



# Dental Treatment and Nursing Student: An Evaluative Study to Assess the Knowledge and Awareness at Kanpur

**Running Title: Dental Treatment and Nursing Student**

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## Abstract

**Background:** Oral health is an integral part of general health and oral health status of a person is usually determined by the presence or absence of dental caries and periodontal disease as well as the level of oral hygiene found in the community. Nursing is an important discipline and is considered as an essential community provider of health information and attitude formation. The aim of this study is to assess nursing students' knowledge and awareness regarding dental health. **Material & Method:** A cross-sectional online survey conducted among the 250 nursing students from the nursing college in Kanpur city. The data was gathered using a self-administered questionnaire, analyzed using descriptive statistics. **Results:** The results of the study showed that the nursing students had good knowledge about oral diseases. **Conclusion:** This study enlightens that nursing students have good knowledge about oral health; thereby they can help in improving oral and general health of patients.

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## Keywords

### Introduction

Health is a universal human need for all cultural groups. General health cannot be attained or maintained without oral health. The mouth is regarded as the mirror of the body and the gateway to good health. Oral hygiene has been considered as a risk indicator, and risk predictor for various oral problems.<sup>1,2</sup> To promote collaborative oral

healthcare in these contexts, oral healthcare education is needed for both oral health professionals and other health professionals, such as nurses, physicians, certified speech-hearing therapists, and certified care workers.<sup>3,4</sup> Nursing is an important paramedical branch and, it is considered as an essential supplementary course of medicine. Nursing staff plays a major role in providing



health services along with the doctors.<sup>5,6,7</sup> At present, the nursing staff's role in dentistry is not recognizable, as they are less aware of oral diseases and training and knowledge regarding the instruments and various methods in this field of dentistry.<sup>2,8</sup> Hence the aim of this study is to assess the dental knowledge, and awareness of nursing students in Kanpur City.

**Material & Methods**

A cross-sectional online questionnaire survey was carried out in March 2024 time duration to assess the knowledge and dental awareness among nursing students of Kanpur. A simple random sample was drawn of size 250 nursing students of all 3 years (1st/2nd/3rd) from the certified nursing college of Kanpur were included. The inclusion criteria consisted of all the nursing students willing to participate in the research and answered all the questions of the questionnaire. The exclusion criteria consisted of all those nursing students not present on the pre-decided days of the research and the nursing students who did not give consent to participate in the study.

The nursing students had to complete the online digital pretested, self-administered, close-ended questionnaire consisting of different category questions in Hindi and English language. Initially, a pilot study was conducted among 10 (excluded from the total

sample) students to determine the feasibility of the course. Cronbach's coefficient was 0.77, which signifies acceptable internal reliability of the questionnaire. The study protocol was approved by the institutional ethical review board, and verbal consent was obtained from all the nursing students.

A specially designed online questionnaire consisting of three sections was used, these consisted of the first questions was based on the dental knowledge of nursing students, and the last section was based on nursing student's awareness of oral cavities and oral diseases. Each student was given 15 minutes to complete the questionnaire form and to maximize the response, a letter was enclosed along with the questionnaire which emphasized the importance and confidentiality of the survey.

All demographic data and quantitative data were obtained. Frequencies and cross-tabulations were performed, and the data obtained was analyzed using the SPSS (Statistical Package for social sciences) version 21.

**Results**

Table 1 represents the study population. Based on their year of education 25 were 1st year students, 150 were 2nd year students and 75 were 3rd year nursing students among that 124 were male and 126 were female nursing students.

Gender	Qualification
Male 124	1 <sup>st</sup> year student 25
Female 126	2 <sup>nd</sup> year student 150
	3 <sup>rd</sup> year student 75

**Table-1** Distribution of study subjects according to gender and year of education

Among the study subjects about 246 (98.4%) have said that brushing teeth daily prevents tooth decay and periodontal diseases. Based on their academic year 74 (98.6%) of the 3rd year and 148 (98.6%) of the 2nd year have answered correctly that proper brushing habits prevent tooth decay and periodontal problems. Among the study subjects, 200

answered correctly that plaque/calculus is the factor responsible for gingival and periodontal diseases. 164 (65.6%) nursing students said that scaling has no adverse effect on teeth. Among study subjects, 221 (88.4%) answered correctly regarding tooth number in the oral cavity. 192 nursing students have answered correctly about the ideal material for brushing.

Knowledge-based variables	Distribution of the responses		
	1 <sup>st</sup> Year	2 <sup>nd</sup> year	3 <sup>rd</sup> year



Brushing teeth daily prevents	Dental cancer	4%	0.66%	0
	Oral ulcer/cancer	0	0.66%	1.3%
	Teeth decay	96%	98.6%	98.6%
Factors leading to dental caries/teeth cavity	Brushing once daily	4%	3.3%	2.8%
	Using tooth powder	0	6.6%	4.4%
	Smoking	8%	0	4%
Factors leading to gum problems	Teeth decay	68%	13.3%	13.3%
	Teeth stains	32	85.3%	42.6%
Ideal material for tooth brushing	Tooth powder	4%	5.3%	1.3%
	Tooth paste	48%	80%	80%
How many teeth are in oral cavity	32	96%	84.6%	94%
	20	4%	5.3%	4%

**Table -2** Responses of the study subjects based on their dental knowledge

Among the all-year nursing students, 233(93.2%) answered that a person should brush their teeth twice daily, and the response difference was statistically significant ( $P < 0.05$ ). Out of 250 nursing students, 225 have answered that they do not smoke tobacco in any form. 204 nursing students answered that a person should visit a dentist once every

6months. 210 nursing students among 250 total study subjects mentioned that they refer patients to dentist for dental problems. 243 students replied yes to dental treatment which helps in improving life and 248 students answered yes to the need for dental treatment in pregnant women.

Awareness based variables		Responses of study students		
		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Frequency of daily brushing	Once daily	6.6%	6.5%	8.1%
	Twice daily	93.3%	94%	92.3%
Do you smoke tobacco	Yes	19.1%	10%	6.5%
	No	81.2%	90%	94%
Duration of dentist visit	Once in six months	88%	76.6%	89%
	Only in need/pain	4%	14.6%	8%
Do pregnant women need dental checkups	Yes	99%	98.6%	97%
	No	1%	1.3%	3%

**Table 3** Responses of nursing student's attitude towards dentistry

**Discussion**

The results from this study imply that most of the nursing students clean their teeth for one reason or the other. Similar findings were reported in a study conducted by Alsrour et al. in which 53.10% of the nursing students claimed that they brushed to get clean and bright teeth, while 27% stated that they brushed for the purpose of preventing dental caries. This tendency might be due to an increased desire for the aesthetic aspects. <sup>9</sup>

The study revealed that a large number of the respondents used toothbrush and toothpaste. This observation is in close agreement with the study by Kaira et al. and Bashiru and Omotola in which 96% and 100% of the students used toothbrushes and toothpaste, respectively, for cleaning the teeth.<sup>10,11</sup> The results reflect the adaptation of the subjects to the current lifestyle. Similarly, our finding is in contrast to this study by Kaira et al. in which 39% of the students reported the use of



dental floss as an oral hygiene aid.<sup>10</sup> The results reflect the understanding of the nursing students regarding the cause of dental caries and periodontal disease.

### Conclusion

The study's findings show that nursing students were well-informed and aware of dentistry. Knowing something does not, however, ensure that it will be used successfully. The following are some tactics that can assist nursing students in improving their understanding, perspective, and awareness of the oral components of numerous systemic and fatal diseases: include fundamental dental information in medical curricula, It is necessary to create special study modules or electives in oral health and its correlation with various systemic diseases by involving the dental faculty in teaching, as well as basic management of dental emergencies in medical practice and a variety of interdisciplinary dental education programs with a special emphasis on oral and general health.

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