



Original Research Article

Knowledge about harmful effects, Attitude and Practices of tobacco among adult tobacco users in Turki, Muzaffarpur

Article History:

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Received: 28-11-2025

Revised: 05-12-2025

Accepted: 12-12-2025

Published: 28-12-2025

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Abstract: Background: Awareness about harmful effects of tobacco contributes to a more considerable extent to behaviour modification and tobacco cessation practices. This cross-sectional study was conducted to assess the knowledge about harmful effects, attitude and practices of tobacco among adult tobacco users in Turki, Muzaffarpur. **Materials and Methods:** The study was hospital-based survey including 801 tobacco users of 18- 80 years age. Simple random sampling technique was used. The data was recorded by interview method by single trained and calibrated investigator using a predesigned, pretested, structured proforma. Chi square test, Univariate and Multivariate logistic regression analysis was used for data analysis with level of significance for p-value <0.05 at 95% confidence level. **Results:** (89.4%) males and (33.9%) females had knowledge about harmful effects of tobacco. 673 (89%) of current tobacco users want to quit tobacco. Largest no of tobacco users (44.9%) used tobacco 5- 10 times and 56.7% population used tobacco since >15 years. Highest percentage of tobacco users (41.1%) had fair knowledge score, 69.9% had good attitude score and 91.0% had fair tobacco practices. **Conclusions:** The data might prove valuable in identifying high-risk populations, planning future oral health studies and implementing preventive programmes. Tobacco law enforcement on smoking at public and private places should be more strongly pursued.

Keywords: Knowledge, Attitude, Practices, Tobacco.

INTRODUCTION

Tobacco is the most preventable cause of premature death and risk factor for major non-communicable diseases.¹ Tobacco usage causes more than 8 million deaths per year, with 7 million of these attributable to direct tobacco use. Moreover, 80% of the world's 1.3 billion tobacco users live in low/middle-income countries (LMICs)² and tobacco consumption is continuously increasing there^{3,4} due to a lack of awareness in the population, insufficient health infrastructure and weak regulatory interventions.⁵ India is home to 275 million tobacco users and is second to China in tobacco products.⁶ In India,

tobacco is responsible for one-tenth (1million) of all the deaths each year and a significant burden of cancer cases (45% of male's cancer and 20% of female's cancer).^{7,8} India displays a diverse pattern of tobacco use, such as cigarettes, bidis, khaini, paan and gutkha and almost 50% tobacco users use chewing tobacco, followed by smoking and dual-use.⁹ Chewing tobacco products is widely prevalent in India, which was 74% of the global burden.¹⁰ Tobacco use is not merely a sociocultural problem but also associated with economic, biomedical, geopolitical aspects and increasing use in active age groups such as in adolescents, young adults and women in many parts

of India. According to the Global Adult Tobacco survey 2 (GATS 2), in India, 92% of adults believed that smoking causes severe illnesses and 96% believed that chewing tobacco products can cause serious illness.¹¹ The government of India launched the National Tobacco Control Program in 2007–08 with one of the primary objectives was to do public awareness/mass media campaigns for awareness building and behaviour change. Studies from other LMICs have demonstrated that an increase in levels of awareness has not continually transformed into desirable quit rates. This disconnection between awareness and quit rates would provide new targets for devising more focused public health education campaigns.^{12,13} Awareness provides a dual benefit of motivating users to contemplate, quit tobacco and dissuading non-smokers from adopting this habit.^{14,15} It needs to be studied in entirety concerning socioeconomic and regional distributions to get a clear view on this aspect. So, the study was done to assess knowledge about harmful effects, attitude and practices of tobacco among adult tobacco users in Turki, Muzaffarpur.

MATERIALS AND METHODS:

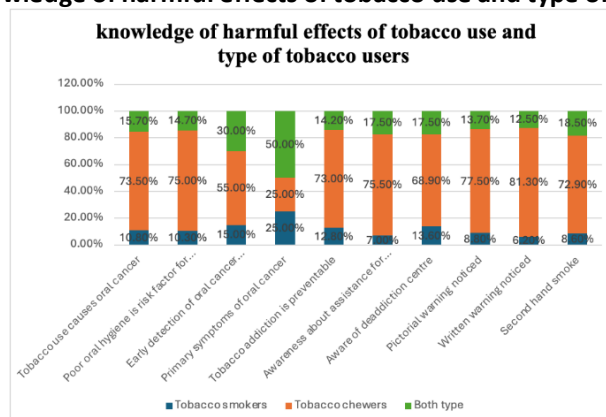
A cross -sectional survey was conducted in dental

department of medical college where patients came in the OPD during survey who were tobacco users of 18–80 years of age and signed informed written participatory consent, were included in the study and exclusion criteria were systemic disease, oral infection and local trauma and alcohol consumption habit. Simple random sampling technique was used for selection of total 801 participants calculated by formula. Ethical clearance was obtained from institution before conducting the survey. The data had been recorded by interview method by single trained and calibrated investigator using a predesigned pretested structured proforma including questionnaires on socio-demographic variables, socioeconomic status using **modified Kuppuswamy scale (updated for 2023)**¹⁶, knowledge about harmful effects, attitude and practices of tobacco. The questionnaire was prepared in both English and local languages Hindi. Pilot study was done for validation of questionnaire. The data had been entered into MS Office Excel sheet and analysed with SPSS software version 21.0. by using Chi square test, Univariate and Multivariate logistic regression analysis and data were considered significant for p-value <0.05 at 95% confidence level.

RESULTS:

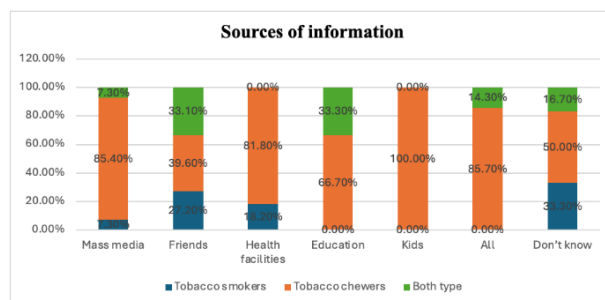
In the study, 102 (12.7%) tobacco smokers, 579 (72.3%) tobacco chewers and 120 (15.0%) both type of tobacco users were present. Males were 84.9% and females were 15.1%. Females were more in smoker's group, however males were more in chewers and both type of tobacco user's groups. Largest number of tobacco chewers had knowledge about harmful effects of tobacco as compared to tobacco smokers and both type of tobacco users. (**Figure 1**).

Figure 1: Knowledge of harmful effects of tobacco use and type of tobacco users



Knowledge about harmful effects of tobacco were gained more from mass media (40.9%) than by friends (21.1%) among which tobacco chewers were largest in number. (**Figure 2**).

Figure 2: Source of information gained and type of tobacco users



Highest number of tobacco users used tobacco of any type for increasing concentration during work (29.0%), followed by for social benefits (25.0%) and for getting self- confidence (24.1%). Highest percentage of tobacco smokers used tobacco for relieving stress (57.4%), tobacco chewers for increasing concentration in work (93.1%), followed by for social benefits (92.0%), for increasing self- confidence (71.0%) and for relieving toothache (66.7%) and both type of tobacco users for getting all benefits mentioned above.

Highest percentage of tobacco chewers believed that smoking should be prohibited in closed public places (73.4%), tobacco free hospital would provide better health services (73.2%), health care programme was needed for quitting tobacco (74.0%), teaching faculty should adopt programme that help medical students in quitting tobacco (73.2%), on selling tobacco products taxes should be increased/ banned (74.3%), responsibility of physician/ dentist to convince people to stop tobacco use (71.7%), on every appointment they should motivate patient to quit tobacco (61.3%), health professionals should get specific training to help patients for quitting (71.7%), followed by both type of tobacco users and tobacco smokers.

There were 94% current and 6% former tobacco users and there were no significant differences in knowledge score about harmful effect of tobacco, attitude score and practices score among the above two group. Highest percentage of tobacco chewers 531 (70.5%) consumed tobacco within 30 days, started using tobacco at <12 years (71.4%), followed by 12-15 years (69.2%), 16-19 years (57.0%), 20 years and above (77.4%), started using tobacco within 5 minutes (66.3%), 6-60 minutes (85.7%) and >60 minutes (69.6%). About 673 (89%) of current tobacco users want to quit tobacco among which tobacco chewers were 73.0% and 513 (68.0%) of current tobacco users who tried to quit it among which 70.8% were tobacco chewers. Highest percentage (30.0%) of study population tried to quit tobacco due to personal reason (tobacco chewers 70.1%), followed by 29.0% due to health problem (tobacco chewers 80.8%). About 61.9% tobacco users used tobacco at any place (tobacco chewers 79.0%) and 26.1% used tobacco at home (58.9% tobacco chewers). About 17.0% tobacco users felt difficult to avoid it at forbidden places (94.1% tobacco chewers) and 32% participants used tobacco when feeling ill enough to be on bed (75.0% tobacco chewers). Highest percentage of tobacco users, 44.9% used tobacco 5- 10 times (73.6% tobacco chewers), followed by 34.1% used tobacco upto 4 times (74.0% tobacco chewers), 15.0% used tobacco 16 times and above (66.7% tobacco chewers). Highest percentage of tobacco users, 56.7% used tobacco since >15 years (74.4% tobacco chewers), followed by 12.9% used tobacco since >5-10 years (69.9% tobacco chewers), 12.4% used since >2-5 years (49.5% tobacco chewers) and 11.5% used tobacco since >10-15 years (87.0% tobacco chewers). Highest percentage of tobacco users (41.1%) had fair knowledge score, 69.9% had good attitude score and 91.0% had fair tobacco practices. (Table 1).

Table 1: Distribution of study population according to knowledge score about harmful effect of tobacco use, attitude score, practices score and type of tobacco users

			Tobacco smokers	Tobacco chewers	Both type	Total	p value
Knowledge score	Poor	n	38	90	24	152	<0.001, S
		%	25.0%	59.2%	15.8%	100.0%	
	Fair	n	40	281	40	361	
		%	11.1%	77.8%	11.1%	100.0%	
	Good	n	24	208	56	288	
		%	8.3%	72.2%	19.5%	100.0%	
Attitude score	Poor	n	8	8	0	16	<0.001, S
		%	50.0%	50.0%	0.0%	100.0%	

	Fair	n	38	163	24	225	0.001, S
		%	16.9%	72.4%	10.7%	100.0%	
	Good	n	56	408	96	560	
		%	10.0%	72.9%	17.1%	100.0%	
	Poor	n	0	32	0	32	
		%	0.0%	100.0%	0.0%	100.0%	
Tobacco practices score	Fair	n	102	515	112	729	0.001, S
		%	14.0%	70.6%	15.4%	100.0%	
	Good	n	0	32	8	40	
		%	0.0%	80.0%	20.0%	100.0%	
	Total	n	102	579	120	801	
		%	12.7%	72.3%	15.0%	100.0%	

On Univariate analysis 18-33 years age group had more knowledge than 34- 49 years and 50- 65 years age group. Males had more knowledge than female. On Univariate analysis class II, class III and class IV had more chance of getting knowledge. On Multivariate analysis 34- 49 years of age group had 3.153 times more chance of getting knowledge than 18-33 years of age group. class IV had 10.841 times more chance of getting knowledge (**Table 2**).

Table 2: Univariate and multivariate logistic regression analysis between different sociodemographic factors and knowledge of harmful effects of tobacco

Variables	Knowledge (%)	No knowledge (%)	P value	Univariate analysis			Multivariate analysis		
				OR	CI	P value	OR	CI	P value
18- 33 years	240 (96.8%)	8 (3.2%)	<.001, S			<.001, S			<.001, S
34- 49 years	200 (78.1%)	56 (21.9%)		.331	.225-.486	<.001, S	3.153		.033, S
50- 65 years	193 (72.8%)	72 (27.2%)		.452	.307-.665	<.001, S			.236, NS
66- 80 years	16 (50.0%)	16 (50.0%)		.875	.373-2.055	.759, NS			.533, NS
Male	608 (89.4%)	72 (10.6%)	<.001, S						
Female	41 (33.9%)	80 (66.1%)		1186879492.791	.000	.995, NS	.000	.000	.995, NS
Hindu	617 (81.1%)	144 (18.9%)	.797, NS						
Muslim	32 (80.0%)	8 (20.0%)		.834	.436-1.598	.585, NS	1.178	.467-2.972	.729, NS
With family	561 (80.5%)	136 (19.5%)	<.001, S			<.001, S			.003, S
Living alone	48 (75.0%)	16 (25.0%)		4.480	2.103-9.544	<.001, S	.724	.306-1.713	.462, NS
with friends	40 (100.0%)	0 (0.0%)		2.560	1.162-5.638	.020, S	2.956	.956-9.147	.060, NS
Class I	144 (100.0%)	0 (0.0%)	<.001, S			<.001, S			<.001, S

Class II	345 (82.7%)	72 (17.3%)		2.008	1.368- 2.946	<.001 , S	.629	.272- 1.453	.278, NS
Class III	96 (60.0%)	64 (40.0%)		11.250	6.099- 20.751	<.001 , S	1.38 8	.636- 3.026	.410, NS
Class IV	64 (80.0%)	16 (20.0%)		1.875	1.076- 3.266	.026, S	10.8 41	4.396- 26.737	<.001, S

* a. Variable(s) entered on step 1: Age, Sex, Personal living, Religion, Socio- economic class in multivariate analysis

DISCUSSION:

Among study population, tobacco smokers were 12.7% (current smokers 100.0%), tobacco chewers were 72.3% (current tobacco chewers 85.7%) and both type of tobacco users were 15.0% (current tobacco users 46.67%). About 94.0% participants used tobacco in previous 30 days and 64.0% participants had knowledge about harmful effects of tobacco use. About 15.20% tobacco smokers, 72.3% tobacco chewers and 12.5% both type of tobacco users had knowledge about harmful effect of tobacco use.

94% tobacco users got information about harmful effects of tobacco from various sources such as mass media, friends, health facilities, education and kids. Highest percentage of tobacco chewers got information from different sources and used tobacco for getting self- confidence, increasing concentration, social benefits and toothache, highest number of smokers used tobacco for reliving stress and all both type of tobacco users used tobacco for getting all benefits mentioned above. Highest percentage of tobacco chewers had positive attitude towards tobacco use, followed by both type of tobacco users and tobacco smokers.

Highest percentage of tobacco chewers used tobacco within previous 30 days, started using tobacco at every age group such as <12 years, 12-15 years, 16-19 years and >20 years, tried to quit tobacco use, used tobacco even when they were ill enough to be in the bed most of the day, followed by both type of tobacco users and tobacco smokers. Highest percentage of tobacco chewers started using tobacco within 5 minutes after awakening, 6-60 minutes after awakening and >60 minutes after awakening. Highest percentage of tobacco chewers (73.0%) followed by both type of tobacco users (15.5%) and tobacco smokers (11.5%) wanted to quit tobacco use which was in contrast to study done by Ibrahim T et al (2020)¹⁷ where tobacco smokers, chewers and both type of tobacco users were almost equal in number. Highest percentage of tobacco chewers tried to quit tobacco due to different reasons (p value 0.011). Highest percentage of tobacco chewers used tobacco at home, outside home, any place and during travelling except at market place where all were both type of tobacco users (100.0%) (p value <0.001). Tobacco users who used tobacco at home were lesser (26.1%) than **GATS 2 survey in Bihar**¹⁸ in which 38.5% adult tobacco users used tobacco at home. Highest percentage of tobacco

chewers felt difficult to avoid tobacco use at forbidden places, followed by both type of tobacco users.

Highest percentage of tobacco chewers were present in all frequency type and duration range which was contrast to study done by Kumar BN et al (2016)¹⁹ where tobacco chewer's frequency and duration was not more and associations were found highly significant (p value <0.001). Good knowledge score and good attitude score were found among highest percentage of tobacco chewers followed by both type of tobacco users and tobacco smokers, in contrast to that in study done by Ibrahim T et al (2020)¹⁷ where tobacco smokers were more knowledgeable than others. Highest percentage of tobacco chewers had good tobacco practices, followed by both type of tobacco users. No tobacco smoker had good tobacco practices. There was no significant difference in knowledge score, attitude score and practices score in former and current tobacco users similar to study done by Ibrahim T et al (2020)¹⁷.

In univariate logistic regression analysis age group, personal living and socio- economic class were found significant factor affecting knowledge score. However, in study done by Vijaylaxmi G et al (2018)²⁰, age, education and duration of habit were found significant factor and in study done by Ibrahim T et al (2020)¹⁷, age, gender, religion, literacy and occupation were found significant affecting knowledge score. The study provides key information regarding knowledge about harmful effects of tobacco use, attitude, practices among adult tobacco users. **Limitations** of the study were it's cross- sectional nature and closed ended questionnaire was used that give a short glimpse of knowledge, attitude, practices. Chances of **information bias** and **recall bias** were there as self-reporting by the individual might have led to underreporting of tobacco use and to minimize this type of bias, an extensive questioning was performed. Women in India avoid using tobacco in public and also avoid discussing their tobacco using habit. So, a smaller number of adult female tobacco users were ready for interview but were compared with the larger male sample.

Conclusion: Majority of participants had fair knowledge regarding the hazards of tobacco use and good attitude and fair tobacco practices. The data might prove valuable in identifying high-risk

populations which were 34-49 years age group, socioeconomic class IV and tobacco chewers group in the study, planning future oral health studies and implementing preventive programmes. Key Messages are good monitoring tracks the extent and character of the tobacco epidemic and indicates how best the policies are. There is no safe level of exposure to second -hand smoke. Among tobacco users who are aware of the dangers of tobacco, most want to quit. Tobacco advertisement should be completely banned.

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