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Assessment of Knowledge, Attitude and Practice of Tobacco Use among Construction Site Workers of Maharashtra: A Cross-Sectional Survey

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ABSTRACT

Background: Tobacco use remains a leading preventable cause of morbidity and mortality worldwide, with a disproportionate burden among socio-economically vulnerable occupational groups. Construction site workers represent a high-risk population due to occupational stress, workplace culture, low literacy, and limited access to cessation resources.

Aim: To assess the knowledge, attitude, and practices (KAP) related to tobacco use among construction site and steel-unit workers in Maharashtra.

Methodology: A cross-sectional questionnaire-based survey was conducted among 100 workers selected through simple random sampling. A pre-validated structured questionnaire (administered in Marathi and English) assessed socio-demographic details, knowledge regarding health hazards of tobacco, attitudes toward tobacco use, and actual practices. Data were analyzed using descriptive statistics.

Results: Most participants were male construction workers with low educational attainment. Although a majority were aware that tobacco is harmful, misconceptions regarding smokeless tobacco safety and stress reduction were common. A high prevalence of current tobacco use was observed, particularly bidi and gutka. Peer pressure, occupational stress, and addiction were the main barriers to cessation. Awareness was highest for lung cancer but comparatively low for cardiovascular and cerebrovascular complications.

Conclusion: Despite moderate awareness, tobacco use remains highly prevalent among construction workers. Workplace-based cessation programs and targeted occupational health education are urgently needed.

Keywords: Tobacco use, Construction workers, Knowledge attitude practice, Occupational health, Maharashtra

INTRODUCTION

Tobacco use continues to be one of the most significant preventable causes of morbidity and mortality worldwide. The World Health Organization estimates that tobacco is responsible for more than eight million deaths every year, including deaths resulting from direct consumption and second-hand smoke exposure. Despite decades of global tobacco control policies, taxation strategies, warning labels, and cessation campaigns, tobacco use remains deeply entrenched in certain socioeconomically vulnerable groups, especially among workers employed in informal, labor-intensive occupations.[1]

Occupational determinants of health play a crucial role in shaping behavioral practices, including substance use. Among high-risk occupational groups, construction site workers represent a uniquely vulnerable population. Construction work is characterized by long working hours, heavy physical labor, exposure to harsh environmental conditions, job insecurity, migration, and minimal access to structured health services. These factors create a psychosocial environment that promotes unhealthy coping mechanisms, of which tobacco use is one of the most prevalent.[2,3]

Worksite culture further reinforces tobacco consumption. Construction sites often function as tightly knit social units where tobacco use is normalized, socially accepted, and sometimes encouraged as a means of bonding during breaks. In such settings, tobacco becomes part of the occupational identity rather than merely a personal habit. This normalization reduces the perceived severity of tobacco-related harm and hinders cessation attempts.[4]

India faces a particularly complex tobacco burden due to the diversity of products consumed. Unlike many Western countries where cigarette smoking predominates, Indian populations consume tobacco in multiple smoked and smokeless forms including bidi, cigarettes, gutka, khaini, mawa, and chewing tobacco. Smokeless tobacco products are often wrongly perceived as safer alternatives to smoking, despite strong evidence linking them to oral cancer, cardiovascular disease, and stroke.[5]

National surveys such as the Global Adult Tobacco Survey (GATS) have consistently demonstrated that tobacco use is significantly higher among manual laborers, daily wage earners, and individuals with low educational attainment compared to the general population.[6] Maharashtra, being one of the most industrialized and urbanized states, employs a large workforce in construction and steel units, many of whom are migrants and lack access to routine healthcare education or cessation services.

Knowledge, Attitude, and Practice (KAP) studies are widely used in public health research to understand behavioral patterns and identify gaps between awareness and actual practices. While awareness of the harmful effects of tobacco may exist, behavioral change often does not occur due to misconceptions, cultural beliefs, addiction, peer influence, and occupational stress.[7]

The questionnaire used in the present study specifically explored these dimensions: awareness of tobacco hazards, perception of smokeless tobacco safety, belief in stress reduction, second-hand smoke awareness, types of tobacco used, frequency of use, and perceived barriers to quitting.

METHODOLOGY

This methodology is based on the approved study protocol and questionnaire used in the field survey.

Study Design and Duration
A cross-sectional questionnaire survey conducted over 6 months among construction site and steel-unit workers.

Sample Size and Sampling
A total of 100 participants were selected using simple random sampling from active worksites.

Inclusion Criteria
- On-field construction and steel-unit workers
- Willing to provide informed consent

Exclusion Criteria
- Workers not present during data collection
- Individuals unwilling to participate

Data Collection Tool
A pre-validated structured questionnaire (Marathi and English) containing 15 items divided into:
1. Socio-demographic data
2. Knowledge regarding health risks of tobacco
3. Attitudes toward tobacco use and cessation
4. Tobacco use practices

Ethical Considerations
Ethical approval was obtained (132/2025-2026). Participation was voluntary and confidentiality maintained.

Data Analysis
Data were entered into Microsoft Excel and analyzed using SPSS v22. Descriptive statistics (frequency and percentages) were used.

RESULTS

Table 1: Socio-Demographic Characteristics-

Variable	Observation
Gender	Majority male participants
Age group	Predominantly middle-aged adults (30–60 years)
Education	High proportion with no formal or only primary education
Type of work	Majority construction workers; remainder steel-unit workers

The study population largely consisted of male laborers with low literacy levels working in physically demanding occupations.

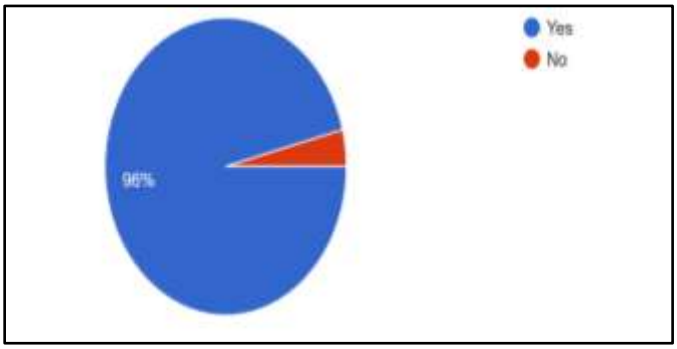

Figure 1: Awareness that Tobacco is Harmful

Most participants responded **"Yes"** to knowing tobacco is harmful.
Awareness exists at a general level; however, this did not correlate with reduced usage.

Table 2: Knowledge of Tobacco-Related Health Problems

Health Problem Recognized	Observation
Lung cancer	Most commonly identified
Heart disease	Moderately identified
Stroke	Least recognized

Knowledge is skewed toward cancer awareness, with poor understanding of cardiovascular and cerebrovascular risks.

Figure 2: Belief that Tobacco Reduces Stress
A significant proportion believed tobacco helps relieve stress.
This misconception was common across both tobacco users and non-users.

Table 3: Tobacco Use Practices

Variable	Observation
Current tobacco use	High prevalence
Most common form	Bidi and gutka
Frequency	1–2 times/day (majority), 3–4 times/day (significant)
Ability to quit	Many believed quitting is difficult
Barriers	Peer pressure, addiction, nature of work

Smokeless tobacco (gutka/chewing tobacco) and bidi were the dominant products.

Major barriers identified:

- Peer pressure
- Addiction
- Previous failed attempts
- Occupational stress

Figure 3: Barriers to Quitting Tobacco

DISCUSSION

The findings of the present study clearly demonstrate a substantial gap between knowledge and practice regarding tobacco use among construction site workers. Although the majority of participants acknowledged that tobacco is harmful to health, daily consumption of tobacco products—particularly bidi and gutka—remained highly prevalent. This observation strongly aligns with global and Indian studies conducted among blue-collar and informal sector workers.[2],[8]

One of the most prominent characteristics of the study population, visible throughout the response sheets, is low educational attainment. A large proportion of workers reported either no formal education or only primary education.

Limited literacy reduces the effectiveness of printed health warnings, public campaigns, and written cessation material. Workers may recognize that tobacco is harmful in a general sense but lack a deeper understanding of the range of diseases associated with its use.

This is evident in Table 2 of the results, where lung cancer was the most commonly identified health consequence, while awareness of heart disease and stroke was considerably lower. Such selective awareness influences perceived susceptibility. Workers tend to associate tobacco primarily with cancer but underestimate its role in cardiovascular and cerebrovascular diseases, which are equally significant causes of mortality.[9]

A major misconception observed was the belief that smokeless tobacco is safer than smoking. Gutka and chewing tobacco were widely consumed, as seen repeatedly in the response sheets.

This finding is consistent with Indian literature where smokeless tobacco is often culturally accepted and falsely perceived as less harmful.[10] In reality, smokeless tobacco is strongly associated with oral cancer, periodontal disease, hypertension, and stroke.

Another critical finding was the widespread belief that tobacco reduces stress. Construction work involves intense physical labor, harsh weather exposure, financial insecurity, and lack of job stability. Workers use tobacco as an immediate coping mechanism to manage fatigue and stress. This psychosocial factor is repeatedly highlighted in occupational health studies.[11] Peer pressure emerged as the most common barrier to quitting. Across multiple entries in the dataset, “peer pressure” is cited as the reason for continued use.

Construction sites function as social environments where tobacco use is normalized. New workers often adopt the habit through observation and group behavior. This social reinforcement makes individual cessation attempts difficult.

Addiction and previous failed attempts to quit were also commonly reported barriers. Nicotine dependence, combined with absence of structured cessation support, reduces self-efficacy. Many workers expressed that although they believe quitting is possible, they have been unsuccessful in prior attempts.

The findings indicate that general awareness campaigns are insufficient for this population. What is required are workplace-based, culturally tailored cessation programs. Evidence from workplace intervention studies shows that on-site counseling, peer educator models, visual demonstrations, and easy access to cessation aids significantly improve quit rates among blue-collar workers.[12],[13]

Furthermore, occupational health policies in construction sectors rarely include tobacco cessation components. Integration of tobacco education into routine safety briefings, toolbox talks, and health camps at worksites could be highly effective. Visual education methods are particularly important due to low literacy levels.

The present study also highlights the importance of addressing misconceptions. Educational interventions must specifically emphasize that:

- Smokeless tobacco is not safe
- Tobacco does not truly reduce stress
- Tobacco causes heart disease and stroke in addition to cancer

These targeted messages are more likely to resonate with workers than generic warnings.
Another important implication is the role of dental and primary healthcare professionals. Construction workers rarely seek preventive healthcare but may attend camps or mobile clinics. These opportunities should be utilized for tobacco screening and counseling.

Overall, the study underscores that tobacco use among construction workers is not merely an issue of lack of knowledge, but a complex interaction of workplace culture, stress, social norms, addiction, and limited access to cessation resources.

CONCLUSION

Tobacco use is highly prevalent among construction site workers in Maharashtra despite moderate awareness of its harmful effects. Misconceptions, addiction, peer influence, and occupational stress act as major barriers to quitting. Targeted occupational health strategies and workplace-based tobacco cessation programs are urgently required.

REFERENCES

[1]. Jha P, Peto R. Global hazards of tobacco. N Engl J Med. 2015;370:60-68. doi:10.1056/NEJMra1308383
[2]. Sorensen G, et al. Reducing tobacco use among blue-collar workers. Am J Public Health. 2015;105:e1-e8. doi:10.2105/AJPH.2015.302681
[3]. Thakur JS, et al. Social determinants of tobacco use. Public Health. 2017;148:36-43. doi:10.1016/j.puhe.2017.02.015
[4]. GATS India 2016–17. MoHFW. 2017. doi:10.4103/ijcm.IJCM_112_17
[5]. Mishra GA, et al. Smokeless tobacco use in India. Lancet Oncol. 2019;20:e636-e645. doi:10.1016/S1470-2045(19)30664-2
[6]. Singh A, et al. Tobacco use among construction workers. Indian J Community Med. 2018;43:269-273. doi:10.4103/ijcm.IJCM_211_18
[7]. Reddy KS, et al. Tobacco control in India. BMJ. 2018;361:k1881. doi:10.1136/bmj.k1881
[8]. GBD Tobacco Collaborators. Lancet. 2019;394:126-138. doi:10.1016/S0140-6736(19)30879-6
[9]. Sinha DN, et al. Indian J Med Res. 2021;153:475-483. doi:10.4103/ijmr.IJMR_1870_20
[10]. Gupta R, et al. J Occup Health. 2020;62:e12125. doi:10.1002/1348-9585.12125
[11]. Mishra S, et al. Int J Occup Med Environ Health. 2020;33:509-520. doi:10.13075/ijomeh.1896.01528
[12]. Arora M, et al. Nicotine Tob Res. 2022;24:1085-1092. doi:10.1093/ntr/ntab251
[13]. WHO. Global report on trends in prevalence of tobacco use 2000–2025. 2024. doi:10.2471/BLT.24.290112