Awareness of COPD in a High Risk Indian Population: A Cross Sectional Study

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A B S T R A C T

INTRODUCTION: Chronic obstructive pulmonary disease (COPD) has a major impact on the health of an Individual and is a burden to the society.

AIM: To assess the attitudes towards COPD among smokers who are at a high risk of developing the disease in Ranga Reddy District, Telangana, India

MATERIALS AND METHODS: This study was a cross-sectional survey conducted among five dental camps conducted in district of Ranga Reddy in current smokers (both bidi and cigarette) aged 45 years and older with a history of at least 10 pack(for cigarette)/bundle(for bidi)-years of smoking. The subjects were distributed over four age groups, which were 45–49 years, 50–59 years, 60–69 years, and >70 Years. Data was collected through a pre-validated, close ended structured questionnaire divided into four parts regarding the participant's demographics, current health status, symptoms, awareness of COPD, attitudes towards COPD and willingness to quit smoking. Data was analysed using SPSS version 21.0.

RESULTS: Of a total of 426 subjects, (male predominance 94.2%.) , people belonging to the age groups of 40-49 years and >70 years reported themselves being in "Good health". Only 3.5% reported having to know COPD as a respiratory disease as compared to 24.9% of the population who recognised lung cancer as the most common respiratory disease. 46.2% subjects acknowledged that cough was a symptom most commonly associated with COPD. Only a few portion of the subjects (1.8%) were willing to visit a doctor for diagnosis of COPD. Willingness to quit smoking among the respondents was seen in only 24.7% of the population and 14.5% could not decide about the same.

CONCLUSION: Efforts are needed to be directed towards proper counselling and education of the people of Ranga Reddy district to prevent them from the ill-effects of Tobacco and its related diseases, especially COPD.

KEYWORDS: COPD, Tobacco, Bidi, Willingness to Quit

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is an established major cause which burdens the global healthcare system and the only leading cause of death with an increasing prevalence.[1] It is estimated that by the year 2020, COPD is expected to rise to the 3rd position as a cause of death and also be situated at the 5th position as the cause of loss of disability adjusted life years (DALYs) as stated by the baseline projections made in the Global Burden of Disease Study (GBDS)[2,3]

The World Health Organization (WHO) defines COPD as "A lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible". The WHO also further goes on to state that the more familiar and usually used terms 'chronic bronchitis' and 'emphysema' are no longer used and are now included within the COPD diagnosis.

In addition, COPD is not simply a "smoker's cough" but an under-diagnosed, life-threatening lung disease that causes a great burden of both mortality and morbidity worldwide.[4]

The disease is highly prevalent in low- and middle-income countries and causes a great economic burden in their health care programs and services. An estimated ninety percent of COPD deaths occur in these countries and this is especially a cause of concern as 5% of global deaths in 2005 could be attributed to COPD.[5] Whilst in the Indian scenario, it was seen that of the 53% of deaths were attributed to Non communicable diseases, out of which COPD accounted for 7% of those deaths.[6] It is suggested that there are approximately 30 million patients suffering from COPD in India.[7] The most common risk factor for COPD is smoking and a high mortality is seen in

smokers with COPD than those of nonsmokers.[8]

Such is the impact of COPD in the global scenario that it has become a global health concern and therefore, this study aimed to assess the attitudes of smokers to COPD among those who are at risk of developing the disease in Ranga Reddy District, Telangana, India.

MATERIALS AND METHODS

This study was a cross-sectional survey conducted among five dental camps conducted in Ranga Reddy District, Telangana, India. The study methodology was adapted from Seo JY et al. (2015) and modified according to Indian standards.[9] Current smokers (both bidi and cigarette) aged 45 years and older with a history of at least 10 pack (for cigarette)/bundle(for bidi)-years of smoking were included in the study. The study population were selected according to convenience sampling and a written, informed consent was taken from all subjects. Prior to the commencement of the study, the study obtained due ethical clearance from the Institutional Review Board (IRB) of the institution from where the study was originated. (Name withheld upon request from the authorities of the Institution).

Data was collected through a pre-validated, close ended structured questionnaire divided into four parts which recorded data regarding the participant's demographics, current health status, symptoms, awareness of COPD, attitudes towards COPD and willingness to quit smoking. An interviewer expert with the questionnaire was also made available to each respondent for any assistance required regarding the questions or needed help filling up the questionnaire.

Descriptive statistics were employed (frequency and mean ± standard deviation (SD)), as well as the chi square test and logistic regression (univariate and multivariate) were applied to find out significant associations, if any. Data was analysed using SPSS version 21.0.[10]

RESULTS

The present study enrolled a total of 426 subjects, and had a high male predominance of 94.2%. The subjects were distributed over four age groups, which were 45–49 years, 50–59 years, 60–69 years, and 70 or older (Table 1). It was found that the study groups comprised of both equal number of people belonging to urban and rural populations (~50%) and most smokers were found to be smoking since 10-19 years (47.2%)

The second part of the questionnaire, assessed self-reported current health status of the respondents (Table 2). It was seen that people belonging to the age groups of 40-49 years and >70 years reported themselves being in "Good health" (40.6% and 44.8%). Contrary to these findings, it was seen that the other remaining study populations, 50-59 and 60-69 years reported of "Poor health" (40.8% and 37.7%) respectively. "Moderate health" was reported by most of the respondents who were either smoking from 10-19 years and >50 years (43.8% and 61.4%) , while other respondents stated of being in "Good Health" who have been smoking since 20 years to ≤50 years. Self-assessment of health amongst respondents also varied from "good" for those who smoked < 1 pack/day (50.7%) to "moderate" amongst those smoking 1-2 packs/day to >2 packs/day(37% and 45.2%).

The awareness regarding COPD among the respondents was assessed by asking them to select the names of respiratory diseases that they knew of (Figure 1).Only 3.5% reported having to know COPD (Name written in full hindi) as a respiratory disease as compared to 24.9% of the population who recognised lung cancer as the most common respiratory disease. Figure 2 describes the knowledge of the respondents regarding symptoms related to COPD with 46.2% subjects acknowledging that cough was a symptom most commonly associated with COPD. In contrast, 10.8% of the subjects had no knowledge regarding symptoms associated with COPD.

The source of the knowledge of the respondents varied markedly with 46.2% subjects acknowledging that cough was a symptom most commonly associated with COPD. The least information source was reported to be newspaper (3.3%) and radio (3.5%). Univariate analysis revealed a positive correlation between Doctors being the primary source of information in males (p=.0041). (Figure 3).

The final section, which recorded the attitudes of the respondents towards COPD and willingness to

quit smoking revealed that only a few portion of the subjects (1.8%) were willing to visit a doctor to get their check-up done for diagnosis of COPD. Willingness to quit smoking among the respondents across the various age groups were low, with only 24.7% of the population willing to quit and 14.5% could not say about the same (Table 3).

DISCUSSION

The findings of the present study highlight low awareness regarding COPD among smoking populations of Ranga Reddy District, Telangana India. A high Prevalence of male smokers (94.2%) were observed as compared to 5.8% female smokers which is in agreement to studies conducted by Jindal SK et al. (2005) and Garg A et al. (2012) who reported the prevalence of female smokers as 2.1% and 8.8% respectively.[11,12] This can be attributed to the fact that smoking is socially unacceptable and is completely detested in women by the Indian society, especially in rural areas.

Several authors, in their respective studies have found out significant urban–rural differentials in tobacco smoking patterns.[13,14] In slight contrast to our results, Jindal SK et al. reported a smoking prevalence of 40.5% (Rural) and 20.0% (Urban) in Chandigarh city, which is in agreement to the results of the study, while Annadurai K et al. reported a prevalence of 36.7% among rural males in Vadagarai village in Tamil Nadu.[11,15]

The present study reported a low prevalence of willingness to quit among the study subjects (24.7%). This percentage is quite low as compared to the prevalence rates documented by other authors (65%, 75.2%).[16,17] However, the results are comparable to Babatunde et al, who reported a prevalence of willingness to quit smoking as 39.0% by current smokers.[18] This could be attributed to rural- urban differences and as age advances, these people retire from their jobs, and have idle time and rely on smoking to pass their time.

This study is prone to certain limitations as it is prone to under-reporting of data, and the inadvertent creeping in of a social desirability bias cannot be ruled in the self- reported data adopted by this study design. However, self-study designs help us to undermine the prevalence of a certain disease/ condition in a particular area and then collect further data regarding the same.

CONCLUSION

It is recommended that education programs regarding the ill-effects of tobacco consumption among the people of Ranga Reddy district, Telangana, India be done to reduce the burden of tobacco and its related diseases among its residents.

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LEGENDS

CATEGORY	n,%
Total	426(100)
Gender	
• Males	401(94.2)
• Females	25(5.8)
Geographic distribution	
• Rural	225(52.8)
• Urban	201(47.2)
Age Group (In years)	
• 40-49	105(24.6)
• 50-59	169(39.7)
• 60-69	85(20)
• >70 years	67(15.7)
Smoking duration (In years)	
• 10-19	201(47.2)
• 20-29	93(21.8)
• 30-39	74(17.4)
• 40-49	46(10.8)
• >50	12(2.8)
Smoking amount (packs/day)	
• <1	316(74.1)
• 1-2	79(18.5)
• ≥2	31(7.4)
Occupation	
• Self-employed	164(38.5)
• Rural	107(65.2)
• Urban	57(34.8)
• Employed	227(53.3)
• Housewife	12(2.9)
• No answer	23(5.3)
Education	
• School Dropout	87(20.4)
• Class XIIth Pass	129(30.3)
• Graduate	116(27.2)
• Post Graduate	94(22.1)

Table 1. Demographic Details of the study population

CHARACTERISTIC	GOOD (n,%)	MODERATE(n,%)	POOR(n,%)
Age Group (In years)			
• 40-49	43(40.6)	33(31.5)	29(27.4)
• 50-59	61(36.1)	39(23.1)	69(40.8)
• 60-69	25(29.4)	28(32.9)	32(37.7)
>70 years	30(44.8)	15(22.4)	22(32.8)
Smoking duration (In years)			
• 10-19	59(29.4)	88(43.8)	54(26.8)
• 20-29	44(47.3)	37(39.8)	12(12.9)
• 30-39	29(39.2)	22(29.7)	23(31.1)
• 40-49	18(39.1)	12(26.1)	16(34.8)
>50	4(30.9)	7(61.4)	1(7.7)
Smoking amount (packs/day)			
• <1	160(50.7)	136(43)	20(6.3)
• 1-2	24(30.4)	30(37)	25(32.6)
• ≥2	10(32.3)	14(45.2)	7(22.5)

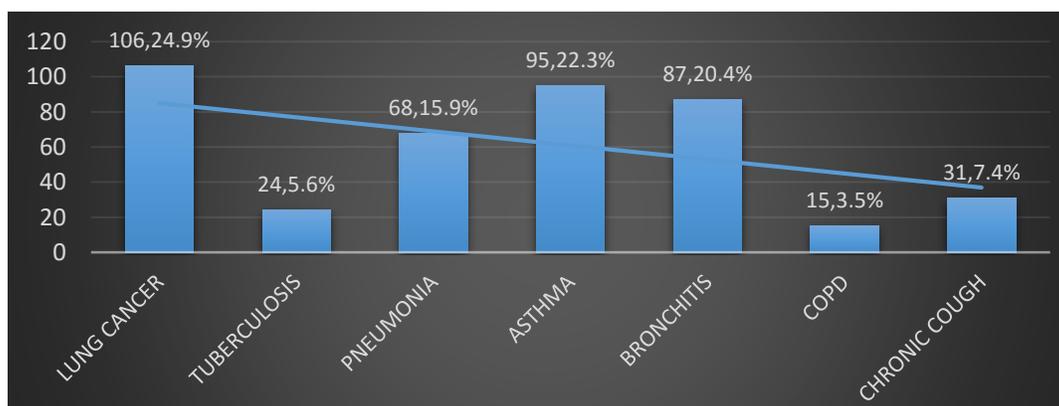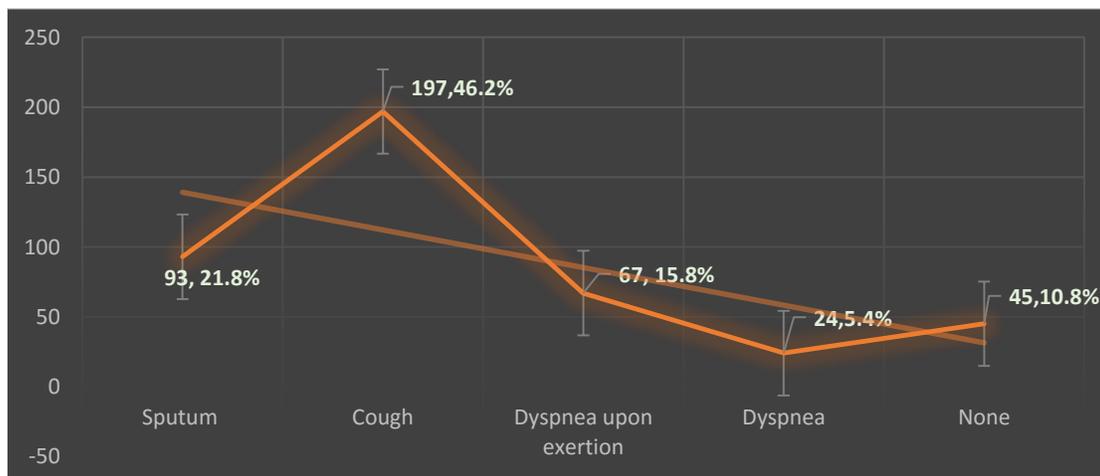Table 2. Self-reported current health status of the respondents

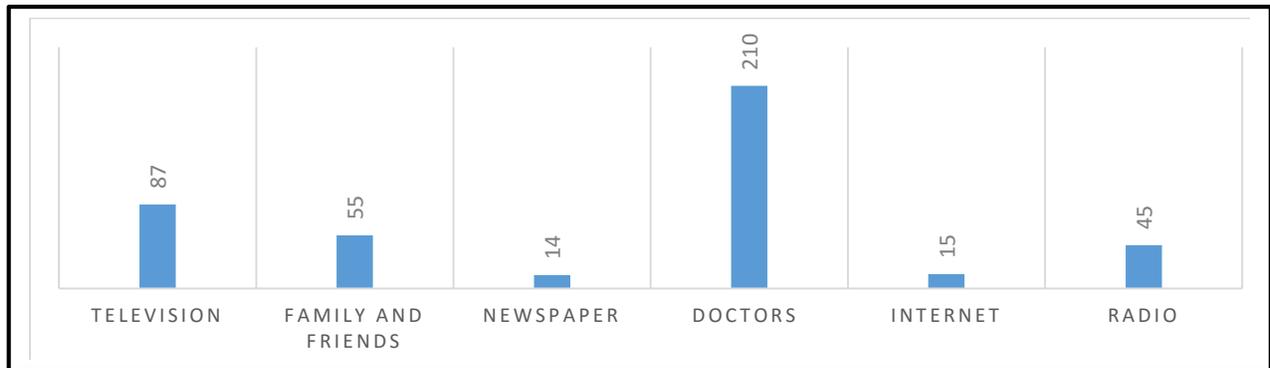**Figure 1**. Awareness regarding COPD among the study population

Figure 3. Source of the knowledge of the respondents regarding COPD

CHARACTERISTIC	WILLINGNESS TO QUIT (n,%)	NOT WILLING TO QUIT(n,%)	CAN,T SAY(n,%)
Age Group (In years)			
• 40-49	13(12.9)	68(64.8)	24(22.3)
• 50-59	39(23.1)	115(68.0)	15(8.9)
• 60-69	25(29.4)	48(56.5)	12(14.1)
>70 years	28(41.8)	28(41.8)	11(16.4)
Total	105,24.7	259,60.8	62,14.5

Table 3. Willingness to quit smoking among the study subjects