

# Prevalence & Pattern of Tobacco Use among Adolescents in Vijayapura City, Karnataka – A Cross Sectional Study

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## Abstract

**Introduction:** Tobacco contains the alkaloid nicotine, which is a stimulant, and harmful alkaloids & has addictive properties. Adolescent age group is the period of transition from childhood to adulthood and the habits that usually start in this age group will remain throughout life. GATS-2 highlights, 19% of men, 2% of women and 10.7% of all adults currently smoke tobacco. 29.6% of men, 12.8% of women and 21.4% of all adults currently use smokeless tobacco. **Objectives:** To find the Prevalence & Pattern of Tobacco use among adolescents in Vijayapura city. **Method:** A cross-sectional study was conducted in Vijayapura city, which is the headquarter of Vijayapura district of Karnataka state, for 3 months among adolescents(10-19yrs) by using structured proforma, containing socio-demographic profile, details & pattern of tobacco use, money spent on tobacco products & knowledge of side-effects of tobacco use. **Results:** Among 432 adolescents interviewed, 28% were found using tobacco (smokeless> smoking), Male >females, Literates >illiterates, students >working group. The average money spent on tobacco was Rs.14 for smoking form & Rs.12 for smokeless form of tobacco. Tobacco use was started at the age of 14years. Parental influence to start the use of tobacco by adolescents was observed. **Conclusions-** The prevalence of tobacco use found among adolescent is around one third of the overall. The young Indians have lot of addictions and distractions, which include tobacco as one of it. It is very necessary to control the tobacco habit & protect the adolescents against the health hazards of tobacco.

**Keywords:** Adolescent, Nicotine, pattern of tobacco, oral cancers.

## Introduction

The epidemic of tobacco use is one of the greatest threats to global health today. It is one of the preventable causes of disease and disability around the world. According to estimates made by the World Health Organization (WHO), currently about 5 million people die prematurely every year in the world due to the use of tobacco and by 2030, it would double to 10 million deaths every year, with about 7 million of the deaths taking place in developing countries. India will have the fastest rate of rise in deaths attributable to tobacco and many of these will occur in the productive years of adult life, as a consequence of an addiction acquired in youth.<sup>1</sup>

The tobacco plant, Nicotiana, has probably been responsible for more deaths than any other herb. At present, tobacco smoking is causing over 3 million

deaths a year worldwide, and if current smoking trends continue the annual mortality will exceed 10 million by around 2030.<sup>2</sup> Add to this the mortality from cancers caused by oral uses and the death toll becomes still higher.<sup>3</sup>

Adolescents, in today's world, are increasingly exposed to changing lifestyles that have very negative impact on health. Addictions developed in adolescence are likely to persist into adult life. One such addiction being tobacco use among children and adolescents is reaching at its pandemic levels. The World Bank has reported that between 82,000--99,000 children and adolescents all over the world begin smoking every day. About half of them will continue to smoke into adulthood and half of the adult smokers are expected to die prematurely due to smoking related diseases. If

current smoking trends continue, tobacco will kill nearly 250 million of today's children.<sup>4</sup>

The tobacco situation in India is unique because of a vast spectrum of tobacco products available for smoking as well as smokeless use. The risks of tobacco use are highest among those who start early and continue its use for a long period.<sup>5</sup> The early age of initiation underscores the urgent need to intervene and protect this vulnerable group from falling prey to this addiction. The most common reasons cited for children to start using tobacco are peer pressure, parental tobacco habits, and pocket money given to children.<sup>6</sup> It is seen that smoking and drinking become symbols of maturity and independence, among the young people. For them, the use of tobacco provides an opportunity for taking part in a behavior that defies established social norms.<sup>7</sup>

With this background a survey was planned to find the Prevalence & Pattern of Tobacco use among adolescent age group in urban area.

### Methodology

A prospective cross sectional study was planned to achieve the desired objectives by using structured interview method. The study was conducted in Vijayapura city, which is the district headquarter of Vijayapura district of Karnataka state of India. Study period was total two months (Feb-March 2019), during which preparation for the study was done initially followed by training of Medico-social workers. Study units were residents of Vijayapura city in the adolescent age group (10 to 19yrs)<sup>8</sup>.

With 95% confidence level and margin of error of  $\pm 5\%$ , a sample size of 384 subjects will allow

the study to determine the Prevalence n pattern of tobacco use in Vijayapur city. Adjusting for 5% drop out rate, recruitment target will be set at 405 subjects. By using the formula:  $n = z^2p(1-p) / d^2$ . Where,  $z = z$  statistic at 5% level of significance,  $d$  is margin of error,  $p$  is anticipated prevalence rate (50%)the survey was conducted in Vijayapura city, which contains six Government Urban Health Centers. The sample size of 408 was divided in six UHC of the city and that comes around 68 adolescents in each area of UHCs.

Those who are falling in the prescribed age group were enrolled in the study by using Simple random technique and they were interviewed by the trained team members after taking informed consent & by using the proforma, which contains socio-demographic profile, details of tobacco use, pattern of tobacco use by them, amount spent on purchase of tobacco products & knowledge of side effects of tobacco use. The city was divided in to six areas, which were covered by six different Urban Health Training centers.

All characteristics were summarized descriptively. For continuous variables, the summary statistics of  $N$ , mean, standard deviation (SD) was used. For categorical data, the number and percentage was used in the data summaries and data was analyzed by Chi square test for association and diagrammatic presentation.

### Results

Total 432 people in the age group of 11 to 19 yrs were participated in the study from throughout the Vijayapura city after giving informed consent. Nearly equal proportions of participants were included in the study from all the six areas of the Vijayapura city (Fig. 1).

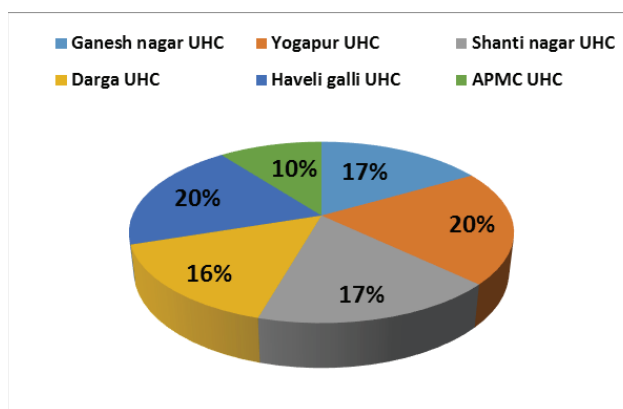
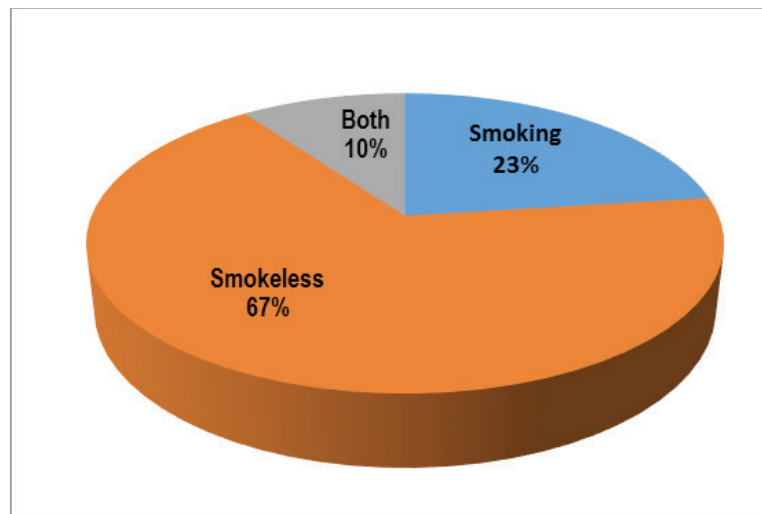


Figure No 1: Frequency distribution of Participants Based on Six UHC Areas



**Figure II – Prevalence & Pattern Of Tobacco Use In Vijayapura City**

Out of 432 interviewed for tobacco use during the study around 123 (28.4%) were found using one or other forms of tobacco currently. The prevalence of tobacco use in Vijayapura city among adolescents was 28.4%. Around 67% of tobacco users found using various forms of smokeless form of tobacco followed by smoking form (23%). About 10% of tobacco users were using both form of tobacco currently (fig.2).

**Table No.1: Age Wise Distribution of Tobacco Users**

Parameters	Currently Using Tobacco		Type					
			Both type		Smokeless		Smoking	
	N	%	N	%	N	%	N	%
AGE (YRS)	< 18	31.7%	31.7%	01	8.3%	27	32.5%	11
	≥ 18 – 19	68.3%	68.3%	11	91.7%	56	67.5%	17

Majority of tobacco users were having age more than 18 years whereas 31.7% were under the age group of 18 years i.e. in the Minor age group that means they have access to tobacco purchase probably easily. In both age groups smokeless form was found more commonly than smoking form (Table.2).

About 92% of tobacco users were male whereas females using tobacco was found only 8%. All the females were using smokeless form of tobacco and not the smoking may be because of traditional values not support smoking by female in India. Among males smokeless form (73%) is found more commonly than smoking form (28%).

Majority of tobacco users were having education level of higher secondary (56.9%) followed by secondary level education (30%) & graduation level (8.9%). Only 1.6% of tobacco users were Illiterate, which signifies there is no relation between education level and tobacco use by adolescent age groups in present century.

**Table No 2: Occupation Wise Distribution of Pattern of Tobacco use**

Currently Using Tobacco	Type					
	Both		Smokeless		Smoking	
N =123	%	N	%	N	%	N
Labour	20	16.3%	06	50.0%	13	15.7%
Skilled/ Semi-Skilled Workers	40	32.5%	01	8.3%	31	37.3%
Student	62	50.4%	04	33.3%	39	47.0%
Unemployed	01	0.8%	01	8.3%	00	0.0%

Majority of tobacco users were students (50%) i.e. engaged in one or other grades of education followed by those who were working (skilled/semi skilled work – 32.5%). Tobacco use was seen in labours (16.3%) & unemployed (0.8%) was very less compared to students (Table.2).

**Table No 3: Details of Tobacco Use Among Tobacco Users**

Parameters		Male		Female		$(\chi^2 \text{ test})$ p value
		Mean	SD	Mean	SD	
Smoking	Duration (years)	02	0.5	-	-	-
	Money Spent On It per Day	14.1	13.1	-	-	-
Smokeless	Duration (years)	04	01	01	0.5	0.004*
	Money Spent on it per day	12.8	05	09	04	0.003*
Tobacco Use Was Started First Time At The Age of		14.6	04	06	4.1	0.003*

Note: \* significant at 5% level of significance ( $p < 0.05$ )

Mean duration of tobacco use among male users was around 2 months in smoking and 4 months in smokeless form. The average money spent by the users of tobacco was Rs. 14 for smoking form & Rs. 12 for smokeless

form of tobacco. Tobacco use was started at the age of 14 years on an average among users of tobacco, which is very early phase of adolescence.

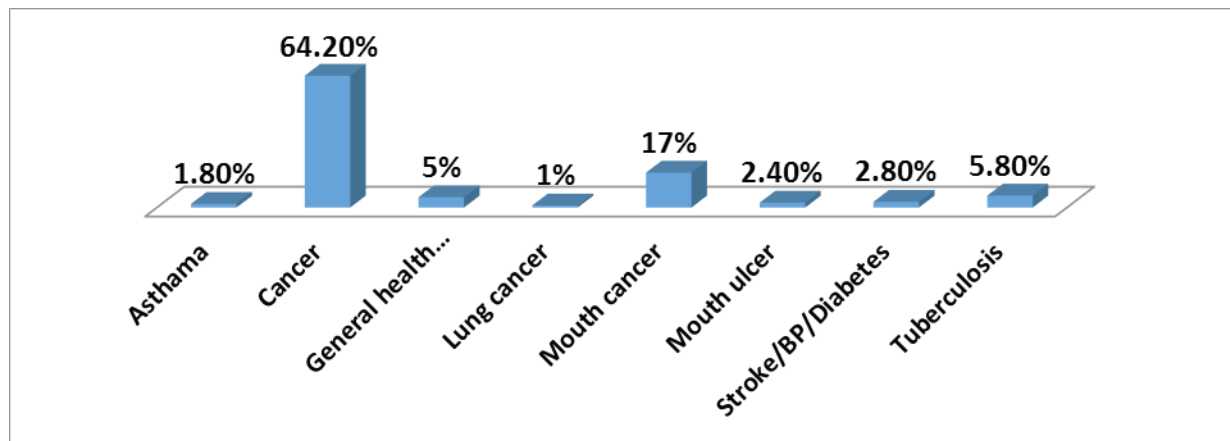


Figure 3: Type of Side Effects Mentioned by the Study Participants

## Discussion

This study reports prevalence of tobacco use among the adolescents of Vijayapura city is 28%. The proportion of smokeless tobacco (67%) use is more compared to smoking (23%) and both (10%) form of tobacco among adolescents. The proportion is found more in areas covered by Haveli galli (35%) Urban health center followed by Shanti nagara (17%) UHC.

Adolescents and children are the prime targets of the tobacco industry when recruiting new smokers. About 20 million children of ages 10 – 14 are estimated to be tobacco - addicted according to a survey done by the National Sample Survey Organization of the Indian Government. Important studies done on schools & college students shows the prevalence of smoking has been found to vary from 6.9 to 22.5% among the male school and college students. Among the girl, the prevalence is considerable low varying from 0-2.3%.<sup>9</sup>

Md Shakeel Anjum et al found majority of 76.4% of the teenagers agreed that smoking habit gives psychological pleasure, 77.5% agreed that smoking starts because of friends and 65.7% felt that smoking starts as an inspiration for outlook and personality.<sup>10</sup>

Sharma R et al<sup>11</sup> concluded in his study that tobacco use as an important risk behavior among adolescent students. Around 88 (16.0%) students reported having ever tried smoking (cigarette or bidi). The prevalence of tobacco use overall was found to be 20.9%, and was significantly higher ( $P=0.016$ ) among the males than the

females. The prevalence of current smoking was 7.1%. Exactly 10% (55) of the students reported having ever used smokeless forms of tobacco. Tobacco use was found to be significantly associated with having seen a siblings smoke (OR 5.15), best friend smoke (OR 2.92), and belonging to a nuclear family (OR 1.96).

The overall prevalence of tobacco use was 28.7%. Curiosity and peer pressure were the main reasons behind using tobacco. Tobacco use by parents or siblings had a significant influence on adolescents using tobacco. 65.1% of adolescent tobacco users were burrowing or stealing money for their tobacco use. 25.3% of adolescents had no knowledge regarding harmful effects of tobacco.<sup>12</sup>

Out of 1454 students, 1312 students completed the questionnaires with a response rate of 90.23%. Prevalence of ever use of any tobacco product was 19.7% (95% CI 17.7 to 21.6). More than half of the tobacco users (51.9%) consumed tobacco in public places whereas almost a third (75.6%) of the consumers purchased tobacco from shops. Multivariate analysis showed that tobacco use was associated with late adolescence (OR: 1.64; 95% CI 1.17 to 2.28), male gender (OR: 12.20; 95% CI 7.78 to 19.14), type of school (OR=1.72; 95% CI 1.01 to 2.94), Janajati ethnicity (OR: 2.05; 95% CI 1.39 to 3.01) and receiving pocket money  $\geq$  Nepalese rupees 500/month (OR: 1.45; 95% CI 1.04 to 2.03).<sup>13</sup>

George RM et al<sup>14</sup> studied awareness about ill effects of tobacco among adolescent students showed out of the 407 children, 102 (25%) have tried cigarette

smoking, while 7.9% have tried smokeless tobacco. Almost 14.3% of them attempted to buy tobacco products and the shopkeepers sold it to them. A major proportion of the adolescents, 81.1% of them, believe that smoking can definitely cause harm to health, while 66.1% of them were aware about the harmful effects of passive smoking. About 73.7% were in favor of the idea of banning smoking in all enclosed public places.

Sreeramareddy CT et al<sup>15</sup> studied tobacco use amongst junior collegiate in Nepal found overall prevalence of 'ever users' of tobacco products was 13.9%. Prevalence among boys and girls was 20.5% and 2.9% respectively. Prevalence of 'current users' was 10.2% (cigarette smoking: 9.4%, smokeless products: 6.5%, and both forms: 5.7%). Median age at initiation of cigarette smoking and chewable tobacco was 16 and 15 years respectively.

### Conclusion

The prevalence of tobacco use found in Vijayapura city among adolescent age group is around one third of the overall, which is big number in itself to weaken the future generation. Smoking is not very well accepted by the Indian tradition and smokeless form is considered as safest form of tobacco and can be used. The present study also shows the maximum proportion of smokeless tobacco use. But the smokeless form of tobacco is equally harmful compared to smoking form. The young Indians have lot of addictions and distractions, which include tobacco as one of it. It is very necessary to control the tobacco habit & protect the young generation against the health hazards of tobacco use.

### Recommendations:

Strict implementation of regulations of COTPA-2003 at public places & the educational Institutes is required. Awareness creation among young age group about health hazards of all forms of tobacco. Encourage health educational activities at schools especially regarding tobacco & health.

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**Conflict of Interest:** Nil

**Ethical Clearance:** Taken from the Institutional Ethics Committee

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