

Awareness Regarding Oral Aphthous Ulcers and its Risk Factors Among BDS and MBBS Students-A Cross-Sectional Survey



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OBJECTIVE: The objective of this paper was to assess the awareness regarding oral aphthous ulcers and its risk factors among BDS and MBBS students in private institute of Karachi, Pakistan.

METHODOLOGY: A cross-sectional survey was conducted at a private institute of Karachi Pakistan for the duration of six months. Medical and dental students of age more than 18 years of either gender were enrolled in the study using non-probability convenience sampling technique. Pre-designed proforma was used to collect data regarding demographics, history of recurrent aphthous stomatitis and knowledge of oral aphthous ulcers and its risk factors. The knowledge score of 4 out of 6 was considered as adequate knowledge. SPSS version 25 was used to analyze data.

RESULTS: Of 150 participants, the mean age was reported as 22.94 ± 1.65 years (range: 21-25 years). In those 150 participants 46 were males (30.7%) and 104 were females (69.3%). Overall mean score of knowledge was 4.35 ± 1.29 . Wherein 73% had adequate knowledge regarding oral ulceration and its risk factors. The dental students had significantly higher proportion of adequate knowledge regarding oral ulceration than medical students [$p=0.024$].

CONCLUSION: Overall students had good knowledge of oral ulceration and its risk factors, wherein knowledge of dental students was better than medical students.

KEYWORDS: Oral ulcers; Recurrent Aphthous stomatitis; awareness, oral ulceration, risk factors, eating habits

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INTRODUCTION

The most frequent type of ulcers occurring in the oral cavity are aphthous ulcers also known as recurrent aphthous stomatitis. It is a degradation

of the epithelium that contributes to the formation of underlying inflamed conjunctive tissue.¹ Almost 25% of people around the world suffer from oral ulcers and estimated point prevalence is 4% globally.² It is prevalent among both genders but predominantly affects females and teenagers.^{3,4}

Stress, family history, infective agents, allergic conditions, hormonal disturbances and gastrointestinal diseases are the most common etiological causes of oral ulceration, but the causes of recurrent aphthous stomatitis remain unknown and vague.¹ However, literature showed that stress (54.8%), was the common cause of recurrent aphthous stomatitis followed by nutritional deficiency as 25% (i.e. micro-nutrient deficiencies including iron, folate, zinc, B1, B2, B6, B12 deficiencies) and food stuff (16%).^{2,5}

Dental as well as medical graduates can play an

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important role in educating the patient, friends, families and communities regarding prevention, diagnosis and treatment of oral ulcers.⁶⁻⁸ Statistics regarding how well dental and medical students are aware of oral ulcers is unavailable. One research found that only 56% of dental students were familiar with the true etiology and therapies of oral ulcers and 64.2% of the dental students had experienced recurrent aphthous stomatitis which was prevalent among female students.⁹

There is lack of information available on the awareness of oral aphthous ulcers among medical and dental students in Pakistan. The purpose of the current study is therefore, to explore level of awareness among students. The study will help students learn about the disease diagnosis, its etiologies, therapies and prevention strategies.

METHODOLOGY

A cross-sectional survey was conducted at a private institute of Karachi Pakistan for the duration of six months. Sample size of 150 was estimated on Open epi sample size calculator using proportion of knowledge regarding true etiology and therapies of oral ulcers among dental students as 0.569, absolute precision as 8% and 95% confidence level. Medical and dental students of age more than 18 years of either gender were enrolled in the study using non-probability convenience sampling technique. Participants who did not give consent were excluded from the study. This research was approved by ethical review committee of Sir Syed College of Medical Sciences (Ref#SSCMS/College/Principal/Dental/20001161).

Study was initiated after taking verbal consent from all the eligible participants. Pre-designed proforma was used to collect data regarding demographics and history of recurrent aphthous stomatitis. Second section questionnaire included six questions regarding knowledge of oral aphthous ulcers and its risk factors. The knowledge score of 4 out of 6 was considered as adequate knowledge. The questionnaire for knowledge assessment was designed by the research team itself. The validation and reliability of the questionnaire was checked by applying reliability analysis which gave the value of Cronbach's alpha as 73%.

SPSS version 25 was used to analyze data. Numeric data such as age and knowledge score were presented as mean and SD while categorical data like gender, education background, experience of oral ulcers knowledge questions and adequate knowledge was presented as frequency and percentage. Chi-square was applied to see the association between knowledge level and effect modifiers like age, gender, experience of oral ulcers and education background. A p-value<0.05 was taken as statistically significant.

RESULTS

Of 150 participants, the mean age was reported as 22.94 ± 1.65 years (range: 21-25 years). Of 150 participants 46 were males (30.7%) and 104 were females (69.3%). Majority of the participants were dental students (n=81, 54%) and 69 were medical students (46%) respectively. Of 150 participants, 57 had experienced oral ulcers (38%) and 93 had no experience (62%).

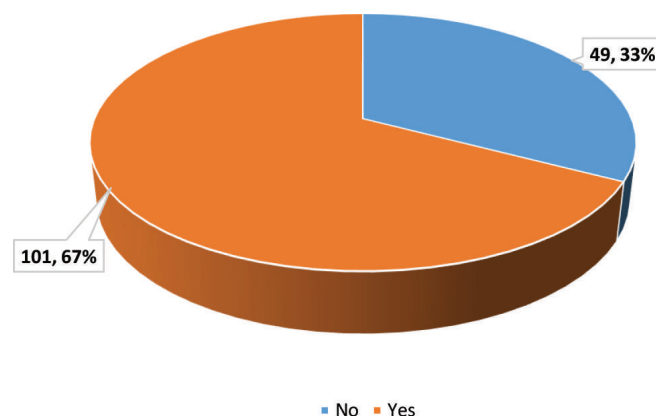
About 88.7% of the participants claimed that they knew about oral ulcerations. Almost 71% said spicy food is risk factor for oral ulcers, 74% said smoking can cause oral ulcers and 69% considered stress as a risk factor. Of 150 participants 64% said family risk history is a risk factor for oral ulceration and 68.7% said type of toothpaste can play a role in occurrence of oral ulcerations. (Table 1)

Table 1: Assessment of awareness among students

Items	No	Yes
Do you know about oral ulcers?	17 (11.3%)	133 (88.7%)
Spicy food is a risk factor for oral ulcer	43 (28.7%)	107 (71.3%)
Smoking can cause oral ulcer	39 (26%)	111 (74%)
Stress can cause oral ulcer	47 (31.3%)	103 (68.7%)
Family history is a risk factor for oral ulceration	54 (36%)	96 (64%)
Type of tooth can play a role in oral ulceration	47 (31.3%)	103 (68.7%)

Of 150 participants, the overall mean score of knowledge was 3.87 ± 1.13 . Wherein 67.3% had adequate knowledge regarding oral ulceration and its risk factors where 32.7% had inadequate knowledge. (Fig 1)

Fig 1: Frequency distribution of adequate knowledge



There was statistically insignificant difference in proportions of adequate knowledge with respect to age ($p=0.247$), gender ($p=0.262$), and experience of oral ulcerations ($p=0.194$). The dental students had significantly higher proportion of adequate knowledge regarding oral ulceration than medical students [$p=0.024$]. (Table 2)

Table 2: Comparison of knowledge and potential factors

Variables	Knowledge		p-value
	Inadequate	Adequate	
Age groups			
>23 years	24 (37.5%)	40 (62.5%)	0.276
≤23 years	25 (29.1%)	61 (70.9%)	
Gender			
Male	18 (39.1%)	28 (60.9%)	0.262
Female	31 (29.8%)	73 (70.2%)	
Educational background			
Medical student	29 (42%)	40 (58%)	0.024*
Dental student	20 (24.7%)	61 (75.3%)	
Experience of oral ulcerations			
No	34 (36.6%)	59 (63.4%)	0.194
Yes	15 (26.3%)	42 (73.7%)	

DISCUSSION

A total of 150 students taken part in the study and responded back. Most of the participants were females and this reflects the dominance of female students in medical and dental college. Out of 150 students, 88.7% of the students knew about oral ulcerations and 11.3% did not have idea of oral ulcerations. Similarly, in a previous research 85% of the responders knew about oral ulcerations.⁹ In a research by Rathod et al it was found that 44% of the students had history of oral ulceration.¹⁰ In our research, the experience of oral ulceration was low in all students (38%). Whereas in previous researches, the experience of oral ulceration was high among all students.^{9,11,12}

Some researches had showed that incidence of oral ulceration is highly correlated with diet.^{13,14} In previous researches of oral ulceration associated with diet have shown, that fried items and spicy foods are the potential risk factors for oral ulcers.^{15,16} thought that spicy food intake is the reason of oral ulcerations.⁹ In our research we found that 71.3% of the students knew that spicy food is a risk factor for oral ulcerations. This statistics highlights that Pakistani people usually consumes more spice in food on daily basis, and spicy food can influences the health outcomes like oral ulceration.^{17,18} Previous researches have also shown that stress and family history of risk factors of oral ulcerations.^{1,19} In current study, we found that most of the students knew that stress and positive family history of oral ulceration are risk factors of ulcerations. Hence, this is important for students to know which kind of food should be avoided and to manage stress in order to prevent ulceration.¹⁶

In our research, most students knew the form of toothpaste could cause oral ulceration (69 per cent). However, previous literature has demonstrated that students have limited

understanding of toothpaste ingredients. This can be troubling, since it is important to know the product you use to brush your teeth every day because whatever you consume, it should be safe enough. Herlofson et al²⁰ has demonstrated that tooth paste containing sodium lauryl sulphate is one of the main cause of oral ulceration. In a similar research, it was revealed that 30% of the students did not know whether sodium lauryl sulphate is present in their toothpaste or not and 63.3% did not know about the chemical composition of the toothpaste.⁹ Another research reported that 72% of the students did not look at the chemical composition of toothpaste and they choose toothpaste on the basis of brand and price.²¹

The relationship between oral ulcerations and smoking is not fully cleared. However, the highest prevalence of oral ulcerations was observed among young individuals especially university students.²² A hospital based study also revealed that tobacco users had less chances of oral ulcerations as compared to non-users.²³ The literature on the "protective effect" of tobacco use, particularly smoking, on aphthous ulceration has been heavily debated, especially in terms of a possible underlying mechanism. It's been suggested that smokers' oral mucosa has further keratinization.²² Keratinization prevents the oral tissues from bacterial penetration and trauma. Multiple compounds are ingested systemically from cigarette smoke, and one of these absorbed constituents that encourages keratinization may be hyperkeratosis, which is usually confined to the mucosal region where smokeless tobacco is kept. While hyperkeratosis is a premalignant disease, it is conceivable that it protects the oral mucosa from aphthous ulcers by providing a local protective impact. There is also debate about whether nicotine, which is found in cigarettes, or one of the tobacco product's constituents, causes the defensive effect.^{18,24} Nicotine is more systemically consumed in cigarettes than in nonsmokers, so the former may have a lower defensive benefit than the latter.^{18,24-26} In our study we found that 74% of the students thought that smoking can cause oral ulcerations. This shows that only 26% of participants had correct knowledge and were aware that smoking had protective effect on oral ulcerations.

In our study, most of the students were adequately aware of oral ulceration and its risk factors (67.3%) and high proportion of knowledge regarding oral ulceration was observed among dental students. This study would be help in designing educational intervention for students mainly for final year students who are going to deal with patients.

CONCLUSION

Overall students had good knowledge of oral ulceration and its risk factors, wherein knowledge of dental students was better than medical students.

CONFLICT OF INTEREST

None to declare

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