International Journal of Preventive, Curative & Community Medicine
Volume 8, Issue 1 - 2022, Pg. No. 1-7
Peer Reviewed & Open Access Journal

Research Article

Tobacco Use among Workers in a Foundry Unit of North Karnataka

Amaresh P Patil[1], Ruchika Kuba[2]

[1]Research Officer, Women's & Children's Health Research Unit, JN Medical College, KLE Academy of Higher Education and Research (KAHER), Belgaum, Karnataka, India.
[2]School of Health Sciences, Indira Gandhi National Open University, New Delhi, India.
DOI: https://doi.org/10.24321/2454.325X.202201

I N F O

Corresponding Author:
Ruchika Kuba, School of Health Sciences, Indira Gandhi National Open University, New Delhi, India.
E-mail Id:
rkuba@ignou.ac.in
Orcid Id:
https://orcid.org/0000-0002-7757-3304
How to cite this article:
Patil AP, Kuba R. Tobacco Use among Workers in a Foundry Unit of North Karnataka. Int J Preven Curat Comm Med. 2022;8(1):1-7.

Date of Submission: 2022-01-21
Date of Acceptance: 2022-03-22

A B S T R A C T

Background: Foundry workers are the backbone of many industries. Workers are exposed to metal dust, metal fumes, various products of combustion, chemical products relating to resin compounds, and physical factors such as noise, vibration, and high temperature. In addition to these factors, the use of tobacco, especially smoking, may aggravate health hazards, mainly respiratory morbidities. Objective: To know the prevalence of tobacco use among workers in a foundry unit of North Karnataka.

Method: It was a cross-sectional study conducted among 300 workers of a foundry unit in North Karnataka from July to September 2019. Every second worker from the attendance register was selected for the study. The questionnaire was adopted from Global Adult Tobacco Survey (GATS). Data were collected by personal interview after informed consent. Data were analysed through descriptive statistics and Chi-square test. The study was approved by Institutional Ethics Committee.

Results: The mean age of participants was 38.73 ± 10.13 years. The prevalence of tobacco use in any form was found to be 42.66%. The smokeless form was predominant. Tobacco use was significantly associated with years in present occupation and night shifts.

Conclusion: The prevalence of tobacco use among workers of a foundry unit was high which calls for immediate focused interventions.

Keywords: Foundry Workers, GATS, Tobacco, Smokeless Tobacco

Introduction

Foundry workers are engaged in many industries. Workers are exposed to metal dust, fumes and products of combustion, chemicals relating to resin compounds, and physical factors such as noise, vibration, and high temperature. They work for prolonged hours and form an important part of the Indian informal sector. Most of them work on a contractual basis and lack employment benefits such as health insurance and social security. Income insecurity is a significant concern for them – they earn on a daily basis leading to no fixed income. Health expenses are a big challenge for most of them similar to any other informal sector in India.[1-3] They suffer from serious respiratory morbidities as they are constantly exposed to various products of combustion.

In addition to these factors, the use of tobacco, especially

smoking, may aggravate health hazards, particularly respiratory morbidities. These factors when clubbed with illiteracy, poverty, lack of knowledge about hazards, and other socioeconomic factors lead to tobacco use.[4,5]

Tobacco utilisation in India levies a tremendous burden of mortality and morbidity, and is, therefore, considered a major global public health problem. Tobacco use is one of the massive epidemics and poses a huge public health threat causing more than 8 million deaths a year. Of these, more than 7 million are a consequence of first-hand tobacco use while more than 1.2 million are a result of non-smokers being exposed to second-hand smoke.[6]

Cigarette smoking, in any form, harms nearly every organ of the body and causes many diseases.[7,8] It causes diminished overall health, increased absenteeism from work, and increased health care utilisation and cost.[7] There are many diseases that are caused, increased or exacerbated by tobacco, ranging from acute gastritis, predisposition to hypertension, diabetes mellitus, coronary artery disease, stroke, bronchial asthma, and cancers to premature death.[9]

In the Indian context, tobacco use implies a varied range of chewing and smoking forms of tobacco available at different price points, reflecting the varying socio-economic and demographic patterns of consumption.[10] According to World Health Organization (WHO), the latest survey on tobacco shows that 28.6% of Indian adults aged 15 years and above use tobacco in some or other form. Every fifth adult uses smokeless tobacco and every tenth adult smokes tobacco.[11] The prevalence of current tobacco smoking in Indian adults is 10.7%. The same survey also highlights the major use of smokeless forms of tobacco in India with a prevalence of 21.4%.[11] Karnataka, with its share of about 25%, is the second-largest tobacco cultivating state in the country. The overall prevalence of the ever-use of any kind of tobacco products was observed to be 29.6% in Karnataka. The prevalence of ever use of tobacco in Karnataka was 34.9% among urban men, 8.9% among urban women, 44.7% among rural men and 16.7% among rural women.[12]

Based on similar studies conducted among manufacturing industries in Mumbai, it has been found that the overall prevalence of tobacco in any form in workers employed in manufacturing units is relatively high (23.5%) compared to the general public.[13]

However, not much information is available on foundry workers. Therefore the present study intends to find the prevalence of tobacco use among workers in a foundry unit in North Karnataka.

Materials and Method

Study Design

This study was descriptive, cross-sectional research conducted on foundry workers working in a foundry unit of a city that lies in the Northern part of Karnataka, during the period from July to September 2019. The sample size was calculated to be 292 and was rounded off to 300 based on the estimated prevalence of 23.5%[13] and absolute error of 5%. The inclusion criteria were as follows:

- Those working in foundry shop floor for at least last 1 year consecutively
- All foundry workers exposed to a dusty environment

All the workers not exposed to foundry dust on a regular basis like administrative staff, technical staff, housekeeping staff, and support staff were excluded from the study.

Sampling Procedure

As per the information from the administrative section, the foundry unit had around 700 workers working in the exposed area of the unit. Every second worker from the attendance register was selected for the study to follow a systematic sampling.

Study Tools

The questionnaire for the present study was adopted from the Global Adult Tobacco Survey (GATS) questionnaire.[14] It was customised according to the needs of the present study. Some questions related to occupation and tobacco consumption were added to the original GATS questionnaire to meet the study objectives. Similarly, some other questions from GATS which were not relevant to the study were left out.

Methodology

Personal interview of eligible participants was conducted by the investigator, using a pre-designed and pre-tested questionnaire adopted from the GATS questionnaire.[14] Data regarding socio-demographic variables like age, address, educational status, years in present occupation, socio-economic status etc. were collected.

Visits were made by the first author to the foundry after obtaining written permission from the senior management to carry out the study. Workers were identified according to the sampling procedure. These foundry workers were explained the purpose of the study and after getting their written informed consent, they were interviewed in the occupational health centre.

The participants were given a free chance to withdraw from the study at any given point in time. It was ensured that the participants did not have any hindrance in their work.

Data Analysis

The data were analysed through descriptive statistics and Chi-square test using the SPSS software. In the study, a value of $p < 0.05$ was considered statistically significant.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202201

Ethical Considerations

This research project was approved by the Institutional Ethics Committee for Human Subject's Research of JN Medical College, KLE University, Belagavi. Users of any form of tobacco were counselled regarding the benefits of tobacco cessation after completion of the study and those willing to quit were offered help either by counselling or by attending tobacco cessation clinics. Those who had a lack of awareness or were misinformed about the hazards of tobacco were given the correct information through inter-personal communication by the investigator.

Results

Table 1 shows that all participants were male, with their ages ranging between 18 and 70 years, and a mean (± SD) age of 38.73 ± 10.13 years. More than 3/4th of the subjects were residing in rural areas (77.33%) adjoining the city.

Table 1.Sociodemographic Profile of Participants

(N = 300)

Characteristics		N (%)
Age (years)	< 30	64 (21.33)
	31-40	112 (37.33)
	41-50	96 (32.00)
	51-60	20 (6.67)
	> 60	08 (2.67)
Place of residence	Urban	68 (22.67)
	Rural	232 (77.33)
Religion	Hindu	296 (98.67)
	Muslim	04 (1.33)
Educational qualification	Illiterate	12 (4.00)
	Primary school	44 (14.67)
	High school	108 (36.00)
	Pre-university college	76 (25.33)
	Diploma/ Graduate	60 (20.00)
Socioeconomic status (Modified BG Prasad SES Scale)	Class I	0 (0)
	Class II	36 (12.00)
	Class III	144 (48.00)
	Class IV	116 (38.67)
	Class V	04 (01.33)
Marital status	Unmarried	40 (13.33)
	Married	256 (85.34)
	Widower	04 (1.33)
Type of family	Joint	20 (6.67)
	Nuclear	244 (81.33)
	Three generation	32 (10.67)
	Broken	04 (1.33)

More than 1/3rd were working in the foundry from the last 6-10 years. Almost 3/4th of them worked for a shift of 8 hours while the remaining did overtime of at least 4 hours (Table 2).

Table 2.Occupational Profile of Participants

(N = 300)

Characteristics		N (%)
Number of years in the present occupation	< 5	80 (26.67)
	06-10	112 (37.33)
	11-15	36 (12.00)
	> 15	72 (24.00)
Length of working hours on a usual day	8	220 (73.33)
	≥ 12	80 (26.67)
Usual number of night shifts per week	0	60 (20.00)
	01-04	148 (49.33)
	> 4	92 (30.67)

Figure 1 shows that among the participants, 128 (42.67%) were using tobacco in one or the other form. Among the non-users, 24 (13.95%) used tobacco in the past. Smokeless form (84.39%) was the dominant form.

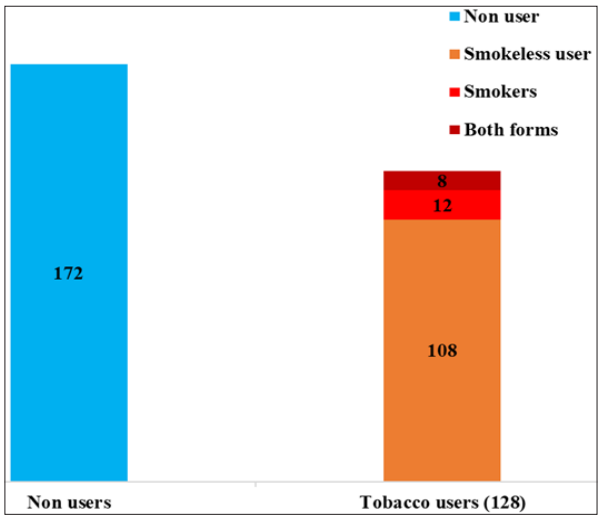

Figure 1.Distribution of Study Participants according to Use of Tobacco

Cigarettes (100%) were the only smoked form while chewing tobacco (55.17%) was the commonest smokeless form followed by gutkha (34.48%), lime with tobacco (13.79%), and other chewable forms. Majority of the tobacco users had initiated their habit before 30 years of age highlighting the need for interventions at an early age. The mean age at initiation was 27 ± 13.90 years for smoke form and 26.52 ± 7.9 years for smokeless form. More than 1/3rd of the participants (37.50%) used tobacco within an hour of waking up. Three-fourths of those using tobacco never did it in front of their children (75.0%).

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202201

Table 3.Awareness about Hazards of Tobacco

(N = 300)

Awareness about Tobacco		N (%)
Use of tobacco - harmful?	Yes	244 (81.33)
	No	08 (02.67)
	Don't know	48 (16.00)
Knowledge about harmful effects of second-hand smoke	Yes	260 (86.67)
	No	16 (05.33)
	Not sure	24 (08.00)
Whether tobacco should not be sold to minors?	Yes	276 (92.00)
	No	24 (08.00)

Table 4.Association of Tobacco Use with Occupational Profile

		Tobacco Users	Non-users	Total	$\chi 2$
Number of years in present occupation	< 5	36 (45.0)	44 (55.0)	80 (100)	17.387, df = 3, p value = 0.0006
	06-10	56 (50.0)	56 (50.0)	112 (100)	
	11-15	04 (11.11)	32 (88.89)	36 (100)	
	> 15	32 (44.44)	40 (55.56)	72 (100)	
	Total	128 (42.67)	172 (57.33)	300 (100)	
Length of working hours	8	88 (40.0%)	132 (60.0%)	220	2.3983, df = 1, p value = 0.1214
	≥ 12	40 (50.0%)	40 (50.0%)	80	
	Total	128 (42.67)	172 (57.33)	300 (100)	
Number of night shifts per week	None	24 (40)	36 (60)	60 (100)	14.611, df = 2, p value = 0.0006
	01-04	50 (33.78)	98 (66.22)	148 (100)	
	> 4	54 (58.70)	38 (41.30)	92 (100)	
	Total	128 (42.67)	172 (57.33)	300 (100)	

Most of the users (68.75%) were advised to quit by a health care professional in the last one year. Most of the users (80, 62.50%) had attempted to quit usage in the last one year. Counselling by a known person (50.00%) was one of the strongest driving forces to quit followed by self-motivation (40%).

Most of the participants (81.33%) knew that the use of tobacco caused one or the other serious illnesses (Table 3). Among those who were aware of the illnesses caused, cancers (73.77%) were the most common followed by respiratory diseases (49.18%) and cardiac diseases (27.05%). Most of the users (81.25%) had thought of quitting tobacco in the last one month because of warning labels on tobacco products. A few users (15.63%) had asked their children or anyone less than 18 years to buy tobacco products for their own use in the last one month. Foundry (78.12%) and tea stalls (56.25%) were the most common places of tobacco use.

Table 4 shows that there was a significant association between tobacco use and two of the three occupational factors considered i.e. the number of years in the present occupation and number of night shifts per week were significantly associated whereas the length of working hours had no significant association with tobacco use.

Discussion

The working environment in foundries is hazardous and characterised by multiple simultaneous chemical, physical and mechanical hazards exposure, which would lead to injuries among foundry workers. Health risks from working in the foundry industry include exposure to molten metal fume (foundry fume), heat, and spray mists. In addition to these hazards, some foundry workers work with dust produced by casting sand, fettlings and kiln linings, which contain silica and, when dry, produce silica dust known as respirable crystalline silica (RCS).[15]

The present study was done to find the prevalence of tobacco among workers in a foundry unit in North Karnataka. All the 300 study participants were male. This could be due to the reason that it is very rare to find a female working in a foundry, be it in any part of the country.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202201

Most (58.67%) of the study participants were aged less than 40 years which was consistent with a study conducted among welders in metal industries of Puducherry, coastal south India where most of the study subjects were in the age group of 20 to 40 years (76.6%).[16] Most of the study participants had high school education (36%), followed by pre-university education (25.33%) which was also consistent with the study conducted in Puducherry.[16]

Most of the study participants belonged to either Class III (48.0%) or Class IV (38.67%) according to Modified BG Prasad Classification. In general, the level of income in foundry workers working in an exposed environment is usually moderate to low compared to other occupations because of the reasons like lack of social assistance schemes and the very fact that this is an unorganised sector and no support in any form is available to them from any organisation which makes it worse.

Most (73.33%) of the study participants were working in foundry for more than 5 years. Similar findings were noted among studies done in Puducherry (83.7% with more than 5 years)[16] and North Karnataka (more than 50% of the participants were working for 5 years or above)[17]. Most of the study participants worked for 8 hours a day (73.33%) consistent with the study done in Puducherry.[16]

The prevalence of tobacco use in any form in the present study was found to be 42.67%. The Puducherry study showed the prevalence of tobacco use among welders to be 27.3%.[16] In the Mumbai study done among workers of manufacturing industries, the overall prevalence of tobacco was found to be 23.5%,[13] whereas in the study conducted among foundry workers of an urban area in North Karnataka, the prevalence of smoking was found to be 38.55%.[17]

The prevalence of tobacco use in foundry workers revealed by these studies was comparatively very high with respect to the prevalence in Indian adults aged 15 years and above which was 28.6% according to GATS 16 -17.[11] It was also noted that the prevalence of tobacco use in the present study was very high compared to the adults among the general population in Belgaum city. A community-based study done among adults in Belgaum revealed the prevalence of ever use of tobacco to be only 29.41%.[18] This high prevalence among the foundry workers as compared to the general adult population can be attributed to various occupational factors like constant physical and mental pressure due to irregular shifts, irregular pay, lack of job security, low levels of education, poverty, lack of knowledge about hazards of tobacco, other socioeconomic factors, and many unknown factors.

The smokeless form was the commonest form of tobacco used which was consistent with the findings at the national level as revealed by the GATS 16 -17 survey.[11] The same point was highlighted in a study done in Belgaum where almost 78% of the tobacco users were using it in chewing form.[19] This is also particularly true as chewing can be continued even while working.

The mean age at initiation for any form of tobacco was in mid-twenties (27 ± 13.9 years for smoke form and 26.52 ± 7.9 years for smokeless form). These observations indicate towards early initiation of tobacco at a younger age during which they are very much curious, want to try new things, amenable to peer pressures, and deeply impacted by users in close contacts, media and mass advertisements by celebrities.

Most (68.75%) of the tobacco users in the study were advised to quit tobacco by healthcare providers in the last one year. According to GATS 2016-17, 48.8% of smokers and 31.7% of smokeless tobacco users were counselled to stop using tobacco by their healthcare providers in the preceding one year.[11] Every attempt should be made by healthcare providers to help tobacco users quit their habit and no encounter with the healthcare provider should go unutilised.

In the study, 1/4th (25%) of the tobacco users were using tobacco in any form in front of their children. A study done in the United States concluded that children of current and former smokers face an elevated risk of smoking.[20] This has to be curtailed by educating the parents, as parents are one of the important groups of people who drive their children towards tobacco use.

Majority (62.5%) of the users attempted to quit in the last one year. According to GATS 2016-17 survey, 38.8% of male smokers and 35.2% of male smokeless users had attempted to quit in the last one year.[11] This difference in quit attempts can be attributed to various socio-economic factors (like educational level, family background, other tobacco users in the family etc.), awareness regarding the hazards of tobacco and the individual personality traits of the users as all of these do play a crucial role. Among those who attempted to quit, 50% underwent counselling to quit (either by a friend, family member, colleague, or a health professional) followed by 40% who were self-motivated or had a strong will to quit tobacco. A study conducted in Canada concluded that many smokers may be unaware of effective cessation methods and most underestimate its benefit. Further, this lack of knowledge may present a significant barrier to treatment adoption.[21]

Most (81%) of the participants knew that use of tobacco caused one or the other serious illnesses. These findings were slightly low compared to that in GATS 2016-17.[11] Among those who were aware of the serious illnesses caused by the use of tobacco, cancers (73.77%) were the

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202201

most commonly known illness followed by respiratory disease (49.18%) and heart diseases (27.05%). Another study done in Belgaum showed that around 87% were aware of cancers, and 42% were aware of respiratory diseases, while 11% did not know a single disease.[18] In both these populations, knowledge regarding cancers was high because of the mass media advertisements which typically tend to project images and videos of large tumours of the oral cavity or the tragic life of a tobacco-related cancer survivor.

Most (86.67%) of the study participants knew that second-hand smoking was harmful to non-smokers which was in line with GATS 2016-17.[11]

The study demonstrated a statistically significant association between years in present occupation and tobacco use. Similarly, according to a nested case-control study conducted in Spain to find out lung cancer risk in iron and steel foundry workers, it was observed that workers having their longest-held job in the blast furnace had an excess lung cancer risk. For subgroups of workers, tobacco smoking appeared to be an important positive or negative confounder.[22]

The association between the length of working hours per day and tobacco use was found to be statistically insignificant. The study demonstrated a statistically significant association between night shifts and tobacco use. Similar findings were seen in a study done among autorickshaw drivers in Gwalior city.[23] This reiterates a well-known fact that night shifts lead to increased tobacco consumption which is usually because of the longer waiting hours and boredom during waiting hours.

Limitations and Recommendations

Recall bias due to the cross-sectional nature of the study is a limitation. However, these participants can be followed up to assess the impact of health education and counselling on the discontinuation of tobacco. Since there are a very few studies conducted among foundry workers to assess the use of tobacco, this group of tobacco users can be used as a cohort to conduct future interventional studies, and due to the high prevalence of smokeless tobacco, there is a need to take up studies for screening of Oral Premalignant lesions and incorporating the same during periodic health checkups.

Conclusion

The prevalence of current use of tobacco in any form was found to be 42.33% which is very high when compared to Indian adults aged 15 years and above and workers. The smokeless form was the dominant form of consumption. Knowledge of tobacco-related illnesses was slightly low among the people. Tobacco use was significantly associated with the number of night shifts.

Source of Funding: None

Conflict of Interest: None

References

1. Das S. Workers in unorganised sector lack social security [Internet]. Downtoearth; 2007 [cited 2022 Mar 27]. Available from: https://www.downtoearth.org.in/news/workers-in-unorganised-sector-lack-social-security-6153
2. Majumdar A, Borbora S. Social security system and the informal sector in India: a review. Econ Polit Weekl. 2013;48(42):69-72. [Google Scholar]
3. Tigari H, Santhosh HB. Socio-economic background of auto-rickshaw drivers. Shanlax Int J Manag. 2020;8(1):48-53. [Google Scholar]
4. Milcarz M, Polanska K, Bak-Romaniszyn L, Kaleta D. Tobacco health risk awareness among socially disadvantaged people-a crucial tool for smoking cessation. Int J Environ Res Public Health. 2018 Oct;15(10):2244. [PubMed] [Google Scholar]
5. Dey S. Warning photo size matters: 46% of illiterate men smoke [Internet]. The Times of India; 2015 May [cited 2022 Mar 27] Available from: https://timesofindia.indiatimes.com/india/warning-photo-size-matters-46-of-illiterate-men-smoke/articleshow/47156528.cms
6. World Health Organization [Internet]. Tobacco; 2017 [cited 2022 Feb 27]. Available from: http://www.who.int/mediacentre/factsheets/fs339/en/
7. Centers for Disease Control and Prevention [Internet]. 2014 Surgeon General's Report: The health consequences of smoking-50 years of progress; 2014 [cited 2022 Feb 27]. Available from: https://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm
8. Centers for Disease Control and Prevention [Internet]. How tobacco smoke causes disease: what it means to you; 2010 [cited 2022 Feb 27]. Available from: https://www.cdc.gov/tobacco/data_statistics/sgr/2010/consumer_booklet/index.htm
9. World Health Organization [Internet]. The tobacco body; 2019 [cited 2022 Feb 27]. Available from: https://apps.who.int/iris/rest/bitstreams/1230962/retrieve
10. John RM, Rao RK, Rao MG, Moore J, Deshpande RS, Sengupta J, Selvaraj S, Chaloupka FJ, Jha P. The economics of tobacco and tobacco taxation in India. Paris: International Union against Tuberculosis and Lung Disease; 2010.
11. World Health Organization, MoHFW, Government of India [Internet]. Global adult tobacco survey Fact sheet, GATS-2 India 2016-17, Highlights; [cited 2022 Feb 27]. Available from: https://www.tobaccofreekids.org/assets/global/pdfs/en/GATS_India_2016-17_FactSheet.pdf
12. Chaudhry K, Prabhakar AK, Prabhakaran PS, Prasad A,

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202201

Singh K, Singh A. Prevalence of tobacco use in Karnataka and Uttar Pradesh in India. New Delhi; 2001. [Google Scholar]
13. Pednekar MS, Nagler EM, Pawar P, Sorensen G, Narake SS, Stoddard A, Gupta PC. The prevalence of tobacco use among manufacturing workers: findings from the baseline survey of the Mumbai Worksite Tobacco Control Study. J Prev Med. 2016;1:3.
14. World Health Organization [Internet]. Global Adult Tobacco Survey (GATS) question by question specifications; 2010 Nov [cited 2022 Feb 27]. Available from: https://www3.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=41812&Itemid=270&lang=en
15. Mgonja CT. A review on effects of hazards in foundries to workers and environment. Int J Innov Sci Engi Tech. 2017;4(6).
16. Kumar SG, Dharanipriya A. Prevalence and pattern of occupational injuries at workplace among welders in coastal south India. Indian J Occup Environ Med. 2014;18(3):135-9. [PubMed] [Google Scholar]
17. Shashikanth YK, Katti SM, Mallapur MD. Morbidity pattern in foundry workers--a cross-sectional study in an urban area of north Karnataka. J Indian Med Assoc. 2013 Sep;111(9):595-8. [PubMed] [Google Scholar]
18. Patil AP, Patil M, Karikatti S, Halki S. Tobacco use, its correlates and knowledge about its hazards in Belgaum Urban, Karnataka. Natl J Community Med. 2017;8(2):52-6. [Google Scholar]
19. Patil AP, Khona PP, Patil M. Prevalence of tobacco consumption in an urban area Belgaum, Karnataka, India. Int J Community Med Public Health. 2016;3(11):3059-62.
20. Vuolo M, Staff J. Parent and child cigarette use: a longitudinal, multigenerational study. Pediatrics. 2013;132(3):e568-77. [PubMed] [Google Scholar]
21. Hammond D, McDonald PW, Fong GT, Borland R. Do smokers know how to quit? Knowledge and perceived effectiveness of cessation assistance as predictors of cessation behaviour. Addiction. 2004;99(8):1042-8. [PubMed] [Google Scholar]
22. Rodríguez V, Tardón A, Kogevinas M, Prieto CS, Cueto A, García M, Menéndez IA, Zaplana J. Lung cancer risk in iron and steel foundry workers: a nested case control study in Asturias, Spain. Am J Ind Med. 2000;38:644-50. [PubMed] [Google Scholar]
23. Bhatia M, Mishra A, Agrawal AK. Prevalence and pattern of tobacco addiction among auto-rickshaw drivers of North Central India. Asian Pac J Health Sci. 2014;1(4):312-8.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202201