



The Profile of Oral Lesions in Patients Attending Oral Diagnosis Clinic at the College of Dentistry, University of Basra, Iraq

Hussein Sh. Al-Essa* and Adil G. Fadil

Department of Oral Diagnosis, College of Dentistry, Basra University, Basra, Iraq

*Corresponding e-mail: husseinalessa97@gmail.com

ABSTRACT

Objective: Oral health refers to the health of our mouth and ultimately, supports and reflects the health of the entire body. So this study is designed to assess the profile of oral lesions in patients attending an oral diagnosis clinic at a College of Dentistry, University of Basra, Iraq. **Patients and methods:** The study was conducted in an outpatient clinic of Oral Diagnosis Department, College of Dentistry. Total 13184 patients attended during a period of study from October 2014 to June 2016; among them, 494 patients have oral lesions. The examination was done by an oral medicine specialist. The questionnaire form was filled for each patient. **Results:** Among the 13184 dental patients, only 494 (3.74%) patients had oral lesions; 232 (47%) were males and 262 (53%) were females. The most frequent age group was 20-39 years for 50.2% of the total examined patients. The most common oral lesions diagnosed by this study were the ulcerative lesions found in 184 (37.2%) patients, while myofascial pain dysfunction syndrome (MFPDS) was found in 113 (22.9%) patients. The ulcerative lesions were more common in males than in females; while MFPDS were more in females than in the males. The most common site affected by oral lesions was Temporomandibular joint (TMJ) found in 115 (23.3%) patients and lower lip affected by oral lesions found in 108 (21.9%) patients; while buccal mucosa affected was found in 71 (14.4%) patients from the total patients. **Conclusion:** The routine examination of the oral cavity is essential in identifying several oral lesions and this helps to establish early diagnosis and accurate treatment to get a better prognosis, in addition to that it establishes the baseline data in oral diseases for future oral health programs.

Keywords: Oral lesions, Myofascial pain dysfunction syndrome (MFPDS), Ulcerative lesions, Benign lesions, Temporomandibular joint (TMJ)

INTRODUCTION

“Oral health is essential to general health and quality of life.” WHO fact sheet on oral health, 2012 [1].

Oral lesions were defined as any abnormal changes on the oral mucosal surface (white, red, ulcerative, pigmented and tumors) which is caused by infection (bacterial or viral), systemic diseases (metabolic or immunologic), drugs-related reactions or cultural and lifestyle such as the consumption of tobacco, betel quid or alcohol and different types of trauma either physical or chemical [2,3].

Oral lesions, like other diseases, are influenced by many risk factors; some of them are not modified such as age, sex, and hereditary factors, while other can be modified and change like behavioral and lifestyle, and environmental factors [1].

The proper management of a patient with an oral lesion starts with an accurate diagnosis. There are some oral lesions whose diagnosis can be made by verifying on data gathered during history and/or physical examination; while others need further confirmation through a specialized procedure like histopathological examination [4].

Numerous epidemiological studies of oral lesions show large differences between different areas of the world due to the used different methodology, clinical diagnostic criteria, local habits (chewing tobacco), lifestyle, race and economic status [5]. The prevalence of most common oral lesions in the general population has reported 9.7% in Malaysia, 15.5% in Turkey. These lesions have been found in 15% of Saudi Arabian and 41.2% of Indian dental patients [6-9].

In Basra city, there is a great need for clinical studies to establish baseline data on the prevalence of oral diseases and there is only one study published in 2013 regarding the prevalence of oral mucosal lesions with a limited sample. The objective of this study was designed to assess the profile of oral lesions (according to age, gender, and site of the lesions) in a selective sample from dental patients attending the teaching clinics, College of Dentistry, Basra University, Iraq.

MATERIALS AND METHODS

This study was conducted in the outpatient clinic of the Oral Diagnosis Department, College of Dentistry, Basra University (Basra, Iraq) from October 2014 to June 2016. A total of 13184 patients attended the outpatient clinic; 494 (3.74%) patients had oral lesions. The female constituted 262 (53%); while the male was 232 (47%). All patients in this study were subjected to an interview to collect information using a structured questionnaire which was completed by the examiner; both dental and medical histories of the patients were obtained.

The patients were examined clinically by an oral medicine specialist using artificial light, dental mirror and gauze. The preliminary diagnosis was established at the time of the clinical examination [10]; e.g. frictional keratosis, fissured tongue, aphthous stomatitis, herpes labialis. Others need hematological and biochemical investigations or histopathological examination to confirm the diagnosis. A cotton swab was used to remove evident debris from oral mucosal lesions to assessed if it is removed or not, like white lesions. In some cases the observed lesion could be of traumatic in origin; we try to eliminate the cause of trauma and the patients were requested to return for evaluation several days later for a follow-up.

The data from the clinical examination include; the anatomical location of the lesion, extension, induration, mobility, and consistency (firm, soft). The questionnaire form including the following characteristics of the patient; age, gender, occupation, socio-economic factors, systemic diseases. The collected data from the questionnaire and clinical examination were analyzed and evaluated using SPSS version 23. The oral diseases in this study are classified into the following:

- Ulcerative lesions (traumatic ulceration, aphthous stomatitis and herpes labialis)
- Benign lesions (fibroma, pyogenic granuloma, and giant cell granuloma)
- White lesions (frictional keratosis “cheek bite”, leukoplakia, lichen planus)
- Candidiasis (angular cheilitis, thrush)
- Myofascial pain dysfunction syndrome (MFPDS); TMJ disorders; “muscular origin”
- Salivary gland diseases (mucocele)
- Tongue lesions
- Miscellaneous (congenital anomalies, Pericoronitis, chronic sinus discharging pus)

The oral malignancies were excluded from this study.

RESULTS

Among 494, 3.74% of patients had oral lesions; 232 (47%) were males and 262 (53%) were females; from total examined dental patients (13184). Among the age group, the oral lesions were found to be half of the patients (50.2%) in the age group between 20-39 years old, while elderly age group (>60) was affected less frequently by oral lesions (5.7%) as shown in Table 1.

Table 1 Demographic characteristic of age groups for the study sample

Age group	Frequency	Percent
<19	109	22.1%
20-39	248	50.2%
40-59	109	22.1%
>60	28	5.7%
Total	494	100.0%

Diagnosis

The most commonly encountered oral lesions diagnosed by this study was the ulcerative lesions (traumatic ulceration, aphthous stomatitis and herpes labialis) found in 184 (37.2%) patients, while MFPDS found in 113 (22.9%) patients. Benign lesions (fibroma, pyogenic granuloma, and giant cell granuloma) was found in 66 (13.4%) patients. The lowest oral mucosal lesions diagnosed in this study was the tongue lesions found in 10 (2%) patients as shown in Table 2 and Figure 1.

Table 2 Distribution of study sample according to the diagnosis

Diagnosis	Frequency	Percent (%)
Ulcerative lesions	184	37.2%
Benign Lesions	66	13.4%
White lesions	15	3.0%
Candidiasis	36	7.3%
Salivary gland diseases	21	4.3%
Tongue lesions	10	2.0%
MFPDS	113	22.9%
Miscellaneous	49	9.9%
Total	494	100.0%

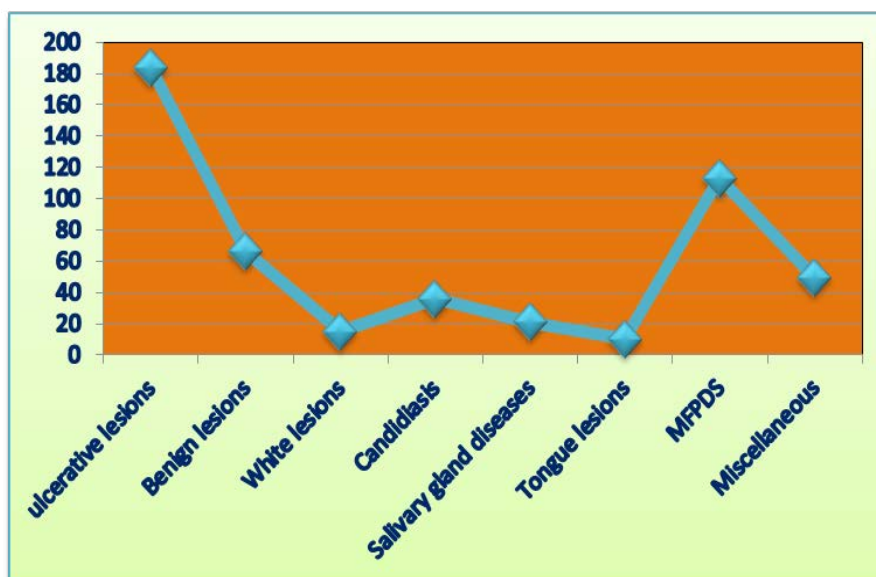


Figure 1 Distribution of study sample according to the diagnosis

Diagnosis and Gender

The ulcerative lesions, white lesions, tongue lesions, and miscellaneous lesions are more common in males than in females; while the benign lesions, salivary gland diseases, and MFPDS were more encountered in females than in males. Candidal infection is affected equally in both genders (7.3%) for each as found in Table 3, which is not statically significant.

Table 3 Distribution of study sample according to the diagnosis and gender

Variables		Sex		Total		
		Male	Female			
Diagnosis	Ulcerative lesions	Count	96	88	184	
		% within Sex	41.4%	33.6%	37.2%	
	Benign Lesions	Count	29	37	66	
		% within Sex	12.5%	14.1%	13.4%	
	White lesions	Count	9	6	15	
		% within Sex	3.9%	2.3%	3.0%	
	Candidiasis	Count	17	19	36	
		% within Sex	7.3%	7.3%	7.3%	
	Salivary gland diseases	Count	9	12	21	
		% within Sex	3.9%	4.6%	4.3%	
	Tongue lesions	Count	6	4	10	
		% within Sex	2.6%	1.5%	2.00%	
	MFPDS	Count	40	73	113	
		% within Sex	17.2%	27.9%	22.9%	
	Miscellaneous	Count	26	23	49	
		% within Sex	11.2%	8.8%	9.9%	
	Total		Count	232	262	494
			% within Sex	100.0%	100.0%	100.0%

p-value=0.136

The Site of the Oral Lesions

The most commonly encountered site affected by oral lesions shown in this study was TMJ found in 115 (23.3%) patients and lower lip affected in 108 (21.9%) patients; while buccal mucosa affected in 71 (14.4%) patients from the total patients. The salivary gland diseases are the lowest site affected only in 3 (0.6%) patients. Table 4 and Figure 2 showed the distribution of the study sample according to the site of oral lesions.

Table 4 Distribution of study sample according to the site of oral lesions

Site	Frequency	Percent
The angle of the mouth	32	6.5%
Buccal mucosa	71	14.4%
The floor of the louth	14	2.8%
Gingiva	7	1.4%
Lower ant region	5	1.0%
Lower Lip	108	21.9%
Lower Posterior region	12	2.4%
Palate	20	4.0%
TMJ	115	23.3%
Tongue	36	7.3%
Upper ant. Region	21	4.3%
Upper Lip	44	8.9%
Upper post. Region	6	1.2%
Salivary gland	3	0.6%
Total	494	100.0%

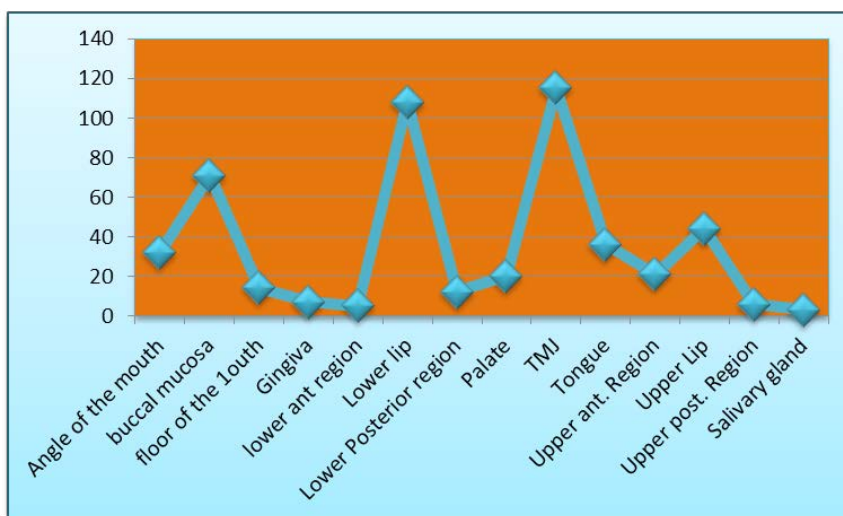


Figure 2 Distribution of study sample according to the site of oral lesions

The Site of the Diseases and Gender

The sites affected by the oral diseases (angle of the mouth, buccal mucosa, lower anterior region, lower posterior region, tongue, and upper posterior region) were found nearly equally affected in both male and female. The floor of the mouth and lower lip were affected higher in males than in females (4.3%, 1.5%), (25%, 19.1%) respectively. While the gingiva and the TMJ were affected more in females than in males (1.9%, 0.9%), (28.2%, 17.7%) respectively. The finding was statically not significant (Table 5).

Table 5 Distribution of study sample according to the site and gender

Variables	Sex		Total	
	Male	Female		
The site of the lesion	The angle of the mouth	16	16	32
		6.9%	6.1%	6.5%
	buccal mucosa	33	38	71
		14.2%	14.5%	14.4%
	the floor of the louth	10	4	14
		4.3%	1.5%	2.8%
	Gingiva	2	5	7
		0.9%	1.9%	1.4%
	lower ant region	2	3	5
		0.9%	1.1%	0.01
	Lower Lip	58	50	108
		2.5%	1.91%	2.19%
	lower Posterior region	6	6	12
		2.6%	2.3%	2.4%
Palate	11	9	20	
	4.7%	3.4%	4.0%	
TMJ	41	74	115	
	17.7%	28.2%	23.3%	
Tongue	17	19	36	
	7.3%	7.3%	7.3%	
Upper ant. Region	13	8	21	
	5.6%	3.1%	4.3%	
Upper Lip	18	26	44	
	7.8%	9.9%	8.9%	
Upper post. Region	3	3	6	

p-value=0.059

DISCUSSION

Among 13184 dental outpatients attending Oral Diagnosis Clinic at the College of Dentistry, the University of Basra, 494 patients (3.74%) had oral lesions; this result is comparable with a study done by Saraswathi, et al., in a cross-sectional study in South India (4.1%) and Jabar and Majeed in Missan governorate; south of Iraq (4.6%) [11,12]. On the other hand, other investigators reported high value in different countries which were 15.5% in an adult Turkish population, 41% in South India, 57% in Venezuelan population, respectively [7,9,13]. These variations could be explained due to racial factors, geographical factors. Different from sample size, sex distribution of the sample and specific cultural habits like smoking and the use of alcohol [14].

Oral lesions were slightly more common in female (53%) than in male (47%); this is in agreement with the finding of Jabar and Majeed in Missan governorate; south of Iraq and Al-mobeeriek and Aldosari among Saudi dental patients, but disagrees with the finding by Gaphor and Abdullah in Sulaimani; north of Iraq, Pentenero, et al., in the Turin area in which oral diseases are more common in male than in the female [8,12,15,16]. This finding could be contributed to that female attending the dental clinic more frequently than male.

The most common reported oral lesions were ulcerative lesions (traumatic ulceration, aphthous stomatitis and herpes labialis) seen in 184 (37.2%) patients, followed by MFPDS seen in 113 (22.9%) patients. While the benign lesions (fibroma, pyogenic granuloma, and giant cell granuloma) was seen in 66 (13.4%) patients and the lowest lesions diagnosed in this study was the tongue lesions in only 10 (2%) patients.

In a study by Gaphor and Abdulla, the fissured tongue was the most common reported lesion while in another study done by Najam the most common lesion was ulcerated lesion including traumatic ulcer; in Italian study by Campisi, et al., found the most common type of lesion noted were coated tongue (51.4%), leukoplakia (13.8%), traumatic lesions (9.2%) and actinic cheilitis (4.6%); while Mujica, et al., reported denture stomatitis as the most common oral lesion followed by oral leukoplakia and hemangioma [13-15,17].

The current study showed that the highest age group affected by oral lesions was in 20-39 years old due to the majority of patients attending the dental clinic are of young aged and the study showed that the ulcerative lesions are more frequent in male than females which was in agreement with the result performed by Rivera-Hidalgo, et al., [18]. While MFPDS were more common in female than male because the females are more sensitive and have more stress condition and are more concern about their complaining.

The most common site for oral diseases was TMJ followed by the lower lip and the buccal mucosa and this result agreement with another study done by Garcia-Pola, et al., [19]

CONCLUSION

“Oral health is essential to general health and quality of life.” So the routine examination of the oral cavity is valuable in identifying several oral diseases and this helps establishes early diagnosis and accurate treatment to get a better prognosis, in addition to that is establish the baseline data in oral diseases for future oral health programs.

DECLARATIONS

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

- [1] Federation, World Dental. "The challenge of oral disease: a call for global action: The oral health atlas." 2015, pp. 9-39.
- [2] Espinoza, Iris, et al. "Prevalence of oral mucosal lesions in elderly people in Santiago, Chile." *Journal of Oral Pathology and Medicine*, Vol. 32, No. 10, 2003, pp. 571-75.
- [3] F. Mohammad Amen, S. Ahmad Hussein, and M. Jamel Abdullah, "Prevalence of oral mucosal lesions in patients attending oral diagnosis clinic at school of dentistry, University Of Sulaimani," *IOSR Journal of Dental and Medical Science*, Vol. 14, No. 6, 2015, pp. 2279-861.

-
- [4] Gambhir, Ramandeep Singh, et al. "The prevalence of oral mucosal lesions in the patients visiting a dental school in Northern India in relation to sex, site, and distribution: A retrospective study." 2011.
- [5] Crespo, M^o del Rosario Rioboo, Paloma Planells del Pozo, and Rafael Rioboo García. "Epidemiología de la patología de la mucosa oral más frecuente en niños Epidemiology of the most common oral mucosal diseases in children." *Medicina Oral Patología Oral y Cirugía Bucal*, Vol. 10, 2005, pp. 376-87.
- [6] Zain, Rosnah Binti, et al. "A national epidemiological survey of oral mucosal lesions in Malaysia." *Community Dentistry and Oral Epidemiology*, Vol. 25, No. 5, 1997, pp. 377-83.
- [7] Cebeci, A. R., et al. "Prevalence and distribution of oral mucosal lesions in an adult Turkish population." *Medicina Oral Patología Oral y Cirugía Bucal*, Vol. 14, No. 6, 2009.
- [8] Al-Mobeeriek, Azizah, and Abdullah M. AlDosari. "Prevalence of oral lesions among Saudi dental patients." *Annals of Saudi Medicine*, Vol. 29, No. 5, 2009, p. 365.
- [9] Mathew, Anuna Laila, et al. "The prevalence of oral mucosal lesions in patients visiting a dental school in Southern India." *Indian Journal of Dental Research*, Vol. 19, No. 2, 2008, p. 99.
- [10] World Health Organization. *Oral health surveys: basic methods*. World Health Organization, 2013.
- [11] Saraswathi, T. R., et al. "Prevalence of oral lesions in relation to habits: Cross-sectional study in South India." *Indian Journal of Dental Research*, Vol. 17, No. 3, 2006, p. 121.
- [12] Majeed, Ahlam Hameed, and Khalid Jabar Abid. "Prevalence of oral mucosal lesions in Missan governorate." *Journal of Baghdad College of Dentistry*, Vol. 21, No. 2, 2009, pp. 68-71.
- [13] Mujica, Valentina, Helen Rivera, and Maria Carrero. "Prevalence of oral soft tissue lesions in an elderly venezuelan population." *Medicina Oral Patología Oral y Cirugía Bucal*, Vol. 13, No. 5, 2008, p. 270.
- [14] Najm, Mohanad J. "Prevalence of oral mucosal lesions in patients attending college of dentistry-Basrah University." *Mustansiriya Dental Journal*, Vol. 10, No. 1, 2018, pp. 116-23.
- [15] Abdullah, Mustafa J., and Shanaz M. Gaphor. "Prevalence, sex distribution of oral lesions in patients attending an oral diagnosis clinic in Sulaimani University." *Journal of Baghdad College of Dentistry*, Vol. 23, No. 3, 2011, pp. 67-73.
- [16] Pentenero, Monica, et al. "The prevalence of oral mucosal lesions in adults from the Turin area." *Oral Diseases*, Vol. 14, No. 4, 2008, pp. 356-66.
- [17] Campisi, G., and V. Margiotta. "Oral mucosal lesions and risk habits among men in an Italian study population." *Journal of Oral Pathology and Medicine*, Vol. 30, No. 1, 2001, pp. 22-28.
- [18] Rivera Hidalgo, F., J. D. Shulman, and M. M. Beach. "The association of tobacco and other factors with recurrent aphthous stomatitis in a US adult population." *Oral Diseases*, Vol. 10, No. 6, 2004, pp. 335-45.
- [19] Garcia Pola Vallejo, M. J., et al. "Risk factors for oral soft tissue lesions in an adult Spanish population." *Community Dentistry and Oral Epidemiology*, Vol. 30, No. 4, 2002, pp. 277-85.