Original Article

Awareness of Oral Cancer

# Comparison of Awareness and Knowledge of Oral Cancer Among Medical and Dental Undergraduate Students in Bacha Khan Medical College, Mardan

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## ABSTRACT

**Objective:** The aim of the study was to compare the awareness and knowledge of oral cancer among medical and dental undergraduate students in Bacha Khan Medical College, Mardan.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was conducted at the Community and Preventive Dentistry, Dental Section, Bacha Khan Medical college, Mardan from January 2017 to December 2017.

**Materials and Methods:** The cross-sectional survey was performed among final year dental and medical students, house officers of BDS and MBBS. The pre-structured questionnaire about ways of improving prevention, early detection and referral of oral cancer patients was circulated among 120 participants. These questions were paying attention on familiarity of the main risk factors and treatment options of oral cancer. The analysis of collected data were done using SPSS version 20.0. Descriptive statistics were calculated. Pearson Chi- square ($\chi 2$) test was applied to compare the responses of oral cancer among the four categories of participants. P-value less 0.05 was considered.

**Results:** The mean age of the sample was 24.208±1.083 years. In final year group(both BDS and MBBS) females were than males while the results were opposite for house offices groups. Less than half of the participants (46.67%) were routinely examined oral mucosa. Majorities of the participants reported that they had insufficient knowledge. The final year BDS student were statistically more awared than final year MBBS students about oral cancer ($P<0.005$) except changes within the mouth would they associate with oral cancer, cancer consultation, and an opportunity to examine patients with oral lesions. Similarly, house officers of dentistry were aware than medical about oral cancer ($P<0.05$).

**Conclusion:** This study stress for the need to improve the curriculum and clinical training in oral cancer of dental and medical institutes of our country.

**Key Words:** Oral cancer, knowledge, undergraduate, medical students, dental students

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## INTRODUCTION

Squamous cell carcinoma of the head and neck is the 6$^{th}$commonest neoplasm in men and records for around 5% of every single malignant tumor in developing countries. [1] Incidence rates are substantially higher in developing areas like Southeast Asia, where they represent up to 50 % of all malignant tumors. [2]

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Oral squamous cell carcinoma has diverse clinical features and several forms of presentation. After surgical resection of the tumors the quality of life of the affected patients is very poor due to functional and esthetic reasons.[3] If the oral cancer is early diagnosed the patients will have good prognosis. Dental practitioners are the first to see patients having oral cancer so awareness of these clinicians have a prime role to detect early and will improve the prognosis of this malignancy.[4]

Numerous patients who have gotten the effective treatment for oral malignancy may need to confront some functional and esthetic mutilation that has trouble in mastication, deglutination, phonation and disfigurement. The treatment of oral squamous cell carcinoma can affect the quality of life badly.[5] The recognition of oral malignancy at a initial period of the onset is the best methods for enhancing survival and reduces the morbidity, distortion and even the related social insurance costs.[6] Most of the cases of oral cancer

patients are asymptomatic, so lack of awareness of knowledge leads to non-presentation to treatment.[4]

Kujan et al.[2] performed a research on Saudi Arabian undergraduate dental students. Questions were asked pertaining to understanding, risk factors, and views on prevention and practices of oral cancer. Eighty-one percent of respondents were aware about oral carcinoma and 87% of respondents reported that they were competent in systematic oral examination to found the suspicion of oral malignancy. Fascinatingly, 57 % of participants had observed the use of diagnostics tools of oral cancer. Another study on Indian population reported that the knowledge of oral cancer was good. Females were aware than males. The participant's awareness about risk factors of oral cancer was not satisfactory.[7]

Lack of adequate knowledge in training pose hindrance to recognized these lesions and consequently leads to delay in diagnosis. Prognosis is far better if diagnosis is done early.[8] Knowledge regarding the oral cancer among the dental students of undergraduate has been well accepted, but there is scarcity of knowledge among undergraduate medical and dental students in Mardan.To our knowledge no study has been traced in Pakistan to compare the knowledge of medical and dental students about oral cancer.

## MATERIALS AND METHODS

The cross-sectional survey was performed between January 2017 to December 2017 among final year dental and medical students, house officers of BDS and MBBS of Bacha Khan Medical college, Mardan. Total participants were 120 each group consist of 30.The pre-structured questionnaire was circulated among the final year's students and house officers of BDS and MBBS. Pamphlet containing information about the aim of the study was also given. All the participants were ensured about the confidentialities of their data to ensure the return of questionnaire. Response rate was 100%.

Main aim of the questionnaire was to gain information from these participants about ways of improving prevention, early detection and referral of oral cancer patients. Section 1 consists of questions about to participant demographics and designation. Section 2 contained 10 questions which were both open and close ended. These questions were paying attention on familiarity of the main risk factors and treatment options of oral cancer.

The analysis of collected data were done using SPSS version 20.0. Frequencies and percentages were calculated for all qualitative variables like gender, questions regarding oral cancer. Mean and standard deviation were computed for numerical variable like age. Pearson Chi- square ($\chi 2$) test was applied to compare the responses of oral cancer among the four categories of participants. P-value less than 0.05 was considered significant.

## RESULTS

The mean age of the sample was 24.208±1.083 years. The age range was from 22 to 26 years. The males were 53(44.2%) and females were 67(55.8%). In each group (final years and House officer of MBBS and BDS) 30 participants were selected. In final year group(both BDS and MBBS) female were than males while the results were opposite for house offices groups. (Fig 1)

Less than half of the participants(46.67%) were routinely examined oral mucosa. Of total, 62.5% the participants reported that they screen the high risk patients for oral cancer. The mostly common reported risk factors for oral cancer were smoking(42.5%) and chronic irritation (39.17%). Seven eight (78%) participants reported that they advised the patients who had risk factor for oral cancer to quit these. Majorities medical and dental students (71.67%) reported that they opportunity for oral lesions examination. More than half of the participants (54.17%) were well inform about appearance of oral cancer and 39. 17% were poorly informed. Most of the participants associated oral cancer with white lesions(52.5%) and color change(27.5%).Majorities of the participants reported that they will consult the oral cancer patients to dentists. The most common specialists to which the referral should be done was maxillofacialsurgeon (n=61, 50.83%) and Oncologist (n=44, 36.67%). Majorities of the participants reported that they had insufficient knowledge. (Table 1)

The final year BDS student were statistically more aware than final year MBBS students about oral cancer ($P<0.005$) except changes within the mouth would they associate with oral cancer, cancer consultation, and an opportunity to examine patients with oral lesions. (Table 2)Similarly, dental house officers were more aware than medical house officers about oral cancer ($P<0.05$). The details are given in the table 3.

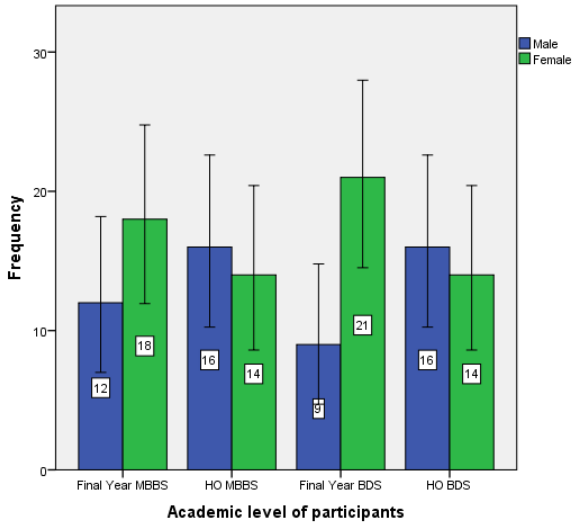


**Figure No.1: Qualification level of the participants**

**Table 1: Awareness and knowledge about oral cancer all participants**

| Awareness of participants about oral cancer | | Count | % |
|---|---|---|---|
| Do you examine patient's oral mucosa routinely? | Yes | 56 | 46.67 |
| | No | 64 | 53.33 |
| Do you screen the oral mucosa if the patients are in high risk categories? | Yes | 75 | 62.5 |
| | No | 45 | 37.5 |
| What do you consider high risk factor for oral cancer? | Snuff Dipping | 22 | 18.33 |
| | Smoking | 51 | 42.5 |
| | chronic irritation | 47 | 39.17 |
| Do you advise patients about risk factor for oral cancer? | Yes | 78 | 65 |
| | No | 42 | 35 |
| Have you an opportunity to examine patients with oral lesions? | Yes | 86 | 71.67 |
| | No | 34 | 28.33 |
| How much you know the clinical appearance of oral cancer? | Very well | 8 | 6.667 |
| | Well inform | 65 | 54.17 |
| | Poorly | 47 | 39.17 |
| What changes within the mouth would you associate with oral cancer? | White lesion | 63 | 52.5 |
| | Red Lesion | 17 | 14.17 |
| | Color change | 33 | 27.5 |
| | Pigmentation | 7 | 5.833 |
| Where should patients with oral cancer consult? | Dentist | 101 | 84.17 |
| | Medical doctor | 19 | 15.83 |
| Where would you refer a patient if suspect an oral malignancy? | Plastic Surgeon | 0 | 0 |
| | ENT surgeon | 15 | 12.5 |
| | Maxillofacial surgeon | 61 | 50.83 |
| | General Practitioner | 0 | 0 |
| | Oncologist | 44 | 36.67 |
| Do you feel that you have sufficient knowledge concerning of prevention and detection of oral cancer? | Yes | 50 | 41.67 |
| | No | 70 | 58.33 |

**Table No.2: Comparison of awareness about oral cancer among final BDS and MBBS students**

| Awareness of participants about oral cancer | | Final Year MBBS Count | Final Year BDS Count | p-value |
|---|---|---|---|---|
| Do you examine patient's oral mucosa routinely? | Yes | 0 | 27 | 0.000 |
| | No | 30 | 3 | |
| Do you screen the oral mucosa if the patients are in high riskcategories? | Yes | 9 | 22 | 0.001 |
| | No | 21 | 8 | |
| what do you consider high risk factor for oral cancer? | Snuff Dipping | 4 | 0 | 0.011 |
| | Smoking | 21 | 16 | |
| | chronic irritation | 5 | 14 | |
| Do you advise patients about risk factor for oral cancer? | Yes | 26 | 15 | 0.002 |
| | No | 4 | 15 | |
| Have you an opportunity to examine patients with oral lesions? | Yes | 17 | 24 | 0.052 |
| | No | 13 | 6 | |
| How much you know the clinical appearance of oral cancer? | Very well | 4 | 0 | 0.000 |
| | Well inform | 12 | 30 | |
| | Poorly | 14 | 0 | |
| What changes within the mouth would you associate with oral cancer? | White lesion | 16 | 15 | 0.203 |
| | Red Lesion | 0 | 0 | |
| | Color change | 14 | 12 | |
| | Pigmentation | 0 | 3 | |
| Where should patients with oral cancer consult? | Dentist | 26 | 27 | 0.688 |
| | Medical doctor | 4 | 3 | |
| Where would you refer a patient if suspect an oral malignancy? | Plastic Surgeon | 0 | 0 | 0.000 |
| | ENT surgeon | 8 | 0 | |
| | Maxillofacial surgeon | 8 | 23 | |
| | General Practitioner | 0 | 0 | |
| | Oncologist | 14 | 7 | |
| Do you feel that you have sufficient knowledge concerning of prevention and detection of oral cancer? | Yes | 4 | 23 | 0.000 |
| | No | 26 | 7 | |
| | No | 26 | 11 | |

**Table No.3:Comparison of awareness about oral cancer among BDS and MBBS House officer**

| Awareness of participants about oral cancer | | HO MBBS | HO BDS | p-value |
|---|---|---|---|---|
| | | Count | Count | |
| Do you examine patient's oral mucosa routinely? | Yes | 3 | 26 | 0.000 |
| | No | 27 | 4 | |
| Do you screen the oral mucosa if the patients are in high risk categories? | Yes | 14 | 30 | 0.000 |
| | No | 16 | 0 | |
| what do you consider high risk factor for oral cancer? | Snuff Dipping | 11 | 7 | 0.005 |
| | Smoking | 11 | 3 | |
| | chronic irritation | 8 | 20 | |
| Do you advise patients about risk factor for oral cancer? | Yes | 15 | 22 | 0.06 |
| | No | 15 | 8 | |
| Have you an opportunity to examine patients with oral lesions? | Yes | 15 | 30 | 0.000 |
| | No | 15 | 0 | |
| How much you know the clinical appearance of oral cancer? | Very well | 4 | 0 | 0.000 |
| | Well inform | 0 | 23 | |
| | Poorly | 26 | 7 | |
| What changes within the mouth would you associate with oral cancer? | White lesion | 12 | 20 | 0.004 |
| | Red Lesion | 7 | 10 | |
| | Color change | 7 | 0 | |
| | Pigmentation | 4 | 0 | |
| Where should patients with oral cancer consult? | Dentist | 18 | 30 | 0.000 |
| | Medical doctor | 12 | 0 | |
| Where would you refer a patient if suspect an oral malignancy? | Plastic Surgeon | 0 | 0 | 0.016 |
| | ENT surgeon | 7 | 0 | |
| | Maxillofacial surgeon | 12 | 18 | |
| | General Practitioner | 0 | 0 | |
| | Oncologist | 11 | 12 | |
| Do you feel that you have sufficient knowledge concerning of prevention and detection of oral cancer? | Yes | 4 | 19 | 0.000 |
| | No | 26 | 11 | |

# DISCUSSION

Dentists commonly diagnosed oral cancer. In addition, early diagnosis reduces the morbidity and mortality of this disease.[9] However, to make feasible the early diagnosis dentists must appreciate cancer of orofacial region as a public health issue. The prime responsibility of the dental institute to make certain the formation of a generalist with solid technical, scientific, humanistic, and ethical knowledge, to promote health, emphasize the philosophy of prevention of oral diseases.[10] Although post-graduation are essential in any field, graduation is necessary and the students must have the relevant basic information to prevent and diagnose early the oral cancer.[11] Hence, this study sought to assess oral cancer awareness among the dental and medical students of Bach Khan Medical college, Mardan. A questionnaire previously published by Makhdoom et al.[12] was used in this survey type study.

The response rate of the current study was excellent (100%). Since the response rates of different groups were same, it was possible to compare the results. This study has some limitations such as applying students' perception to assess students' knowledge regarding oral cancer risk factors and appearances. The number of questions was kept to a minimum to encourage the responses and appeared to work well when previously employed.

The findings of the current study showed that there was on the whole shortage in oral cancer awareness and knowledge among the undergraduate medical and dental students. These results of undergraduate dental students were in consistent to students in the United Kingdom, Canada[13] and in Peshawar Pakistan.[12]

In the current study most of the participant related oral cancer to smoking and chronic irritation. This is may be due to the fact the smoking and chronic irritations due to snuff dipping and mal-designed removable denture are common in our territory. Similar results were reported by previous studies conducted in Peshawar[12] and Lahore, Pakistan[14].

Less than half of the medical and dental undergraduate routinely examined the oral mucosa routinely for oral cancer. That's may a reason that most oral carcinoma patients appears in late stages of oral cancer and have poor prognosis. These results are in consistent with previous literature.[12, 14]

Most of the participants associate oral cancer with white lesions and color in oral mucosa. This shows good knowledge among practitioner regarding the clinical appearance of oral cancer, because oral cancer is in many cases preceded by leukoplakia and erythropalakia. Similar findings were reported by Uti et al[15] and Clovis et al.[16]

The main focused of this was to compare the knowledge regarding oral cancer among medical and dental undergraduate students. The current results showed that dental students were more aware as compared to medical students. Carter et al.[17] conducted a study on oral cancer awareness of undergraduate medical and dental students at the University of Dundee. Their results supported the current study.

# CONCLUSION

This study stressed for the need to improve the curriculum and clinical training in oral cancer of dental and medical institutes of our country. Importance of early diagnosis of oral cancer should be given and included in the curriculum by the Higher Education Commission (HEC) as well as PMDC to make sure that medical and dental students are provided with sound knowledge about this malady.

**Author's Contribution:**

| | |
|---|---|
| Concept & Design of Study: | Muhammad Naeem |
| Drafting: | Shakeel Anwar |
| Data Analysis: | Munib Muhammad |
| Revisiting Critically: | Muhammad Naeem, Shakeel Anwar |
| Final Approval of version: | Muhammad Naeem |

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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