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Awareness Of Exfoliative Cytology Among Undergraduate Dental Students

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Abstract

Introduction:

Exfoliative cytology is a test that is used in diagnosing various oral diseases mainly squamous cell carcinoma.Awareness and clinical application of exfoliative helps in early detection of the disease. This is one of the best ways to manage and prevent oral cancer. It plays a pivotal role by screening and early diagnosis of the premalignant and malignant lesions. It is a simple and rapid technique that is inexpensive and minimally invasive. Aim of the study is to assess the level and create awareness of exfoliative cytology among undergraduate dental students.

Methodology:

A self administered questionnaire containing 15 questions was distributed to the undergraduate dental students . Data collected were entered into a spreadsheet and analysed subsequently using the Statistical software SPSS (Version 20). Frequency and percentage were calculated from the study variable. Descriptive statistics was used to summarise the variable in the data set.

Result:

From this study 65% of the undergraduate students know the purpose of exfoliative cytology, 35% doesn't know the purpose of exfoliative cytology,66% of undergraduate dental students who are aware of exfoliative cytology and 34 % who are not aware of exfoliative cytology.

Conclusion:

Our study clearly indicates that there is a moderate awareness of exfoliative cytology among undergraduate dental students.

Key words : dental students , exfoliativecytology,malignancy , squamous cell carcinoma , innovation.

INTRODUCTION:

Exfoliative cytology is a complementary test that can be used to diagnose various oral diseases, such as squamous cell carcinoma , potentially malignant disorders, pemphigus, herpes, paracoccidioidomycosis, candidiasis and hairy leukoplakia (1). It is one of the gold standards for oral diagnosis,simple and rapid technique . It is inexpensive and minimally invasive and requires no anesthesia and also well received by patients. This technique is done by microscopic examination of shed or desquamated cells from the epithelial surface,mucous membrane(2) . It also includes the study of those cells that have been collected by scraping the tissue surface or collected from body fluids such as sputum, saliva. The procedure can be started by rinsing the mouth with water to remove food debris and mucus. The cells are collected, preferably using a metal spatula or a cytobrush, and the material is placed on a smear (3). After fixation , the slides are sent for cytological analysis. Oral cancer has high levels of mortality , the most cases are diagnosed at later stages of the disease. all malignant tumors and lesions are well advanced at the time of diagnosis. The early diagnosis could prevent a large number of deaths. Exfoliative cytology has been defined as a microscopic examination of cells desquamated from a body surface or lesion(4). It is performed to detect malignancy , microbiological changes, to measure hormonal levels and for other purposes.Many dentists have shown a lack of interest in or a lack of knowledge about this and there is a need for intervention .Dental health care workers regarding oral cancer are important for several reasons(1). oral and pharyngeal cancers can be recognised at an earliest stage. continuing development of automated cytomorphometric methods, DNA content determination, tumor-marker detection, and diverse molecular-level analyses, have contributed to a renewed interest in exfoliative cytology procedures for the diagnosis of oral cancer(5). These lesions are the precursor lesions for OSCC and diagnosis of these disorders are important to prevent malignant transformation (6). Although biopsy remains the gold standard for the diagnosis of OPMD, exfoliative cytology in recent years has proven more than just an adjuvant for diagnostic purposes. The purpose of this study is to assess the self-reported knowledge as well as the practices of dentists in the early detection of oral cancer.

Materials and methods :

This cross-sectional study was conducted among undergraduate dental students. A Self questionnaire with 15 questions was made and distributed to the undergraduate dental students through googleforms . Data collected were entered into a spreadsheet and analysed subsequently using the Statistical software SPSS (Version 20). Frequency and percentage were calculated from the study variable.The

participation of the subjects was kept voluntary and nobody was not obligated to fill the form. Descriptive statistics was used to summarise the variable in the data set. Chi square test was employed to test the association involving discrete data with the level of significance set at $p<0.05$.

RESULTS :

The overall response for each question and the percent analysis were calculated for each question and was mentioned. Figure 1 shows 66% who's aware of exfoliative cytology and 34 % who are not aware of exfoliative cytology , Figure 2 shows 33% who wants to use exfoliative cytology in regular practice , 60% may be they wants to use exfoliative cytology in regular practice and 7 % who don't wants to use exfoliative cytology in regular practice, Figure 3 shows 85% those who need consultant pathologist for diagnosis of oral cancer in clinics , 8% those who don't need consultant pathologist for diagnosis of oral cancer in clinics and 7% may be they of need consultant pathologist for diagnosis of oral cancer in clinics , Figure 4 shows 65% students who knows the purpose of exfoliative cytology and 35% students who doesn't knows the purpose of exfoliative cytology .Figure 5 shows association between the gender and their need of consultant pathologist for the diagnosis of oral cancer in the clinic , chi square test was done and the association was found to be statistically not significant. Pearson chi square value : 1.734 , df:2 , p value: 0.420 ($p > 0.05$).

DISCUSSION :

Some individuals answered that EC is indicated for the diagnosis of leukoplakia, while others did not. The diagnosis of leukoplakia is made by exclusion; and second, leukoplakia is a clinical entity that can present with different histological, molecular and genetic patterns(7).EC can be used for selecting the best area for biopsy in large leukoplakia lesions. Some authors have supported the use of EC in leukoplakias and have argued that signs of dysplasia and malignancy can be detected in the upper layers of the squamous epithelium due to the migration of cells from the basal layer(8). Oral cancer accounts for 5% of all malignant tumors and 60% of these lesions are well advanced at the time of diagnosis. The early diagnosis can prevent a large number of deaths. The use of mouth rinse before the application of exfoliative cytology is highly controversial(9). Saline is used to remove food debris and mucin. some answered that they were advising patients to use mouth rinse prior to any procedures. Mouthwashes can alter test results even 1 hr. Thus, it should not be used. It was less time consuming and required minimal instruments at the site of the collection (10). An oral pathology consultant can contribute considerably to the control of oral cancer by detecting dysplasia at the earliest. Dentists are limited

to the oral cavity, they might be able to easily obtain the patient's medical and behavioral history, which are the main risk factors for oral cancer and there are multiple chances for tobacco . The dental patients traditionally are receptive to preventive health messages(11). exfoliative cytology is a minimally invasive procedure it is ideal for high risk patients, oral premalignant lesions and treated oral cancer patients. Other procedures such as topical percent toluidine blue bind to dysplastic malignant oral cells.The use of EC in leukoplakia has been questioned because the lesion is keratotic and non-ulcerated; these characteristics are associated with a contraindication of the technique(12).It used for assessing dysplastic change inside the oral epithelium. EC can be used for selecting the best area for biopsy in large leukoplakia lesions. Some authors have supported the use of EC in leukoplakias and have argued that signs of dysplasia and malignancy can be detected in the upper layers of the squamous epithelium due to the migration of cells from the basal layer. Thus, the degree of nuclear abnormality in the surface layers would reflect the degree of atypia of the entire epithelial thickness(13) It can detect early oral SCC but in cervical cytology, oral cytology can give false negative results . Other techniques have been incorporated into the concept of diagnostic cytology to increase the sensitivity and specificity of the test because these parameters have been questioned by some authors. Brush biopsy is a modification of EC, where a brush is used, with pressure applied until bleeding is observed so that cells can be collected from all of the epithelial layers(13,14). The morphological analysis of the cells has been complemented by various techniques, such as DNA cytometry and the Oral CDX system as well as the use of centrifuged samples.(15–23)(15–23),(24–29),(30–34)

CONCLUSION:

Our study clearly indicates that there is a moderate awareness of exfoliative cytology among undergraduate students but they are not using it in regular practices . There is a need to increase knowledge about exfoliative cytology among undergraduate dental students.

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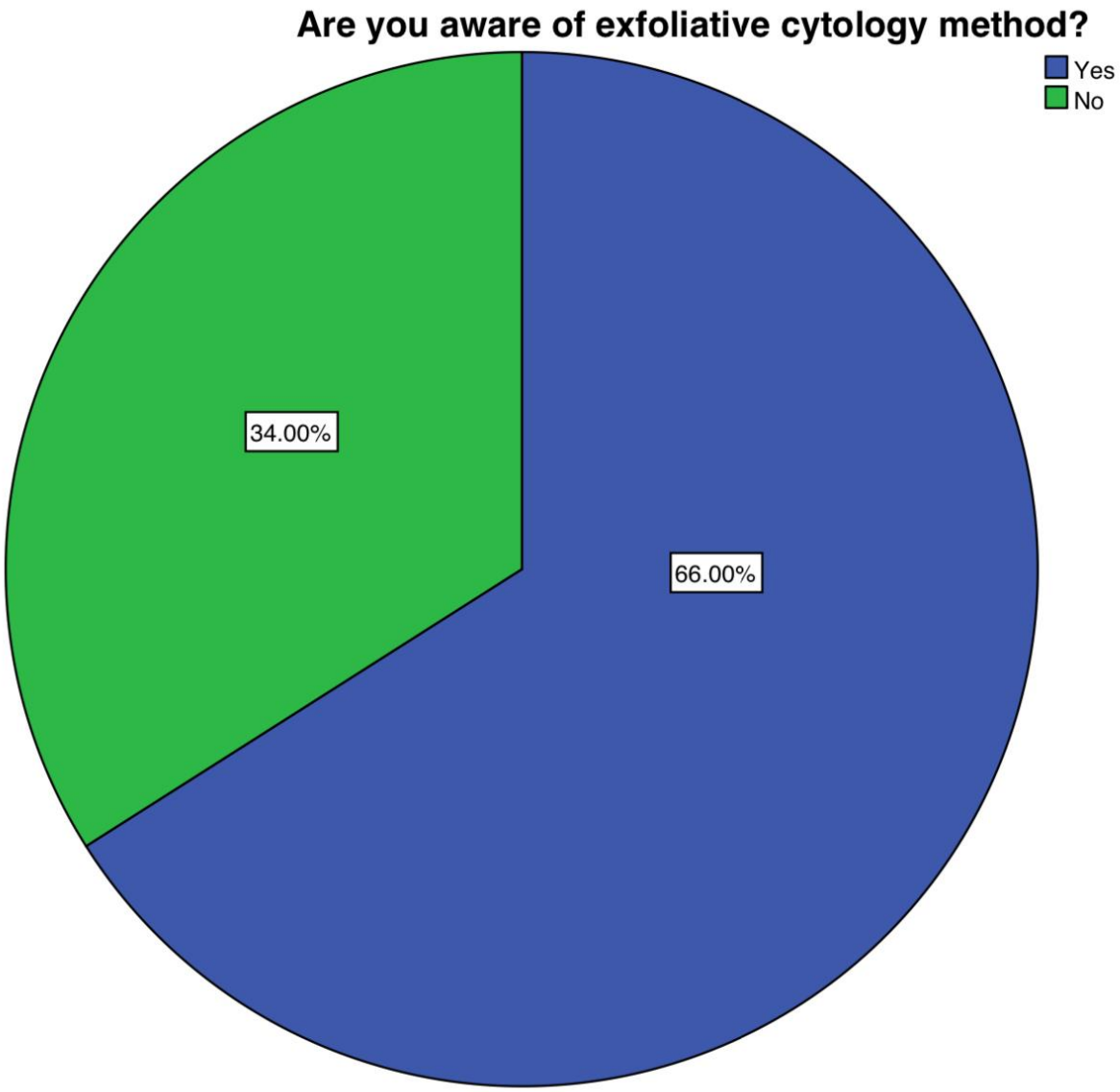

FIGURE 1: pie chart showing students who are aware of exfoliative cytology, blue colour denotes yes 66% , green colour denotes 34% no .

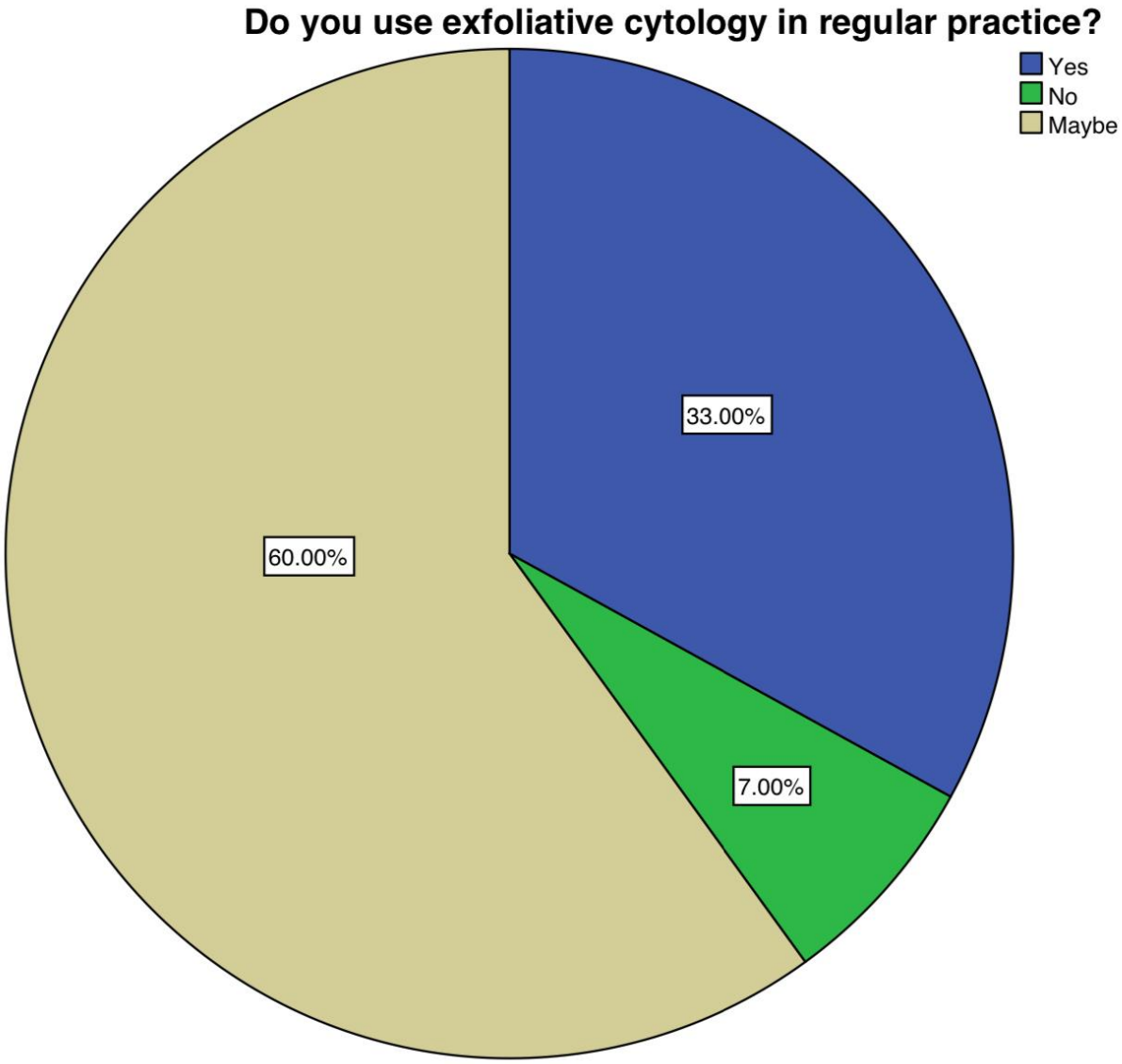

FIGURE 2: pie chart showing students who wants use exfoliative cytology in regular practice. bluecolour denotes yes 33%, green colour denotes 7% no , sandal colour 60% may be.

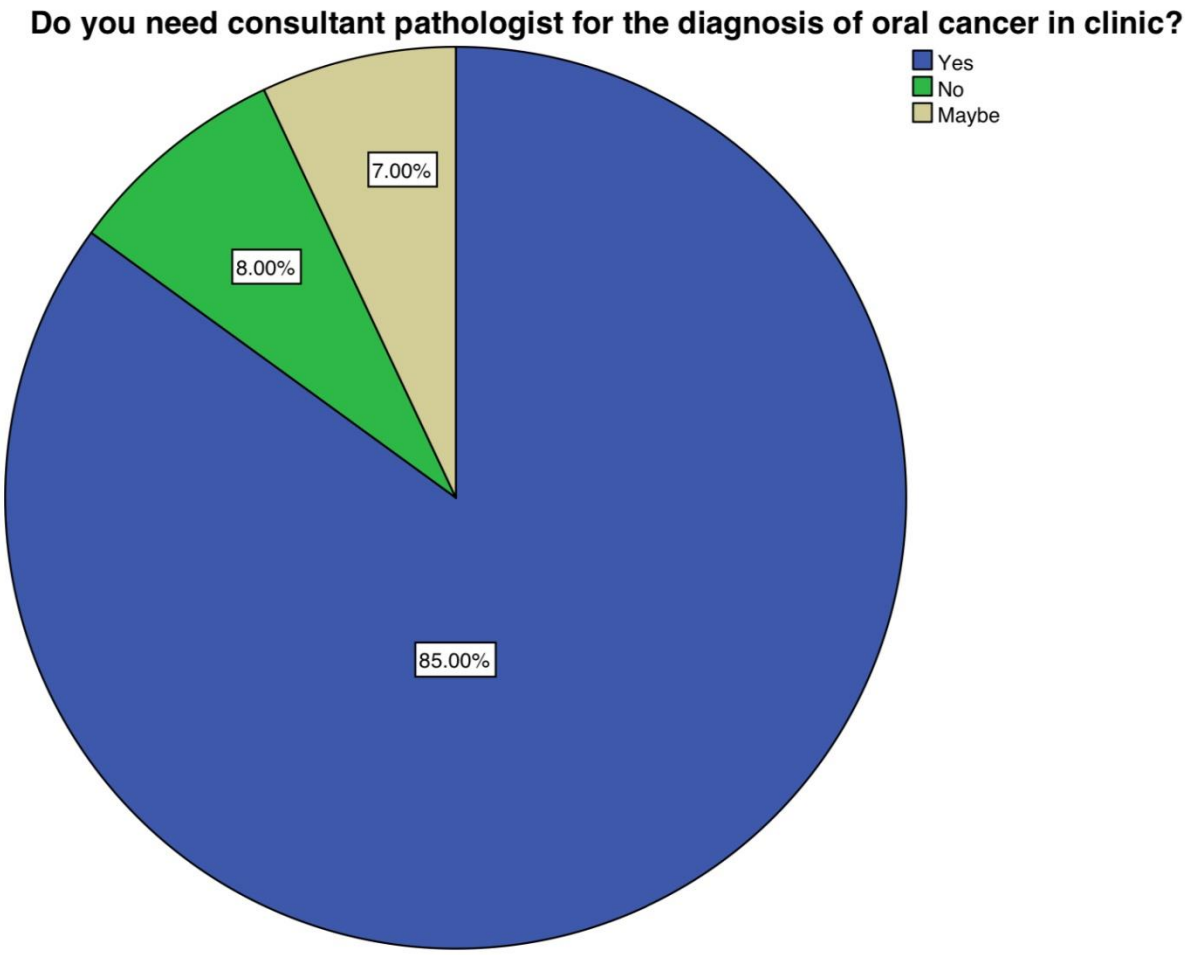

FIGURE 3: pie chart showing students who need a consultant pathologist for the diagnosis of oral cancer in clinic. bluecolour denotes 85% yes , green colour denotes 8% no ,sandal colour denotes 7% may be .

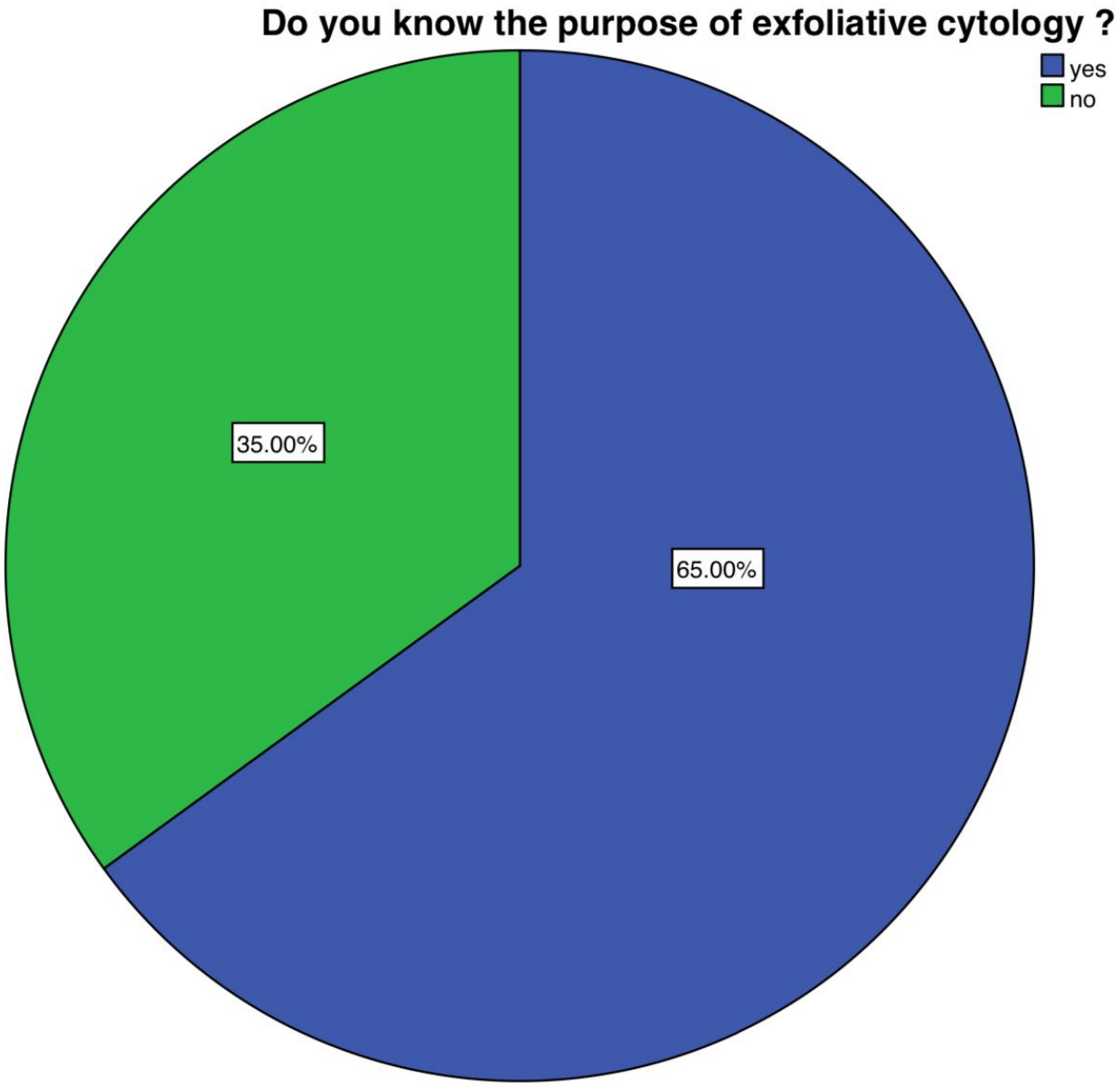

FIGURE 4: pie chart showing students who know the purpose of exfoliative cytology. bluecolour denotes 65% yes , green colour denotes 35% no .

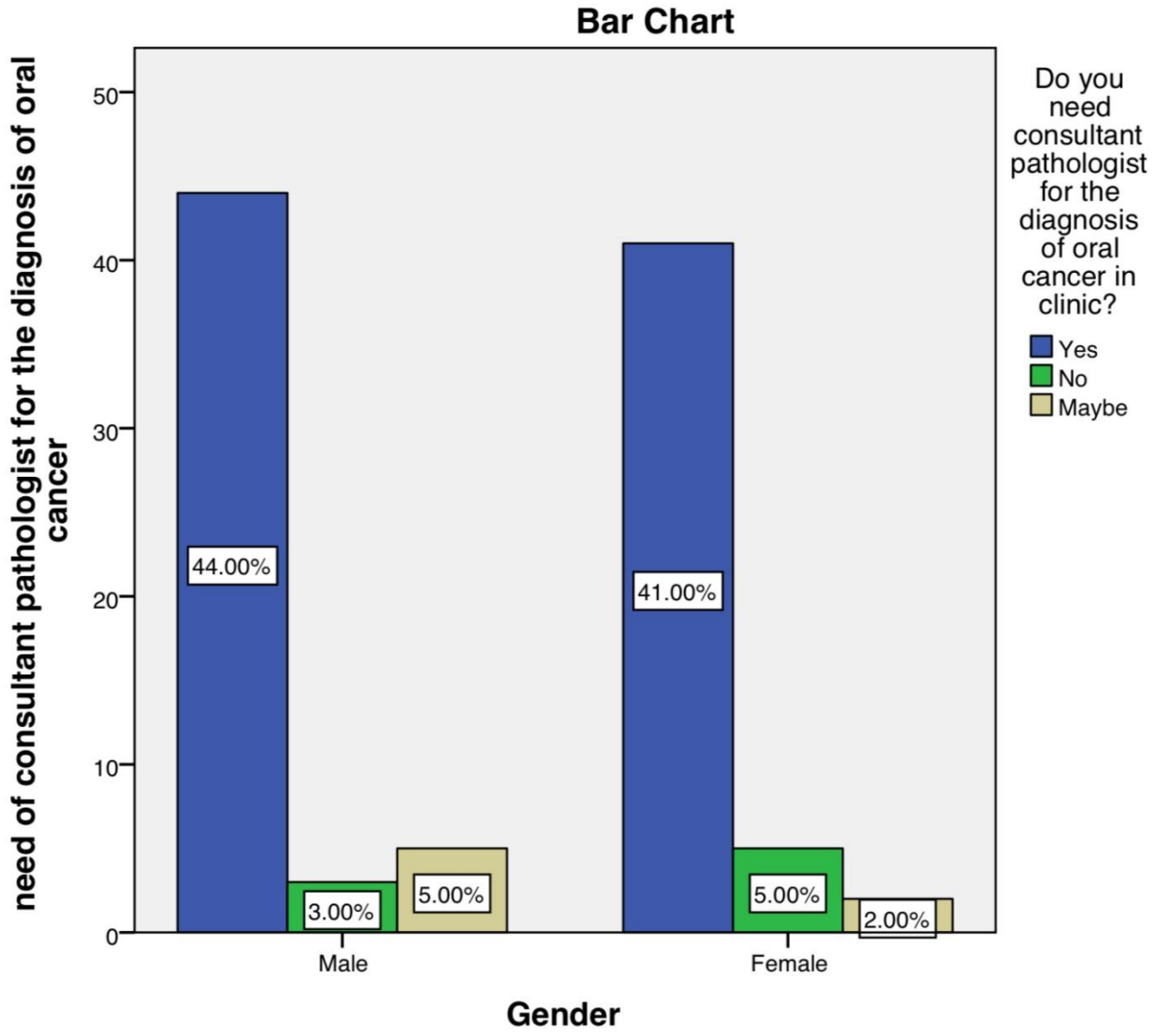

FIGURE 5: The bar graph represents the association between the gender and their need of consultant pathologist for the diagnosis of oral cancer in the clinic . X axis represents the gender and Y axis represents the percentage of the sample population. Blue denotes the needs of a consultant pathologist in the clinic , Green denotes those who don't need a consultant pathologist in the clinic, sandal colour denotes may be there in need of a consultant pathologist in the clinic, chi square test was done and the association was found to be statistically not significant. Pearson chi square value : 1.734 , df:2 , p value: 0.420 ($p > 0.05$).

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