wular Lake in district Bandipora. The information about age, sex, occupation, history of COPD, medication for COPD in cases of diagnosed COPD, smoking of hukka, cigarettes and other risks for COPD were asked and noted down. In case a house was found closed, it was visited on the following day and so on. The data was entered into excel and was analyzed in the IPSS. This was followed by data cross checking for any out of the range values entered by using the data filter and any value found out of range was reconfirmed from the source document and appropriate correction was made. Once the data cross checking was complete, the data was locked for analysis.

### **3. Results**

231 females (47.2%) and 258(52.8%) males constituted the study subjects (Table1). Among the total subjects there were 281(57.5%) were fishermen by occupation and 133(27.2%) women were fisherwomen.75 (15.3%) were housewives

(Table2). Among the total subjects there were 253 subjects i.e. 51.7% who gave the positive history of COPD. (Table3). 272 subjects (55.6%) were hukka users among the study subjects. (Table4). 38.9 percent(n=190) subjects among the total of 489 were the diagnosed cases of COPD.(Table5). 149(30.5%) subjects out of the total study population were on medication for COPD.(Table6). Among the total 231 females, there were 97(41.9%) diagnosed as COPD and among total 258 males 93(36.04%) were diagnosed as COPD (Table7). Among the 190 cases of COPD all of them were hukka users (Table8). There were no COPD cases in the age group of 30-43.In the age group of 44-64 the study has found 93 COPD cases. The largest number of cases (n=97) was found above the 65 years of age (Table9)

**4. Conclusion**

The COPD is found to be directly related to the hukka use and the overcrowded living conditions. It was found to mostly affecting the patients above the 65 years of age. Positive family history of COPD has a direct relation to this disease. The environment of cold in the present study on the banks of the lake in a fishermen community appears to be a risk factor.

**Table 1**

Gender	Frequency	Percent
Female	231	47.2
Male	258	52.8
Total	489	100.0

**Table 2**

Occupation	Frequency	Percent
fisherman	281	57.5
fisherwoman	133	27.2
housewife	75	15.3
Total	489	100.0

Among the total subjects there were 281(57.5%) were fishermen by occupation and 133(27.2%) women were fisherwomen.75 (15.3%) were housewives.

**Table 3**

History of Copd	Frequency	Percent
Yes	253	51.7
No	236	48.3
Total	489	100.0

Among the total subjects there were 253 subjects i.e 51.7% who gave the positive history of COPD.

**Table 4**

Hukka_use	Frequency	Percent
yes	272	55.6
no	217	44.4
Total	489	100.0

272 subjects (55.6%) were hukka users.

**Table 5**

	Frequency	Percent
yes	190	38.9
No	299	61.1
Total	489	100.0

38.9 percent (n=190) subjects among the total of 489 were the diagnosed cases of COPD.

**Table 6**

On COPD medication	Frequency	Percent
yes	149	30.5
No	340	69.5
Total	489	100.0

149(30.5%) subjects out of the total study population were on medication for COPD.

**Table 7**

Diagnosed COPD	Sex		Total
	Female	male	
yes	97	93	190
No	134	165	299
Total	231	258	489

Among the total 231 females, there were 97(41.9%) diagnosed as COPD and among total 258 males 93(36.04%) were diagnosed as COPD

**Table 8**

COPD vs. HUKKA use	Hukka_use		Total
	yes	no	
Diagnosed COPD	Yes	190	190
	No	82	217
Total	272	217	489

Among the 190 cases of COPD all of them were hukka users

**Table 9**

COPD	Age			Total
	0-433	44-64	65 and above	
Yes	0	93	97	190
No	161	106	32	299
Total	161	199	129	489

There were no COPD cases in the age group of 30-43.In the age group of 44-64the study has found 93 COPD cases. The largest number of cases (n=97) was found above the 65 years of age

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