

Dental Practitioners - Approach towards oral mucosal lesions in Gujarat, India – A cross sectional study

¹Dr. Milloni Palan, BDS, K. M. Shah Dental College and Hospital, Sumandeep Vidyapeeth Deemed to be University, Piparia, Vadodara, Gujarat, India.

²Dr. Palak H. Shah, MDS, Senior Lecturer, Department of Oral Medicine and Radiology, K. M. Shah Dental College and Hospital, Suman deep Vidyapeeth Deemed to be University, Piparia, Vadodara, Gujarat, India.

³Dr. Rashmi Venkatesh, MDS, Professor, Department of Oral Medicine and Radiology, K. M. Shah Dental College and Hospital, Suman deep Vidyapeeth Deemed to be University, Piparia, Vadodara, Gujarat, India

⁴Dr. Chandramani B. More, Professor and Head, Department of Oral Medicine and Radiology, K. M. Shah Dental College and Hospital, Suman deep Vidyapeeth Deemed to be University, Piparia, Vadodara, Gujarat, India.

⁵Dr. Deepa Jatti Patil, Reader, Department of Oral Medicine and Radiology, K. M. Shah Dental College and Hospital, Suman deep Vidyapeeth Deemed to be University, Piparia, Vadodara, Gujarat, India.

Corresponding Author: Dr. Palak H. Shah, MDS, Senior Lecturer, Department of Oral Medicine and Radiology, K. M. Shah Dental College and Hospital, Suman deep Vidyapeeth Deemed to be University, Piparia, Vadodara, Gujarat, India.

How to citation this article: Dr. Milloni Palan, Dr. Palak H. Shah, Dr. Rashmi Venkatesh, Dr. Chandramani B. More, Dr. Deepa Jatti Patil, “Dental Practitioners’ approach towards oral mucosal lesions in Gujarat, India – A cross sectional study”, IJMACR- January – February - 2022, Vol – 5, Issue - 1, P. No. 65 – 73.

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Objectives: Oral cavity is considered as a mirror of the general health. The oral health and systemic health are interrelated to each other. Dentists are often the first to be consulted for oro-facial health problems. Thus, the present study is aimed to assess dental practitioners’ knowledge, attitude and practice towards the oral mucosal lesions (OMLs).

Methods: A total of 200 filled questionnaires were received back by study investigators. In addition to the demographic information, the questionnaire assessed the practitioners’ approach regarding OMLs. Descriptive statistics and chi-square test were used to analyze the

responses of the participants according to their level of education and field of specialization.

Results: From obtained 200 responses, 100 practitioners were BDS and 100 practitioners were MDS of different specialties. The larger portion of the collected sample used to examine OML. 54.5% of the practitioners were facing difficulty in diagnosing the OMLs. Majority of the participants attempted to treat OMLs. Most of the participants used to perform biopsy of OMLs on their own or by specialist reference.

Conclusion: It was concluded that as the dental practitioners in Gujarat are considering the management

of OMLs important and their knowledge regarding the same can be improved.

Keywords: Oral mucosal lesions, dentist, knowledge, attitude, questionnaire

Introduction

Oral cavity is considered as a mirror of the general health. It can act as an early warning system for underlying systemic disease. As a gateway of the body, oral cavity is vulnerable to many pathogens and so prone to many diseases. The oral health and systemic health are inter-related to each other. Many systemic diseases have oral manifestations and also oral diseases can increase risk of systemic diseases. Moreover, treatment of certain systemic diseases can also affect oral health. Oral health is an important factor of individual's quality of life. Disrupted oral health negatively affects speech, chewing and swallowing and deteriorates the social life of a person.^{1,2} Oral mucosal conditions and diseases may be caused by local causes (bacterial or viral), systemic diseases (metabolic or immunologic), drug related reactions, or lifestyle factors such as consumption of tobacco, betel quid or alcohol.³

Dentists are often the first ones to be consulted by patients who develop oro-facial health problems.³ Many of the times, a dental practitioner can be the first person to diagnose a systemic disease.^{4,5} Thus, it is important to perform thorough examination of oral cavity for each and every patients. Any color variations, ulcers, swellings, fistulae, or scars should be noted precisely and when detected, characteristics of the lesion should be described in detail. If this examination is omitted, it may lead to failure to diagnose the oral mucosal lesions (OMLs) with adverse consequences for the patient. Thus, the thorough knowledge of all the pathological conditions of the oral cavity is mandatory for the dental

practitioners to facilitate prompt diagnosis and treatment of the oral mucosal lesions.^{5,6}

The oral cavity can serve as a window for diagnosis of many systemic diseases such as blood dyscrasias, metabolic diseases, dermatologic diseases, connective tissue diseases, nutritional deficiency etc.² Thus, dental practitioners should be able to recognize the oral mucosal lesions and provide appropriate early management to the patients. In past, many researches have been conducted worldwide regarding occurrence and prevalence of OMLs^{1,3,4,5,7,8,9} and also about knowledge and attitude of general practitioners and dental practitioners^{6,10,11,12,13,14}. Being the state of India, Gujarat also bears the endemicity of tobacco and areca nut related practices of South-East Asian countries.¹⁵ In a view of increasing incidence of oral precancer and cancer worldwide with nearly one fourth of new cases reporting from south-east Asian band¹⁶, and also with vital association of OMLs with overall health, the present study has been designed to assess the dental practitioners approach regarding oral mucosal lesions in Gujarat State, India.

Materials and Methods

The permission to conduct the present study was obtained from institutional ethics committee.

A self-structured questionnaire for evaluating the dental practitioner's knowledge and attitude towards OMLs was prepared based on the study conducted by Anurag Chaudhary et al⁶. (Table 1) The subject validation of the questionnaire was done by two subject experts. For content validation, the subject validated questionnaire was distributed among 10 (5 BDS and 5 MDS) practitioners and internal consistency of the questionnaire was checked using Chronbach's alpha value. The obtained value was 0.851.

The questionnaire was converted into the Google form. Informed consent was included in the Google form itself. We obtained contact details of dental practitioners of five major cities (Ahmedabad, Surat, Vadodara, Rajkot and Bhavnagar) of Gujarat state, India from Indian Dental Association (IDA) website and we sent the Google form links via e-mail. We resent the link for two more times to the practitioners who did not respond to the first e-mail. We aimed to collect 200 (100 BDS and 100 MDS) responses. The collected data was entered in master chart and was subjected to statistical analysis by using the software IBM, SPSS v.19. The data analysis was performed by descriptive statistics, presented as frequency (n) and percentage (%), and the significance of differences among responses depending on their level of education and field of specialization was determined by Chi square test. The level of significance was set at $p < 0.05$.

Results and observations

Study Participants: A total of 200 (100 BDS and 100 MDS) responders formed our study population. The distribution of study participants is demonstrated in figure 1. Out of the participants, most of them (57%) were having at least 5-10 years of the experience in the field of dental practice, 28% of the participants were having 10-15 years of experience, 6.5% of them were having more than 15 years of experience and 8.5% of the participants were having less than 5 years of experience.

Examination of OML: A total of 154 (77%) responders perform examination of OMLs in their routine clinical practice. The response was irrespective of the education of the practitioner. ($p=0.433$). Out of 46 (23%) responders who do not examine the OMLs, most of them ($n=36$, 18%) have told that they prefer specialist consultation for the OMLs. (Table 2)

Difficulty in diagnosing OML

119 (59.5%, BDS – 63, MDS – 56) of the responders were facing difficulty in diagnosing the OMLs while 81 (40.5%, BDS – 37, MDS – 44) of them told they do not have difficulty in the diagnosis for the same. The difference was not associated with the education of the practitioner ($p=0.088$) but when inter-specialty analysis was performed among the MDS practitioners, statistically significant difference in the response was found ($p=0.024$) with Oral Medicine and Oral Pathology specialty practitioners facing least difficulty while Orthodontists, Periodontists, Endodontists and Prosthodontists facing most difficulties. (Table 2) The reason for the same was also given as this is not a subject of their specialty. When asked lesion wise, most of the practitioners found least difficulty in diagnosing Oral submucous fibrosis (OSMF), Oral Leukoplakia (OL), aphthous ulcers and traumatic ulcers; moderate difficulty in diagnosing Oral lichen planus (OLP), oral candidiasis and oral cancer (OC) and most difficulty in diagnosing Pemphigus, pemphigoid, Herpes simplex virus infections (HSV), herpangina and Herpes Zoster (HZ) infections. (Table 3)

Treatment of OML

A total of 132 (66%, BDS – 65, MDS – 67) practitioners told that they attempt to treat the OMLs while 68 (34%, BDS – 35, MDS – 33) of the practitioners did not treat the OMLs. The difference of irrelevant of the education of the practitioner ($p=0.112$) but in inter-specialty analysis among MDS practitioners, statically significant difference was noted ($p=0.043$). (Table 2) All the Oral Medicine specialists, Oral pathologists or Oral surgeons used to treat the OMLs while some of the endodontists, pedodontists, periodontists and public health dentists and most of the orthodontists and prosthodontists did not

treat the OMLs. The most common reason for not treating the OMLs given was insufficient knowledge / exposure. The most commonly treated lesions were OSMF (59.5%), OL (49%), oral traumatic and aphthous ulcers (44% & 41%). Oral candidiasis (38%) and OLP (37.5%) were attempted to treat by some practitioners while herpangina (19.5%), HSV infections (20%), pemphigoid (22%), OC (24.5%), pemphigus (25.5%) and HZ (25.5%) were less commonly attempted to treat lesions. Clinicians usually preferred specialist reference for these lesions and most commonly consulted specialists were Oral Medicine specialists (42.4%) followed by Oral surgeons (29%).

Biopsy of OML

70 (35%, BDS – 33, MDS – 37) practitioners used to perform biopsy of OMLs on their own, 55 (27.5%, BDS – 36, MDS – 19) did not prefer to perform biopsy and 75 (37.5%, BDS – 37, MDS – 38) of the practitioners said that they refer the patient to the specialist for biopsy. This response was also irrespective of education of the practitioner. ($p=0.091$) (Table 2)

Updating the knowledge of OML

Majority of the clinicians (48.5%) used to update their knowledge of OMLs by referring textbooks / reference books while 24.5% of them used to attend CDE/CMEs and 18% of them used refer recent publications in scientific journals to update their knowledge regarding OMLs.

Discussion

A good dental practice is not just to treat the patient's chief complaint only but it is to provide comprehensive care for all the dental, gingival and oral mucosal diseases. A meticulous examination should be performed for all the patients reporting to the dentists to look for any oral mucosal abnormalities. The oral mucosal

lesions may be the first manifestation or perhaps the sole manifestation for a systemic disease and may give a clue for investigation and diagnosis of ongoing mortal disease process in the body.^{1,7} The vital importance of oral mucosal health, its hard-hitting association with systemic health and the fact that dentists are the ones who often are consulted first for any oral health problems necessitates determination of dentists approach towards OMLs. Thus, the present study is aimed to evaluate the dentists' knowledge, attitude and practice towards oral mucosal lesions in Gujarat state, India.

In our study, we chose to use Google forms instead of printed questionnaire mainly to avoid personal contact with the people and travelling due to COVID-19 pandemic. Also, as we have involved practitioners from multiple cities, the digital mode of communication is always faster and cheaper and makes the communication between authors and study participants easier. We chose five largest cities of Gujarat in terms of their geographic area as well as their population. The major drawback we faced was low response rate due to non-personal mode of communication and thus we decided to collect responses from at least 100 BDS and 100 MDS practitioners so that we can analyze the difference in responses based on level of education and also based on different specialties of dentistry. Previous studies have also faced low response rate due to non-personal mode of communication.^{10,11}

In our study, majority (77%) of the study participants examined the OMLs irrespective of their education. Our findings were similar to the study conducted by Ergun et al¹⁴ in which 71% of the participants used to examine OMLs while in a study conducted by Choudhary et al⁶, higher number (90%) of the participants told that they do examine the oral mucosal lesions. This high affirmative

response to this question in our study encourages the fact that the dentists in Gujarat are aware about importance of OMLs. Even from the practitioners (23%) who used to not examine the OMLs in our study, most of them (18%) gave the reason that they prefer specialist consultation for OMLs, which indicates that they are considerate about the OMLs and their need for appropriate medical attention.

In our study, 59.5% of the practitioners told that they had difficulty in diagnosing the OMLs. Our this finding was comparable to a study conducted by Choudhary et al⁶ in which average 53% of the practitioners used to face difficulties while the study of Ergun et al¹⁴ stated that 85% of the dentists faced difficulties. In our study, intragroup analysis of MDS practitioners was suggestive of the practitioners other than Oral Medicine and Oral Pathology specialties were facing the most difficulty in diagnosis of OMLs with the most difficult lesions to diagnose were viral infections and autoimmune diseases of oral mucosa. Only 35% of the study participants used to perform biopsy of OML on their own. These findings in our study were also in accordance to that of Choudhary et al⁶ and Ergun et al¹⁴. Oral Medicine specialists, Oral pathologists or Oral surgeons used to treat the oral mucosal lesions while other clinicians usually preferred specialist consultation for the same. The main reason for this is limited exposure to the OMLs during their undergraduate or postgraduate trainings.

The most commonly consulted specialists in our study were Oral Medicine specialists (42.4%) followed by Oral surgeons (29%), Oral pathologists (16.24%) and Dermatologists (12.36%). This finding was not in accordance with Choudhary et al⁶ or Ergun et al¹⁴ where majority of dentists have consulted dermatologists and

internal medicine specialists. The diagnosis and management of OMLs is the forte of dentistry specialists, especially the Oral Medicine specialists. It is suggested in the studies of Greenwood et al¹² and McCann et al¹³ also that dental practitioners are better and more adequately trained for oral diseases as compared to the medical practitioners. Our study supports that fact that the dentists in Gujarat are aware about this fact and more than awareness this represents the mutual professional respect among dental practitioners of different specialties.

Our study suggests that the dentists in the Gujarat are well versed about importance of oral health and OMLs. Majority of the practitioners had shown the positive approach regarding examination and treatment of OMLs. Although some of them were facing difficulties in diagnosis and treatment of uncommon oral lesions, most of them were able to successfully diagnose and treat oral premalignant lesions and conditions. Many of the practitioners quoted limited undergraduate and / or postgraduate exposure to OMLs as a reason and most of them used to upgrade their knowledge by textbooks / reference books. To improve the knowledge of dental practitioners and to streamline their approach towards OMLs, modifications should be made in the BDS and MDS curriculum by Dental Council of India. Also, CDE programs can be organized focusing the OMLs so that the practicing dentists can upgrade their knowledge about current diagnostic and treatment modalities about OMLs.

Conclusion

The obtained responses in our study suggest the positive approach of dental practitioners in Gujarat towards OMLs. The dentists were aware about importance of OMLs, their possible consequences and their association

with systemic health. Most of them examined the OMLs, tried to diagnose and treat the OMLs and if not possible, referred the cases to appropriate specialists. There is scope to overcome difficulty in diagnosis and treatment of uncommon OMLs faced by the practitioners by curriculum modifications and dental education programs.

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Table 1: Study Questionnaire.

Name (Optional)

City

Education BDS/MDS

If MDS: Specialty _____

Practicing since

>5 years

5-10 years

10-15 years

>15 years

Do you examine the patient with mucosal lesions:

Yes b. No

If No Reasons – Have no time

Have no Interest

Insufficient knowledge

Prefer specialist consultation

Others

The remaining questions to be answered only by the participants who responded yes to question No 6.

Do you experience difficulty in diagnosing the oral mucosal lesions?

Yes b. No

If Yes Reasons – Insufficient exposure at university

Not the subject of my specialization

Insufficient literature review

Do you attempt to treat the patients with mucosal lesions?

Yes b. No

If Yes Mention the lesions –

OPMD's		Autoimmune Disorders				Allergic Stomatitis	Infectious disorders				Oral ulcers		Oral Cancer	Any other lesion
Oral Leukoplakia	OSMF	Oral Lichen Planus	Pemphigus	Pemphigoid	Other (Specify)		Oral Candidiasis	HSV Infections	Herpangina	Herpes zoster	Aphthous Ulcer	Traumatic Ulcer		

If No Reasons – Have no interest

Insufficient knowledge / exposure

Others

Which mucosal lesions do you prefer for specialist consultation?

OPMD's		Autoimmune Disorders				Allergic Stomatitis	Infectious disorders				Oral ulcers		Oral Cancer	Any other lesion
Oral Leukoplakia	OSM F	Oral Lichen Planus	Pemphigus	Pemphigoid	Other (Specify)		Oral Candidiasis	HSV Infections	Herpangina	Herpes zoster	Aphthous Ulcer	Traumatic Ulcer		

Which specialist do you prefer to consult for mucosal lesions?

Oral Medicine and Radiology

Oral and Maxillofacial Pathology

Oral Surgery

Dermatologist

Do you perform biopsy for mucosal lesions?

Yes b. No c. Refer to specialist for biopsy

Choose and score the following oral mucosal lesions which you have difficulty in diagnosis?

(You can give the score as 0=no difficulty, 1 = Little difficult, 2=most difficult)

OPMD's		Autoimmune Disorders				Allergic Stomatitis	Infectious disorders				Oral ulcers		Oral Cancer	Any other lesion
Oral Leukoplakia	OSM F	Oral Lichen Planus	Pemphigus	Pemphigoid	Other (Specify)		Oral Candidiasis	HSV Infections	Herpangina	Herpes zoster	Aphthous Ulcer	Traumatic Ulcer		

How do you update your knowledge about diagnosis and treatment of Oral Mucosal Lesions?

Textbooks / Reference books

Recent publications in scientific journal

CDE / CMEs

None

Table 2: Dentists attitude and practice towards Oral Mucosal Lesions

Particulars	n			%	Chi square BDS - MDS (p value)	Chi square MDS inter specialty (p value)
	BDS	MDS	Total			
Examination of OMLs	78	76	154	77	0.433	NA
Difficulty in diagnosing OMLs	63	56	119	59.5	0.088	0.024
Treatment of OML	65	67	132	66	0.112	0.043
Biopsy of OML	33	37	70	35	0.091	NA

(n – number, % - percentage)

Table 3: Difficulty in Diagnosis of OMLs (n)

Lesion	0	1	2
OL	84	64	52
OSMF	103	46	51
OLP	46	65	89
Pemphigus	29	71	100
Pemphigoid	23	59	118
Candidiasis	65	71	64
HSV	22	69	109
Herpangina	22	52	126
HZ	32	62	106
Apthous	91	49	60
Traumatic	96	43	61
OC	63	55	82

Score 0 = No difficulty, 1 = Little difficult, 2 = Most difficult

(n – Number, OL – Oral Leukoplakia, OMSF – Oral submucous fibrosis, OLP – Oral lichen planus, HSV – Herpes simplex virus infections, HZ – Herpes Zoster, OC – Oral Cancer).

Figure 1: Study participants.

