History of Medicine, 2025, 11(1): 235-243

DOI: 10.48047/HM. V11.I1.2025.235-243

TO EVALUATE AND ASSESS THE KNOWLEDGE AND AWARENESS OF PERIODONTAL HEALTH AMONG SMOKERS: A CROSS-SECTIONAL QUESTIONNAIRE BASED STUDY

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ABSTRACT

Aim: The purpose of this cross-sectional questionnaire-based study was to evaluate and assess knowledge and awareness of periodontal health among smokers.

Materials and methods: seventeen self-constructed closed-ended questions were included in the study. This Cross-sectional research consisted of 200 smokers individuals. Individuals who were smokers were asked questions on their awareness and understanding of periodontal health.

Results: The findings indicated that around 70% of people are not well-informed about the negative effects of smoking on oral health, and approximately 80% are not well-informed about the negative effects of smoking on periodontal health.

Conclusion: The smokers had very little awareness or understanding about periodontal health. In conclusion, addressing the awareness gap through education and professional support is crucial for reducing the burden of smoking-related periodontal disease.

INTRODUCTION

Gingivitis and periodontitis are the two most prevalent chronic dental disorders[1]. The majority of people suffer from this periodontal disease, which accounts for over 90% of cases. It's among the reasons behind tooth loss and how systemic disorders are closely linked to it. Smoking is one of the main risk factors for periodontal disease and its most prevalent cause. Smoking has an impact on the disease severity and prevalence as well.[2] Furthermore, smoking has a direct correlation with the disease course and the effectiveness of its therapy. According to studies and research, smokers are more likely than nonsmokers to experience periodontal disease. This is closely related to how long and how often people smoke. It is proportionate, the severity of the condition increases with smoking duration and pace.

About 90% of periodontal disease and preterm birth, 70% of cancer and chronic lung disorders, and 80% of myocardial infarctions have been linked to smoking.[3] The typical dental health issues that smokers face include tooth discoloration, tooth mobility, periodontal pocket, bone loss, leucoplakia and other oral mucosal lesions, acute necrotizing ulcerative gingivitis, precancerous conditions like smoker's palate and oral submucous fibrosis, delayed and impaired wound healing, dental implant failure, and severe conditions like oral cancer.[4-7]

Numerous epidemiological studies have demonstrated the detrimental effects of smoking on general health, but fewer have examined oral health knowledge and awareness. Consequently, the goal of the current study was to evaluate smokers awareness and understanding of periodontal health in order to encourage them to stop smoking and to clarify how it affects treatment results.

MATERIALS AND METHODS

The sample for this cross-sectional survey research consists of 200 smokers from out-patient department of Rama dental college & hospital, Kanpur, UP. An objective, carefully designed self-administered questionnaire, Patients were given a set of 17 closed-ended questions to complete. The research was carried out between Feb 20, 2025, to April 20, 2025.

There were 17 questions in this questionnaire research. These were self-made questions. Hindi and English were the two languages used to create the questionnaire so that the locals have no trouble understanding it. There were two domains within the questionnaire.

- sociodemographic factors, including age, education level, marital status, and gender.

- Inquiries involving awareness, knowledge, attitude and understanding of smoking effects on periodontal and overall health.

The research did not include patients who were not willing to take part. Survey participation was entirely optional. There isn't a single, widely-used metric to gauge awareness and understanding of oral health. As a result, the findings were expressed as a percentage.

RESULTS

Sociodemographic

The bulk of the 200 individuals who took part in this trial were married men between the ages of 25 and 50. The percentage of men was 80, while the percentage of women was 20. The variable of marital status was shown to be 47.5% single and 52.5% married. With a high of 62.5% in the 25–50 age bracket and 32.5% over 50, 10% of people were under 25. The variable

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for literacy rates is as follows: 35% are illiterate, 5% are in high school, 32% are in upper secondary, and 23% are graduates (Table 1).

TABLE 1: Sociodemographic variables of study Samples

VARIABLES	CATEGORIES	NUMBER	PERCENTAGE
GENDER	MALE	160	80
	FEMALE	40	20
MARITAL STATUS	MARRIED	105	52.5
	UNMARRIED	95	47.5
AGE GROUP	<25 years	20	10
	25-50 years	115	62.5
	>50 years	65	32.5
LITERACY LEVEL	ILLITERATE	70	35
	HIGH SCHOOL	10	5
	HIGHER SECONDARY	64	32
	GRADUATION	56	23

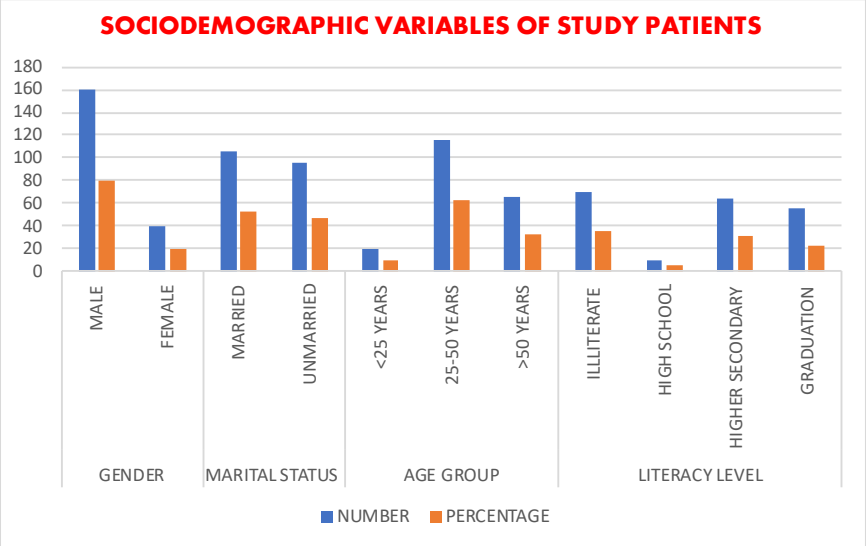

FIG 1: **Sociodemographic variables of study patients**

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Table 2 illustrates the correlation between smoking status and knowledge of the negative consequences of smoking on oral health, overall health, as well as gum disease. 70% knew that smoking has an impact on overall health. Only 20% of respondents knew that smoking causes gum disease, whereas 30% were aware of the link between smoking and bad oral health.

TABLE 2: Association between smoking status and awareness of smoking effects on general health, oral health, and gum disease

STUDY VARIABLE	NUMBER	PERCENTAGE
Awareness of smoking affecting general health		
Yes	130	70
No	70	35
Awareness of smoking affecting oral health		
Yes	60	30
No	140	70
Awareness of smoking causing gum diseases		
Yes	40	20
No	160	80

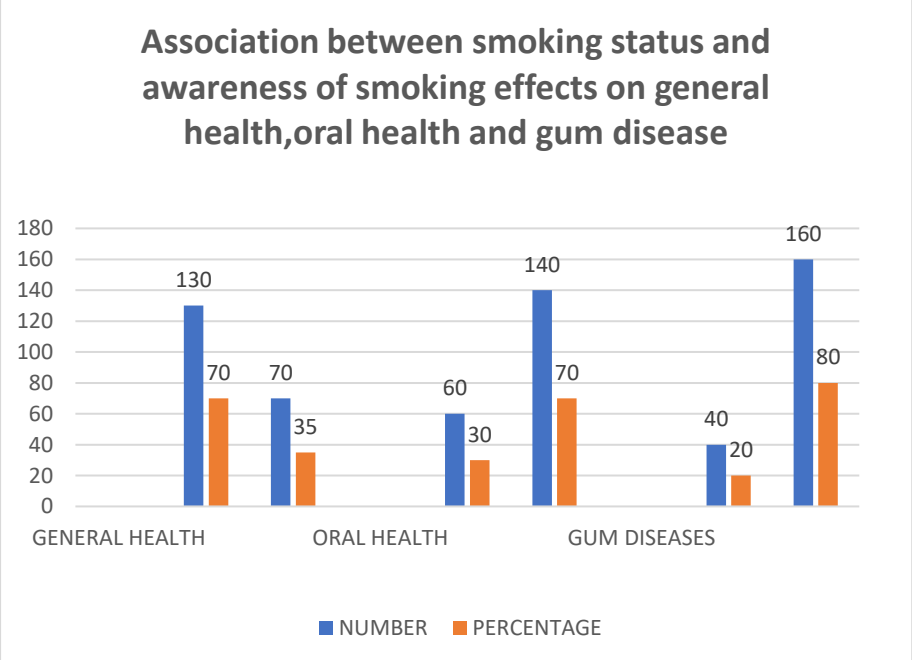

FIG 2: **Association between smoking status and awareness of smoking effects on general health, oral health and gum disease**

Table 3 provide information on how smoking affects oral health. Gum disease, mouth ulcers, tooth discolouration, bad breath (Halitosis), and oral cancer are all more common among smokers. The proportion with little knowledge is shown in the findings. Smoking is linked to 19.5% of cases of gum disease, 15.5% of oral ulcers, 28% of tooth discolouration, 31.5% of cases of foul breath, and 5.5% of cases of oral cancer.

TABLE 3: Knowledge on the effect of smoking on oral health

SMOKING EFFECT	NUMBER	PERCENTAGE
GUM DISEASE	39	19.5
ORAL ULCER	31	15.5
TEETH DISCOLORATION	56	28
BAD BREATH	63	31.5
ORAL CANCER	11	5.5

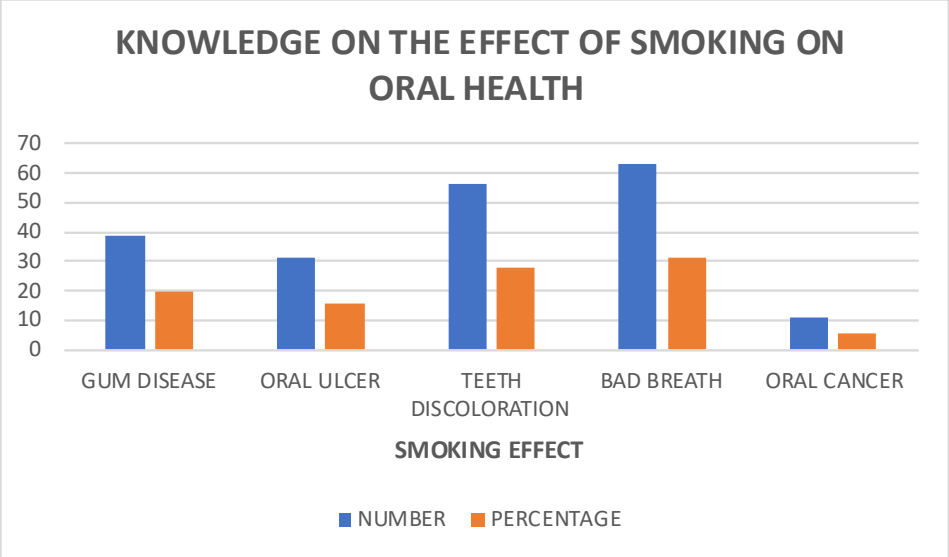

FIG 3: **Knowledge on the effect of smoking on oral health**

DISCUSSION

The direct harm that smoking does to one's dental and general health has been confirmed by extensive studies in recent years. One risk factor for periodontal disease is smoking.[8]

According to the National Household Survey on Drug and Alcohol Abuse in India (2002), 55.8% of young people between the ages of 12 and 18 smoke tobacco.[9] After doing research in India, the World Health Organization (WHO) has declared that by 2020, tobacco usage would account for 13.3% of all fatalities in the country.[10]

According to this survey, smoking was more common among males aged 25 to 50, those with a college degree, and those who were illiterate. Low socioeconomic position is the cause of this, as Economic position is impacted by literacy. People who have graduated are more likely to smoke cigarettes; this might be because those with greater education and, consequently, better socioeconomic standing can easily purchase smokes.

There is a clear correlation between poor oral health and bad overall health. Most of the time, people are unaware of periodontal illnesses such bone loss, pocket development, and tooth movement. About it later on, when there are significant declines in periodontal health. In order to regulate and preserve periodontal health, it is crucial to have knowledge and awareness of periodontal illnesses. Smokers are approximately 2.7 times more likely to develop periodontal disease compared to non-smokers. Former smokers also have an elevated risk, about 2.3 times higher than non-smokers[11]. Current smokers have a higher percentage of sites with plaque, deeper mean probing depths, and greater mean clinical attachment levels than former smokers and non-smokers[12]. There is a dose-effect relationship between cigarette consumption and the probability of having advanced periodontal disease. The association becomes more evident after 10 years of smoking[13]. Smokers exhibited significantly fewer molar teeth than never-smokers and showed advanced gingival recession, probing depth, clinical attachment loss, furcation involvement, and tooth mobility[14]. Among 15- to 16-year-old adolescents, smokers had higher root calculus values and more periodontal pockets ≥4 mm than non-smokers, indicating that smoking significantly impairs periodontal health even in teenagers[15].

Based on the results of this survey, we deduce that around 70% of respondents are unaware of the negative consequences of smoking on oral health, and 80% of respondents were not well-informed on the link between smoking and gum disease. Therefore, a lot more work needs to be done on a broader scale in terms of awareness initiatives.

The knowledge, awareness, and detrimental consequences of smoking on periodontal and dental health should be the main topics of these seminars. Furthermore, in order to help many

individuals and inspire them to stop smoking, these educational events have to be held at various locations at regular intervals.

CONCLUSION

This cross-sectional study highlights a significant gap in knowledge and awareness among smokers regarding the detrimental effects of smoking on periodontal health. Despite the well-established connection between smoking and periodontal disease, the findings reveal that the majority of the surveyed population remains unaware of these associations—only 20% recognized smoking as a cause of gum disease, and 30% acknowledged its impact on oral health. These results underline the urgent need for targeted educational interventions and public health campaigns to enhance awareness, particularly among high-risk groups such as males aged 25–50 and those with lower literacy levels. Addressing this awareness deficit is essential not only for the prevention and early detection of periodontal disease but also for promoting smoking cessation as part of broader oral and general health strategies. Dental professionals, institutions, and public health authorities should collaborate to design and implement structured awareness programs that emphasize the oral consequences of smoking and support behavior change. In conclusion, raising awareness and understanding of periodontal health among smokers is a critical step toward improving overall oral health outcomes and reducing the burden of tobacco-related disease.

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