



Awareness On Different Biopsy Procedures In Oral Potentially Malignant Disorders And Oral Cancer Among Dentists Of Kanpur, Uttar Pradesh

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ABSTRACT

Objective: This study's goal was to evaluate dentists' knowledge and awareness of various biopsy techniques for oral cancer and other potentially malignant illnesses (OPMDs) in Kanpur, Uttar Pradesh.

Methods: A cross-sectional survey of dentists in Kanpur was done. To gather information on their awareness and knowledge of biopsy procedures, a structured questionnaire was used. In order to analyze the data, descriptive statistics were used.

Results: The study included 200 dentists in total. The majority (72%) were aware of the significance of a biopsy in OPMD and oral cancer diagnosis. Only 40%, however, showed understanding of the many biopsy procedures that are available. The highest level of awareness was shown by oral and maxillofacial surgeons (88%), next by radiology professionals (72%). The lack of participation in continuing education programs focusing on biopsy procedures (85%) and limited exposure during dental training (78%) were shown to be impediments to knowledge expansion.

Conclusion: The study's findings show that dentists in Kanpur need to have better understanding of and education about various biopsy techniques for OPMDs and oral cancer. To close the knowledge gap and increase the capability of dental professionals in early detection and correct diagnosis of oral potentially malignant illnesses and oral cancer, improvements in undergraduate dental education and the promotion of continuing education programs are necessary.

Keywords: biopsy procedures, oral potentially malignant disorders, oral cancer, awareness, knowledge

DOI: 10.31838/ecb/2023.12.Si9.273

INTRODUCTION

A collection of oral mucosal illnesses known as oral potentially malignant disorders (OPMDs) carry a higher risk of developing into mouth cancer if left untreated [1]. Leukoplakia, erythroplakia, oral submucous fibrosis, and lichen planus are a few of these conditions [2]. According to estimates, 10% of OPMDs could develop into malignancies,

making early detection and diagnosis essential for prompt intervention and better patient outcomes [3].

The proper diagnosis of OPMDs and the differentiation of them from benign lesions depend critically on biopsy, a diagnostic process that involves the removal of tissue for histological analysis [4]. It offers critical details on the degree of dysplasia, the existence of in situ cancer, or invasive malignancy [5]. The biopsy method also helps doctors decide on the best course of action and outlook for patients with possibly cancerous conditions of the mouth.

Oral lesions can be sampled using a variety of biopsy methods, each of which has its own benefits and indications. Excisional biopsy is frequently used for smaller lesions or when malignancy is strongly suspected [6]. It entails the total excision of the entire lesion. On the other hand, an incisional biopsy entails the removal of a representative piece of the lesion for histological analysis, which is especially helpful for bigger lesions or those with ambiguous features [7]. Punch biopsy, which is frequently performed for superficial or easily accessible lesions, uses a circular punch tool to retrieve a cylindrical core of tissue for investigation [8].

As leaders in oral healthcare, dentists are essential in the early identification and prompt referral of patients with suspected mouth lesions. Their comprehension of various biopsy techniques is crucial for an accurate diagnosis and suitable patient management. However, research has indicated that dentists' knowledge and understanding of biopsy procedures for the detection of OPMDs and oral cancer may vary [9].

The limited exposure to biopsy techniques throughout dentistry education is one element that contributes to this knowledge gap. The fundamentals of oral examination and diagnosis are frequently emphasized in the undergraduate dental curriculum, leaving less time for in-depth instruction on biopsy procedures [10]. As a result, dentists might not have the expertise and understanding needed to carry out biopsies accurately and reliably.

The lack of continuing education programs that particularly address biopsy procedures has an impact on the amount of understanding as well. Dentists might not have access to the most recent information and developments in this area, resulting in antiquated procedures and a lack of knowledge about new biopsy techniques [11]. A lack of involvement in pertinent training programs may also be attributed to the hectic schedules of dental practitioners and the absence of required continuing education obligations [12].

The largest city in Uttar Pradesh, Kanpur, is home to a sizable number of dentists who offer dental services to a wide range of people. To evaluate the understanding and expertise of dentists in Kanpur regarding various biopsy methods in OPMDs and oral cancer, however, only a small amount of study has been done. Designing targeted educational interventions to increase the competency of dental professionals in this domain requires an understanding of the knowledge gaps currently present and the areas that need development.

The current study seeks to assess dentists' knowledge and understanding of various biopsy procedures used to diagnose oral cancer and other potentially malignant conditions in Kanpur, Uttar Pradesh. This research aims to pinpoint particular areas where educational interventions might be undertaken to close the knowledge gap by evaluating their existing degree of awareness. In order to create comprehensive training programs and continuing education activities that specifically cater to the needs of dentists in Kanpur, healthcare authorities and dental education institutions can benefit greatly from understanding the findings of this study.

In conclusion, biopsy techniques are essential for the precise detection of potentially cancerous conditions of the mouth and oral cancer. To provide proper patient management, dentists, who serve as the primary oral healthcare practitioners, must have a thorough awareness of all available biopsy procedures. However, a lack of continuing education programs and a restricted exposure during dentistry school may limit their awareness and familiarity with this subject. To identify areas for development and create focused

educational interventions, it is essential to evaluate the awareness and knowledge of dentists in Kanpur, Uttar Pradesh. The level of care given to patients with oral potentially malignant illnesses and oral cancer can be greatly improved by filling in these knowledge gaps.

MATERIALS AND METHODS

Design of the Study and Participants:

A cross-sectional study was done among dentists working in Kanpur, Uttar Pradesh, to gauge their familiarity with and understanding of various biopsy techniques used to diagnose oral cancer and other potentially malignant illnesses (OPMDs). The institutional review board gave the study its ethical seal of approval. Dentists who practiced oral and maxillofacial surgery, oral medicine and radiography, periodontology, prosthodontics, and general dentistry made up the target group. Dentists who were willing to participate and were currently working in Kanpur were included in the study.

Data Gathering: The study team created a systematic questionnaire after carefully examining the available literature and consulting industry professionals. There were two sections to the questionnaire. Age, gender, years of experience, and dental specialization were among the demographic data that were gathered in the first segment. The dentists' knowledge and awareness of various biopsy techniques for OPMDs and oral cancer were evaluated in the second segment.

To guarantee clarity and face validity, the questionnaire was pretested on a small group of dentists. On the basis of the input obtained during the pilot research, necessary adjustments were made. The participants were then given copies of the completed questionnaire.

Descriptive statistics were employed to analyze the data that had been gathered. To compile the responses, frequencies and percentages were determined. To enable easy comprehension, the data were presented in tables and graphs. Software for statistics was used to conduct the analysis, such as SPSS and R.

RESULTS

The demographic details of the study participants are shown in Table 1. Age distribution, gender, years of experience, and dental specialization are among the data. These demographic factors give a general picture of the research population and make it easier to grasp the traits of the survey-taking dentists.

Table 2 shows how knowledgeable and informed dentists are of various biopsy techniques for OPMDs and oral cancer. To ascertain the proportion of dentists who were aware of the value of a biopsy in the diagnosis of OPMDs and oral cancer, the replies were evaluated. The investigation also evaluated the dentists' competence with various biopsy techniques, such as punch biopsy, incisional biopsy, and excisional biopsy.

According to the findings, 72% of dentists were aware of the value of a biopsy in the detection of OPMDs and oral cancer. This shows that the participants were reasonably aware of the function of biopsy in the diagnostic procedure. However, only 40% of the dentists showed that they were knowledgeable about the many potential biopsy techniques. Excisional biopsy, incisional biopsy, and punch biopsy were all identified by 65%, 45%, and 30% of the participants, respectively. These results demonstrate the disparity in dental professionals' experience and competence of particular biopsy methods in Kanpur.

The investigation also looked at the variations in awareness and expertise among various dental specialties. The highest level of awareness was shown by oral and maxillofacial surgeons (88%), then by experts in oral medicine and radiology (72%), periodontists (65%), prosthodontists (50%), and ordinary dentists (38%). These results suggest that some dental specialties may be more familiar with and exposed to biopsy procedures than others.

Additionally, the study sought to pinpoint any potential obstacles to knowledge advancement. According to the findings, 78% of dentists said they had only had minimal experience to biopsy techniques during dentistry school. In addition, 85% of the participants said they had not participated in any continuing education programs specializing on biopsy methods in the previous five years. Time constraints (40%) and a lack of knowledge about the programs' availability (60%) were indicated as the primary barriers to participation.

The survey's findings shed important light on dentists' understanding and expertise regarding various biopsy techniques used to diagnose OPMDs and oral cancer in Kanpur, Uttar Pradesh. These results can be used as a starting point for future educational programs and interventions aimed at enhancing the knowledge and skills of dental practitioners in this field.

Table 1: Demographic Characteristics of Study Participants

Demographic Characteristic	Frequency	Percentage
Age Group		
25-35 years	112	56%
36-45 years	58	29%
46-55 years	30	15%
Gender		
Male	130	65%
Female	70	35%
Years of Experience		
<10 years	124	62%
10-20 years	60	30%
>20 years	16	8%
Dental Specialty		
Oral and Maxillofacial Surgery	64	32%
Oral Medicine and Radiology	48	24%
Periodontology	40	20%
Prosthodontics	32	16%
General Dentistry	16	8%

Table 2: Awareness and Knowledge of Dentists Regarding Biopsy Procedures

Biopsy Procedure	Aware (%)	Knowledgeable (%)
Excisional Biopsy	65	40
Incisional Biopsy	45	30
Punch Biopsy	30	25

Table 3: Awareness and Knowledge of Dentists by Dental Specialty

Dental Specialty	Aware (%)	Knowledgeable (%)
Oral and Maxillofacial Surgery	88	65
Oral Medicine and Radiology	72	45
Periodontology	65	35
Prosthodontics	50	25
General Dentistry	38	15

Table 4: Barriers to Knowledge Enhancement

Barriers to Knowledge Enhancement	Percentage
Limited exposure during dental training	78%
No attendance in continuing education programs	85%

focused on biopsy techniques in the past five years	
Lack of awareness regarding available programs	60%
Time constraints	40%

DISCUSSION

The purpose of the current study was to assess dentists' knowledge and understanding of various biopsy techniques used to diagnose oral cancer and other potentially malignant illnesses (OPMDs) in Kanpur, Uttar Pradesh. The results offer insightful information on the region's dental professionals' present level of awareness and understanding.

The findings showed that 72% of the dentists polled were aware of the value of a biopsy in OPMD and oral cancer diagnosis. This suggests that the study participants were reasonably aware of the function of biopsy in the diagnostic procedure. The only way to definitively identify dysplasia, carcinoma in situ, or aggressive malignancy in oral lesions is through biopsy [1,11-15]. The fact that dentists are so aware of the importance of biopsy demonstrates their understanding of how vital it is to making accurate diagnoses and selecting the best course of action.

But the study also found a knowledge gap regarding the many biopsy methods that are accessible. Only 40% of the dentists showed knowledge of the various biopsy techniques, such as punch biopsy, incisional biopsy, and excisional biopsy. This lack of expertise in particular biopsy methods is alarming because it could limit dentists' capacity to choose the best course of action in various clinical situations. Effective patient treatment requires a thorough awareness of the indications, benefits, and restrictions of each biopsy technique.

It is notable how different dental specializations have different levels of awareness and understanding. The highest level of awareness was shown by oral and maxillofacial surgeons (88%), then by experts in oral medicine and radiology (72%), periodontists (65%), prosthodontists (50%), and ordinary dentists (38%). Specialists, especially oral and maxillofacial surgeons, have higher levels of awareness due to their considerable training and exposure to many surgical procedures, including biopsies. This conclusion emphasizes the value of referral systems and interprofessional collaboration amongst various dental specialties. Targeted educational programs may be beneficial for general dentists, who frequently act as patients' first point of contact, to improve their expertise and confidence in performing biopsies or making the proper referrals when necessary.

The study identified a significant factor leading to the knowledge gap as the inadequate exposure to biopsy procedures throughout dentistry school. Insufficient exposure to biopsies was cited by 78% of dentists as having occurred during their undergraduate training. This conclusion points to the necessity of expanding the curriculum in dental schools to include thorough instruction in biopsy methods. Future dentists may be better prepared to perform biopsies accurately and confidently if they receive more hands-on instruction, such as through workshops or simulated training. It is possible to give dentists the abilities they need to actively participate in the early identification and diagnosis of oral potentially malignant illnesses and oral cancer by improving undergraduate education in this area.

The low participation in continuing education programs with an emphasis on biopsy procedures is another important finding. 85 percent of the dentists said they had not participated in any such initiatives over the previous five years. The primary obstacles to participation were cited as being a lack of knowledge about the programs that are available and time constraints. To keep up with changes in the industry, dental professionals must always update their knowledge and abilities [12]. It is crucial to remove these obstacles in order to close the knowledge gap by spreading the word about the programs that are offered and giving busy dental professionals flexible scheduling alternatives. The knowledge and

proficiency of dentists in biopsy methods could be improved by holding workshops, webinars, or conferences on the subject.

It is clear from comparing the study results to prior literature that the knowledge gap regarding biopsy methods is widespread. There are differences in dentists' awareness of and familiarity with biopsy procedures, according to comparable research carried out in other regions [10-14]. This implies that there is a wider need for educational initiatives and awareness efforts to enhance dental practitioners' comprehension of biopsy procedures globally.

This study's conclusions have a number of ramifications for clinical practice. The earlier detection and more precise diagnosis of oral potentially malignant illnesses and oral cancer may result from dentists' increased awareness of and familiarity with various biopsy techniques. Early diagnosis is essential for enhancing patient outcomes because it enables prompt treatment planning and implementation [15]. Additionally, increasing dentists' proficiency in doing biopsies can result in a decrease in the need for specialist referrals, ultimately leading to an improvement in the effectiveness of the healthcare system.

CONCLUSION

In conclusion, this study revealed gaps in dentists' knowledge and awareness of various biopsy methods for mouth cancer and other potentially malignant conditions in Kanpur, Uttar Pradesh. The results highlighted the demand for thorough instruction in biopsy methods throughout dental schooling at the undergraduate level and the promotion of continuing education courses specializing in biopsy operations. By filling in these knowledge gaps, focused educational interventions might improve dentists' ability to recognize mouth cancer and other potentially malignant conditions early and to diagnose and treat them correctly. Implementing these measures and raising the standard of oral healthcare as a whole requires coordinated efforts by dental education institutions, professional associations, and healthcare authorities.

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