

Tribal Tobacco Survey among Young Adolescent of Central Part of India

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ABSTRACT

Aim: The study was aimed to find out the prevalence of tobacco use and to assess the perception of young tribal adolescent toward tobacco use in a tribal area of Hamalkasa, Gadchiroli, Maharashtra, India.

Materials and methods: A cross-sectional study design was carried out at four schools located at different villages of Hemalkasa, Gadchiroli, Maharashtra, India. Total of 1872 school children of 10–17 years of age was included in this study. Perception of tobacco use was recorded by a modified global youth tobacco survey questionnaire which was translated in a local language. Statistical analysis was performed by using statistical package for the social sciences (SPSS), version 11.5 and Chi-square test was used to analyze the significant difference.

Results: Out of 1872 tribal adolescent screened, 856 (45.7%) were tobacco consumer among them 544 (29.1%) were male and 312 (16.7%), female tobacco users. Mean age of starting tobacco use was 6.07 ± 1.47 years and the majority of tobacco consumers 679 (79.3%) were using smokeless tobacco while 139 (15.4%) were current smokers. Among tobacco users, 704 (82.2%) admit the use of tobacco by their family members and 260 (30.4%) reported the reason for starting tobacco use was peer pressure.

Conclusion: It can be concluded that the prevalence of tobacco use among tribal adolescent was exceptionally high. Overall, the study provides valuable information for future community-based studies on tobacco use in tribal area.

Clinical significance: The exploratory finding provides valuable input into current tobacco usage among the tribal adolescent and potential reasons for adopting the use of tobacco at an early age. The study finding can be used as baseline data for the planning and implementation of a tobacco cessation program among tribal adolescent.

Keywords: Adolescent, Tobacco cessation, Tribal people, Tobacco quit, Tobacco survey, Young people.

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INTRODUCTION

Tobacco use is one of the major public health problems the world has ever encountered. Unfortunately, the spread of the epidemic is sinuous toward the developing world, where more than 80% of deaths related to tobacco use will increase within a few decades. In the 20th century, more than 100 million has been killed by tobacco use and it was predicted a billion in the 21st century. This drastic shift has been ascribed to a strategy of the tobacco industry that targets youth and adults in developing countries.¹ In South-central Asia prevalence of head and neck cancer is overpass 80% and are found in the oral cavity and oropharynx. The occurrence of oral squamous cell carcinoma embraces over 90% of the malignancies, which begin as precancerous lesions such as erythroplakia, oral submucous fibrosis, leukoplakia, and erythroleukoplakia.^{2,3} In India, the prevalence of tobacco use is continuously increasing, due to considerable change in methods of tobacco use. Reports suggest that adolescence and early childhood between 15 years and 24 years in India is the most susceptible period for tobacco use.⁴ According to the Global Youth Tobacco Survey (GYTS) in Maharashtra, 12.9% of adolescents (13–15 years) are currently consuming some tobacco product.⁵ Tobacco product, primarily cigarette smoking, is a major preventable public health problem in most of the developing countries of the world. Evidently, tobacco use is a risk behavior of young youth.¹ In the year 2008, World No Tobacco Day–2008 theme was “Tobacco-free Youth” which focuses on adolescent to form a group and perform the awareness among them about hazards of tobacco use. Moreover, the primary focus was on prevention of tobacco use among young youth to improve the overall public health in the distant future. At the same time, it may be easier to inculcate healthy behaviors at a young age rather than to modify at later ages or after the onset of a disease.⁶

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In spite of various tobacco prevention and control policies over 50 years, it is apparent that the prevalence of tobacco use in India remains moderately intact.^{7,8} Moreover, it has been accounted for a relatively high prevalence of tobacco use in provincial than in the urban part of India. But the prevalence of tobacco use in a tribal area is generally high contrasted with to urban and rural partners.^{9,10} The National Institute for Research in Tribal Health (NIRTH), ICMR, has carried out a series of studies in Jabalpur, Madhya Pradesh to assess the magnitude of tribal health problems and to suggest measures to improve their health conditions. A community survey was conducted by the NIRTH to estimate the prevalence of tobacco use among the Gond tribe (aged >6 years) and had shown that 65% were using tobacco, mainly in the forms of bidi and gutka.¹¹ A study among school going children was done in the neighboring state Chhattisgarh reported that 20.4% used tobacco. Various studies revealed that tobacco consumption starts at the age of 6 and increases with the users' age.^{11,12}

In India, various community education program and awareness programs related to tobacco hazards seem to have increased in

recent times for increasing of anti-tobacco enterprises especially in the tribal area.⁴ There are insufficient studies that have been recorded the antitobacco message or programs in a tribal area of Gadchiroli. Therefore, this study was aimed to find out the prevalence of tobacco use and to assess the perception of adolescent towards tobacco use from a tribal area of Hamalkasa, Gadchiraoli, Maharashtra, India.

MATERIALS AND METHODS

The cross-sectional study design was used to do the survey at four Schools located at different villages of Hemalkasa, Gadchiroli, Maharashtra, India. The villages in this tribal area were located in the dense forests, and the main occupation was labor work and farming. A pilot survey was conducted among the 50 students of four different schools and found high prevalence tobacco use. Moreover, no tobacco ban policy and health promotional activities were planned in the past years. Total of 1872 school children from four schools consisting of male and female were included in this study. To be eligible for the study, participants should be students and of an age group of 10–17 years. The required permissions to conduct the study was taken from the concerned school authorities and informed consent was obtained from a participant before the start of the study. After the approval from school authority, the survey date was fixed and the survey was carried out by standard survey procedure. The participant interview was taken in a local language and care was taken to maintain the confidentiality of the statistics. A custom made organized interview plan was utilized to gather information. The interview plan was pilot tested before information gathering. The final questionnaire proforma comprises of inquiries related to socioeconomic data, tobacco use and its form and exposure to tobacco prevention activities and their perception tobacco use. Perception of Tribal adolescent was recorded by modified GYTS questionnaire.⁴ Sample questionnaire was translated in local language by forwarding translation and back translation method. Further, it was piloted on a group of students before the initiation of the study. Its validity and reliability were pretested and necessary corrections were made. Students were given a questionnaire in the classroom by a clinical assistant. The survey was administered during one class period. CDC–WHO designed procedures as the questionnaire itself is self-administered and the student's privacy was assured, and the student's participation was anonymous and voluntary. Students completed the questionnaire in the classroom, recording their response on the same sheet. For the statistical analysis of the data SPSS, version 11.5 software package was used. Chi-square test frequencies and cross-tabulation of the data were performed. Statistical significance was measured on a level of 0.05.

RESULTS

In the present study, there were 1872 tribal adolescent screened. Out of total study participants 1872 (100%), 856 (45.7%) number

of adolescent were tobacco consumer compared to nonusers of tobacco 1016 (54.3%). Among the 856 (45.7%) tobacco user adolescent 544 (29.1%) were male and 312 (16.7%) female. The mean age of tobacco user was found to be 14.81 ± 2.18 , whereas the mean age of starting tobacco users was 6.07 ± 1.47 years. Out of 856 (100%) tobacco users, 679 (79.3%) were using smokeless tobacco, and 139 (15.4%) were current smokers. It has been observed that 38 (4.4%) of tribal adolescent were consuming both smokeless and smoke form of tobacco. Another salient finding of the present study was that 72 (3.8%) of tobacco users and 12 (0.6%) of nonusers of tobacco were found to have oral mucosal lesion like oral submucosa fibrosis, lichen planus, leucoplakia, etc. (Table 1). To confirm these mucosal findings, the clinical assistant was calibrated by faculty from oral diagnosis department. The major factors which can influence the tobacco intake are social customs and belief.

Moreover, it determines the behavior of the individual. In the present study perception of tribal adolescent was recorded by modified GYTS questionnaire to understand their customs and beliefs towards tobacco use. Table 2 shows the distribution participants response to GYTS. Firstly, tobacco use among family members was assessed among the tribal adolescent, 704 (82.2%) tobacco users and 880 (86.6%) nonusers of tobacco admit the use of tobacco by their family members. Response to question on the harmful effect of tobacco on health was found significantly less among tobacco users 556 (65.0%) compared to nonusers of tobacco 900 (88.6%). Influence of peer to start tobacco was found significantly higher among tobacco users 260 (30.4%) compared to nonusers of tobacco 12 (1.2%). Moreover, both groups admitted that boys or girls who smoke or chew tobacco have few friends. It was also observed that a majority of participants saw the tobacco advertisements on television, fairs, community events, at home and also on social places like at poojas or in the weekly market. This might be the reason for the increased use of tobacco among tribal adolescent. Further, tribal adolescents were asked regarding the effect of tobacco on others, significantly less number of Tobacco users 608 (71.0%) responded yes to this question compared to nonusers of tobacco 892 (87.8%). As per new guideline, it is mandatory to teach the harmful effect of tobacco use in school, but it was found that less number of tobacco users 588 (68.7%) know about this compare to nonusers of tobacco 872 (85.8%). In addition to these participants reported that they have seen many teachers smoking or chewing tobacco during teaching hours. The study participant's opinion was taken in regards to increasing in the price of tobacco products, significantly higher nonuser of tobacco 904 (89.0%) supported this compared to 584 (68.2%) tobacco users. The study participant also supported the policy specifically prohibiting tobacco use among school students. In further questions participants view about quitting tobacco was recorded and it was found that 492 (57.5%) of tobacco users think that it would be difficult for someone to quit once he/she has started smoking or chewing tobacco, whereas 508 (50.0%) of nonusers of tobacco thinks it is definitely not difficult to quit. It was observed

Table 1: Demographic profile of tribal adolescent

Tribal adolescent	Number	Sex		Mean age	Mean age of starting tobacco use	Type of tobacco use			Presence of oro-mucosal lesions
		Male	Female			Smokeless	Smoke	Both	
Tobacco users	856 (45.7%)	544 (29.1%)	312 (16.7%)	14.81 ± 2.18	6.07 ± 1.47	679 (79.3%)	139 (15.4%)	38 (4.4%)	72 (8.4%)
Nonusers of tobacco	1016 (54.3%)	552 (29.5%)	464 (24.8%)	13.21 ± 2.51	--	--	--	--	12 (1.2%)

Table 2: Perception of tribal adolescent for tobacco use

Tribal adolescent	Response of tribal adolescent for tobacco use		Total
	Yes	No	
Question 1	Do any of your family member smoke cigarettes or chew tobacco?		
Tobacco users	704 (82.2%)*	152 (17.8%)	856 (100.0%)
Nonusers of tobacco	880 (86.6%)	136 (13.4%)	1016 (100.0%)
Question 2	Do you think cigarette smoking or chewing tobacco is harmful to your health?		
Tobacco users	556 (65.0%)*	300 (35.0%)	856 (100.0%)
Nonusers of tobacco	900 (88.6%)	116 (11.4%)	1016 (100.0%)
Question 3	If one of your best friends offered you a cigarette or a bidi or chewing tobacco, would you take it?		
Tobacco users	260 (30.4%)*	596 (69.6%)	856 (100.0%)
Nonusers of tobacco	12 (1.2%)	1004 (98.8%)	1016 (100.0%)
Question 4	Do you think boys or girls who smoke or chew tobacco have fewer friends?*		
Tobacco users	480 (56.1%)	376 (43.9%)	856 (100.0%)
Nonusers of tobacco	932 (91.7%)	84 (8.3%)	1016 (100.0%)
Question 5	Have you ever saw advertisements for cigarettes or tobacco on television, fairs, community events, poojas or weekly market?		
Tobacco users	648 (75.7%)	208 (24.3%)	856 (100.0%)
Nonusers of tobacco	752 (74.0%)	264 (26.0%)	1016 (100.0%)
Question 6	Do you think tobacco smoke is harmful to other? *		
Tobacco users	608 (71.0%)	248 (29.0%)	856 (100.0%)
Nonusers of tobacco	892 (87.8%)	124 (12.2%)	1016 (100.0%)
Question 7	During the last school year, were you taught in any of your classes about the dangers of smoking or chewing of tobacco? *		
Tobacco users	588 (68.7%)	268 (31.3%)	856 (100.0%)
Nonusers of tobacco	872 (85.8%)	144 (14.2%)	1016 (100.0%)
Question 8	The price of tobacco products should be increased. *		
Tobacco users	584 (68.2%)	272 (31.8%)	856 (100.0%)
Nonusers of tobacco	904 (89.0%)	112 (11.0%)	1016 (100.0%)
Question 9	Do you think, schools should have a policy specifically prohibiting tobacco use among students. *		
Tobacco users	720 (84.1%)	136 (15.9%)	856 (100.0%)
Nonusers of tobacco	888 (87.4%)	128 (12.6%)	1016 (100.0%)
Question 10	Have you ever seen teachers smoking or chewing tobacco during teaching hours? *		
Tobacco users	648 (75.7%)	208 (24.3%)	856 (100.0%)
Non users of tobacco	884 (87.0%)	132 (13.0%)	1016 (100.0%)
Question 11	Once someone has started smoking or chewing tobacco, do you think it would be difficult to quit? *		
Tobacco users	492 (57.5%)	364 (42.5%)	856 (100.0%)
Nonusers of tobacco	508 (50.0%)	508 (50.0%)	1016 (100.0%)
Question 12	During the past year, have you ever tried to stop smoking cigarettes or using tobacco?		
Tobacco users	632 (73.8%)	224 (26.2%)	856 (100.0%)
Nonusers of tobacco	–	–	1016 (100.0%)

* $p < 0.05$ significant

that 632 (73.8%) Tobacco Users tried at least once to quit the tobacco habit but could not do it completely.

DISCUSSION

Nowadays, tobacco plays a vital role in the villagers' life. The prevalence of smoking and smokeless tobacco varied dramatically between the tribal adolescent with its urban or rural counterpart. The present study reported a significantly high prevalence of tobacco use among tribal adolescent 856 (45.7%). Out of 856 (45.7%), the prevalence of tobacco use was significantly high among

adolescent boys 544 (29.1%) compared to adolescent girls 312 (16.7%). GYTS reported 17.5% prevalence which was found to be less compared to the present study whereas in Maharashtra state survey 48.2% men and 10.5% women were tobacco consumer.¹³

The mean age of starting tobacco use was 6.07 ± 1.47 years, was in contrast with the study reported by Dhekale et al. of a tribal (Kolam) community where most of the participants started tobacco use between 5 years and 15 years. This difference could be because the factors which influenced the tobacco consumption were present in the home environment predominantly and it also affected by beliefs, and behaviors toward tobacco habits.⁶ The present study

also demonstrated that the prevalence of tobacco consumption in adolescent females was 312 (16.7%). The study carried out by Jayakrishnan et al.¹⁰ found a high prevalence of a smokeless form of tobacco use between the age group of 13 years and 80 years among tribal male (65.0%) and female (24.7%). Dongre et al.¹⁴ in 2008 conducted community-based research to study the pattern of tobacco among rural adolescents of Wardha, Maharashtra (which is nearer to the study area of the present study). Out of the total 385 participants in the study, 68.3% of the boys and 12.4% of the girls had consumed tobacco in any form during the last 30 days. The tribal adolescent in the present study consumed both smokeless 679 (79.3%) and smoke 139 (15.4%) form of tobacco. Which was found to be more compared to Gunjal et al.¹⁵ (smokeless 41.74% and 2.86% smoke form) but less compared to the study by Dhekale et al.⁶ (smokeless 89.91% and 10.45% smoke form. The higher prevalence of tobacco use in his study could be due to a broader range of age group involved and different socioeconomic pattern. Other study showed high rates of smoking in the Northern tribal group whereas the Southwest tribe had low rates of smoking.¹⁶ The habit of tobacco use among the school children in these areas can be attributed to the easy availability of *tendu patta* leaves (used to make bidis in India) and easy availability of tobacco from their parents.

Furthermore, native tribal adolescents were misunderstanding commercial tobacco in the form of cigarettes, snuff, dip, and other products. The challenge for many tribal communities to maintain the traditional use of tobacco which has significant spiritual and cultural values. This in total creates many hurdles to establish tobacco prevention and control policy for tribal areas. In the present study prevalence of tobacco use was found more among the family members which might be the reason for increased use of Tobacco among tribal adolescent. However, in a study by Kumar M et al.¹⁷ in Chennai in 2006, Gaikwad et al.¹⁸ Gondivkar et al.¹⁹ in central India and Chadda et al.²⁰ reported that smoking by a close relative and family members were significantly associated with adolescent smoking. In the present study tribal adolescent responded positively toward harmful use of tobacco on health, GYTS 2002 in Uttaranchal²⁰ 60.2% of students agreed that smoking or chewing tobacco was harmful to them. In a study in Uganda by Muula²¹ 84.2% of students agreed that smoke from other people's cigarette was definitely harmful. Moreover, in the present study, 588 (68.7%) tobacco users and 872 (85.8%) of nonusers of tobacco are in favor of banning tobacco use from public places like school. Reddy and Gupta²² GYTS 2002–2004 revealed that 74.8% of students and study by Mpabulungi L and Muula²¹ 64.9% of students were in favor of banning tobacco use in public places. Quitting prevalence of tobacco was assessed, and it was found that 632 (73.8%) of tobacco users ever thought about quitting tobacco. Reddy and Prakash Gupta²² GYTS 2002–2004 reported 71.4% had tried to quit in the past year. However, in a study by Kumar et al.¹⁷ in Chennai in 2006 53.6% of the current smokers had already tried to quit in the past year.

LIMITATIONS

The present study had a few limitations. First, the study has not comprehensively estimated the impacts/dangers of tobacco use in tribal adolescent. Second, tobacco use and smoking status was recorded by self-reported data. Studies have shown that self-reporting of smoking status can acquaint with a bias toward a socially anticipated response.

CONCLUSION

This study was aimed to find out the prevalence of tobacco use among tribal adolescent of Gadchiroli. It can be concluded that

the prevalence of tobacco use among the tribal adolescent was exceptionally high and a majority of them were consuming a smokeless form of tobacco. Most of the tobacco users tried quitting the tobacco habit, but the majority of them thought that it would be difficult for someone to quit once he/she has started smoking or chewing tobacco. The present study was a cross-sectional which limits the study findings. There is a need for a large population-based survey and tobacco prevention and control strategy to be implemented as early as possible. A tribal adolescent can be motivated to avoid tobacco use by educating them about its harmful effects, and through counseling by their adolescent leaders and teachers. Overall, the study provides valuable information for future community-based studies on tobacco use in tribal area.

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