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"PREVALENCE OF SMOKING AMONG TRIBALS OF JHARKHAND PRESENTING WITH CHEST DISCOMFORT"

General Medicine

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ABSTRACT

AIMS: Cross sectional observational comparative study in a tertiary care hospital on prevalence of smoking among tribal population of Jharkhand, india presenting with chest discomfort.

MATERIAL AND METHODS: 101 subjects (53 male and 48 female) were selected for the study, who had presented with chest discomfort and history of smoking.

RESULTS: The prevalence rate of smoking (less than 20 smokes per day) was 26.41% & the prevalence rate of smoking (more than 20 smokes per day) was 11.32% in tribal males. Whereas in tribal females the prevalence rate of smoking (less than 20 smokes per day) was 28.57% & the prevalence rate of smoking (more than 20 smokes per day) was 4.16% in tribal female.

CONCLUSION: The prevalence of smoking among tribal patients of chest discomfort was found to be 60.38% and 40.82% among male and female tribal's of Jharkhand, India respectively.

KEYWORDS

Smoking, Chest discomfort, Tribal of Jharkhand.

INTRODUCTION:

About two-thirds of the global estimated 14.3 million annual cardiovascular disease deaths occur in the developing world. Ischaemic heart disease accounts for approximately 1.2 million death annually, and is the commonest cause of death globally. There are approximately 60 deaths per 100,000, giving rise to standardized mortality rate of 200 per 100,000, and continues to be major cause of morbidity & mortality. [1]. Cigarette smoking remains a leading cause of morbidity and mortality [2-5].

In the state of Jharkhand with its rich culture and heritage is also in increasing pace of development, urbanization, changing trends in life style, with growing modernization and is facing increased risk to I.H.D. There are scanty studies have been done in the tribal population of Jharkhand. However our clinical experience suggests that prevalence of Ischaemic heart disease is low in rural tribal in contrast to urban tribes who have adapted to urbanized way of life. The rural tribes are thin built, physically fit and have dwelling in hilly terrain of Jharkhand, down the centuries. Their traditional way is slowly changing, but still they are leading a life segregated from modern civilization, in contrast to urban tribes who have easy access to modernization and lead a more or less sedentary life and various harmful habits like smoking.

In a recent data collected over five years at Jharkhand reveals alarming prevalence showing 47% population are substance abuser, including 24% of tobacco user [6]. (Soren et al 2017). Different epidemiological studies have given divergent results as regards to relation between smoking and coronary heart disease. However prevalence studies based on questionnaire about symptoms applied to large national samples have shown a clear but not remarkable increase in the frequency of angina in proportion to the number of cigarettes smoked. The evidence from prospective studies in general are more consistent, showing that risk of death from C.H.D is higher in cigarette smokers than in those who never smoked.

The objective of present study is to determine the prevalence of smoking among patients of chest pain in tribal population of Jharkhand.

METHODLOGY

The study is a part of a major study entitled "A study on prevalence of ischaemic heart disease in tribes of Jharkhand" was conducted in Rajendra institute of Medical sciences, Ranchi, in department of Medicine. This hospital is responsible for catering medical services to tribal as well as non tribal coming from all walks of life. The target of present study is those tribes of Jharkhand hailing from rural as well as urban background and who attend medical outdoor patient's department with complain of chest pain and palpitation.

Procedure: Each tribal patient was subjected to questionnaire based on survey method of WHO, that clarifies smoker with the quantum and duration of smoking and type of smoking, number of smoking items smoker per day and age of starting smoking among the patient who had presented with chest discomfort.

Statistical Analysis:

The collected data of all patients was statistically analyzed, using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0. Frequency analysis was used for categorical data wise and percentage calculated.

RESULTS:

In this study total 101 subjects were studied, in which 53 male and 48 female subjects were taken. Out of which 12 were urban males and 41 were rural. While in females 10 were urban and 38 were rural (Table 1). All smokers fell in age group 30-59. The heavy smokers belonged to age group 30-39, while among 12 urban males 5 were heavy smokers, belonged to age group 30-49. 5 were moderate smoker of age group 40-49 and 2 subjects were ex-smoker belonged to age group >60 years. In rural area 66.66%, 16.66%, 81.81% and 39.62% were moderate, heavy, ex smoker and non smoker respectively (Table 2).

Out of 48 female examined, 28 (i.e. 58.33%) were non smokers. There was not a single smoker in age group 30-39, and 60 and above. All women out of 10 urban women subjects examined were non smokers. Prevalence of smoking habits of less than 20 smokes per day in males was 15(28.30%) out of 53 subjects. Whereas the prevalence of smoking more than 20 smokes per day in males was 6 (11.32 %).

The prevalence of smoking habit of less than 20 smokes per day of female subjects was 14 (29.16%), smoking more than 20 smokes per day of female subjects was 2 (4.16%), non-smokers were 28(58.33%) and ex-smokers were 4 (8.33%).

DISCUSSION:

In present study among tribal males, the percentage of smokers smoking less than 20 smokes, non smokers and ex-smokers were 28.30 percent, 39.62 percent and 20.75 percent respectively and in female

tribal their percentage was 29.16 percent, 59.18 percent, 8.16 % respectively. The percentages of smokers smoking more than 20 smokes were 11.32 percent and 4.16 percent in male and female respectively.

The study of west Malaysian aborigines [7], failed to show any relation between smoking and chest discomfort, which may be an indication of coronary heart disease. A study in 168 patients with stable chest pain who were referred for coronary angiography found that the following variables were significant predictors of CAD (≥ 75% stenosis in a least one coronary artery); age, gender, chest pain (type), diabetes, smoking, hyperlipidaemia, prior MI, and significant Q waves and ST-T wave changes [7]. Smoking prevalence in Greece is among the highest in the world and constitutes one of the most alarming public health issues [8]. The most common approach to studying the effect of cigarette smoking on platelet function has been to measure the platelet aggregation response to agonists ex vivo, e.g. adenosine diphosphate (ADP), collagen, thrombin, platelet activating factor, etc. The relationship between platelet aggregation and cigarette smoking was examined by a large number of studies. These studies suggest that smoking has two effects on platelets, i.e., a significant acute potentiating of platelet activation occurring shortly after smoking a cigarette, and a chronic desensitization of the cell to activating agents occurring during the period between cigarettes. Although there are numerous longitudinal investigations of the acute effects of smoking on platelet aggregation, the results produced have been conflicting. Some have demonstrated increased platelet aggregability immediately after smoking [9-12]. Women who smoke have higher burden of smoking-related diseases than men who smoke [13-18]. Women smokers have a 25% increased risk of developing coronary heart disease and chronic obstructive pulmonary disease (COPD) and a high incidence of lung cancer compared to men who smoke [13, 17]. The percentage of women in the workforce has also increased from 38% in 1970 to 47% in 2010 [19].

Despite the widespread prevalence of smoking in tribal males and females, there was only one instance of electrocardiographic changes (left ventricular hypertrophy), compatible with coronary heart disease. It may thus be concluded that smoking alone is not an important risk factors for the genesis of coronary heart disease.

The tribal population of Jharkhand needs well designed studies as regards the prevalence of coronary heart disease or its risk factors. There are numerous risk factors viz. age, sex, obesity, smoking, personality type A, Sedentary habit, hypertension and raised serum lipids.

Conclusion:

Prevalence of smoking among tribal patients presenting with chest discomfort was found to be 60.37% and 41.66% among male and female tribal's of Jharkhand respectively.

TABLE NO -1: Sex ratio of the population examined

Sex	No of subjects		Percentage
	Urban	Rural	
Male	12 (11.88%))	41 (40.59%)	52.47%
Female	10 (9.90%)	38 (37.62%)	47.52%
Total	22 (21.56%)	79 (77.44%)	100

Table 1: In this study 101 subjects were examined. Male patient constituted (53) 52.47% of total study Subjects. (12) 11.88% were males residing in urban area and (41) 40.59% in rural area. Female subject studied constituted (48) 47.52% out of which (10) 9.90% resided in urban area and (38) 37.62% in rural area.

TABLE-2: Prevalence of smoking in male subjects

Age-Group	Total no. Of subjects	Smokers smoking less than :20 smokes	Smokers Smoking More than: 20 smokes	Non-Smoker	Ex-Smoker
30-39yrs	8	5 (62.5%)	3 (37.5%)	00	00
40-49yrs	22	8(36.36%)	2(9.09%)	7(31.38%)	5(22.72%)
50-59yrs	7	2(28.57)	1(14.28%)	3(42.85%0	1(14.28%)
60yrs and above	16	0	0	11(68.75%)	5(31.25%)
Total	53	15	6	21	11
Percent		28.30	11.32	39.62	20.75

The table 2 shows that all smokers (smoking less than 20 smokes) fell in age group 30- 59. All smokers, smoking more than 20 smokes daily were also in age group 30-59. There were no none or ex-smoker. The heavy smokers belonged to age group 30-39. Out of 12 urban male's 5 were heavy smokers and belonged to age group 30-49. 5 were moderate smoker all of age group 40-49 and 2 were ex smoker belonging to age group 60 and above. In rural area 66.66%, 16.66%, 81.81% and 39.62% were moderate, heavy, ex smoker and non smoker respectively.

TABLE-3 : Prevalence of smoking in females subjects

Age Groups	Total no. Of subjects	Smokers smoking less than 20 smokes	Smokers smoking more than 20 smokes	Non Smoker	Ex Smoker
30-39Yrs	7	0	0	7(100%)	0
40-49Yrs	8	7(87.50%)	1(12.5%)	0	0
50-59Yrs	21	7(33.33%)	1(4.76%)	9(42.85%)	4(19.04%)
60Yrs and above	12	0	0	12(100%)	0
Total	48	14	2	28	4
Percent		29.16%	4.16%	58.33%	8.33%

Out of 48 female examined, 28 (i.e. 58.33%) were non smokers. There was not a single smoker in age group 30-39, and 60 and above. All women out of 10 urban women subjects examined were non smokers.

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