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Assessment of Characteristics and Risk Factors of Aphthous Ulcer Among Patients in Dental center, A Cross-Sectional Study

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Abstract

Aphthous ulcer is one of the most common and frequent types of mouth ulcers. This study aimed to identify the characteristics, risk factors of aphthous ulcers among study samples during the study period. A cross-sectional study was conducted at a specialized dental center in Baghdad among patients with aphthous ulcers for three months started from the 1st of June to the end of August 2021. The sample size was 673 cases. The categorical variables were presented as numbers and percentages. Out of 673 patients with aphthous ulcers, 47.7% of them were in the age groups more than 45 years old, followed by 19.9% in the age groups less than 20 years. Female cases 52.3% were more slightly than male cases 47.7%. 67% of them had a history of aphthous ulcers. 56.6% had a size <1cm of aphthous ulcer. 43.2% of patients had a long duration of aphthous ulcer. Nutritional deficiency; food stuff and stress were the major cause of the aphthous ulcers. The majority of them had a single ulcer.

The most location of the ulcer was lips. Steroid and cortisone are the most types of treatment. Maintain oral hygiene, which includes brushing your teeth at least twice a day, and flossing your teeth at least once a day as the major type of recommendation.

***Keyword**: Aphthous ulcer, History, Single, Lips, Steroid*

Introduction

Aphthous ulcer is one of the most common and frequent types of mouth ulcers **[**1**]**. Its open wounds or small painful blisters appear in the inner cavity of the mouth or on the gums **[**2**]**. Mouth ulcers are characterized by white or yellow color and are often not dangerous or harmful, but they cause pain and discomfort to the victim during eating or talking, and they disappear on their own within 10-14 days without the need for treatment **[**3**]**. Mouth ulcers are mainly classified into minor; major and herpetiform ulceration **[**4**]**. The exact cause of mouth ulcers is unknown **[**5**]**, and the possible causes of mouth ulcers vary from person to person **[**6**]**. Common causes and factors that may lead to the appearance of mouth ulcers were accidentally biting the lining of the oral cavity and cheek from the inside; eat citrus fruits; oral gingivitis; take some types of medication, such as pain relievers and beta-blockers; not occluding dentures; nutritional deficiency or deficiency of certain vitamins, such as vitamin B12 deficiency, iron deficiency, or zinc deficiency **[**7-9**]**. Mouth ulcers are more common in females, as well as in the elderly, and some factors that trigger mouth ulcers such as genetic factors; people with a family history of mouth ulcers are more likely to develop them; use of toothpaste and mouthwashes that contain sodium lauryl sulfate; hormonal changes; smoking; incomplete dental filling; stress or anxiety; emotional stress; bacterial, viral or fungal infections **[**10-12**]**. Mouth ulcers can cause some complications, such as oral cellulitis; dental abscesses, and mouth cancer **[**13**]**. This study aimed to identify the characteristics, risk factors of aphthous ulcers among study samples during the study period.

Methodology

A cross-sectional study was conducted at a specialized dental center in Baghdad among patients with aphthous ulcers for three months started from the 1st of June to the end of August 2021. The study was approved by the local ethics committee of the Iraqi Ministry of Health. The sample size was 673cases. Statistical analysis was done by using the software package for social studies (SPSS) version 19. The categorical variables were presented as numbers and percentages.

Results:

Out of 673 patients with aphthous ulcers, 47.7% of them were in the age groups more than 45 years old, followed by 19.9% in the age groups less than 20 years **[**Table1**]**. Female cases 52.3% were more slightly than male cases 47.7% **[**Table2**]**. 67% of them had a history of the aphthous ulcers **[**Table3**]**. 56.6% had a size <1cm of the aphthous ulcer **[**Table 4**]**. 43.2% of patients had a long duration of the aphthous ulcer **[**Table5**]**. 32.8% of them had a nutritional deficiency, followed by food 29.1% and 15.2% had stress **[**Table6**]**. 55.1% of them had a circular shape of aphthous ulcer and 44.9% had a non-circular shape **[**Figure1**]**. 62.4% of them had a single ulcer and 37.6% had a multiple ulcer **[**Figure2**]**. 41.3% of them had an aphthous ulcer in lips, 28.8% on the floor of the mouth, and 18.3% in the gingival, and 11.6% in the tongue **[**Figure3**]**. 34.9% of them had no use of any treatment for aphthous ulcer, 32.8% of them use the steroid for treatment and 32.2% use the medication without consultation **[**Figure4**]**.

Age groups	Frequency	Percent
<20 years	134	19.9
20-35	97	14.4
36-45	121	18.0
>45	321	47.7
Total	673	100

Table 1: Distribution of studied sample according to age groups

Gender	Frequency	Percent
Male	321	47.7
Female	352	52.3
Total	673	100

Table 2: Distribution of studied sample according to gender

History of aphthous ulcer	Frequency	Percent
Yes	451	67.0
No	222	33.0
Total	673	100

Table 3: Distribution of studied sample according to history of aphthous ulcer

Size of aphthous ulcer	Frequency	Percent
<1cm	381	56.6
>1cm	292	43.4
Total	673	100

Table 4: Distribution of studied sample according to size of aphthous ulcer

Duration of aphthous ulcer	Frequency	Percent
<7 days	173	25.7
7- 14 days	209	31.1
>14 days	291	43.2
Total	673	100

Table 5 Distribution of studied sample according to duration of the ulcer

Factors	Frequency	Percent
Stress	102	15.2
Food stuffs	196	29.1
Nutritional deficiency	221	32.8
Other factors	154	22.9
Total	673	100

Table 6: Distribution of studied sample according to factors

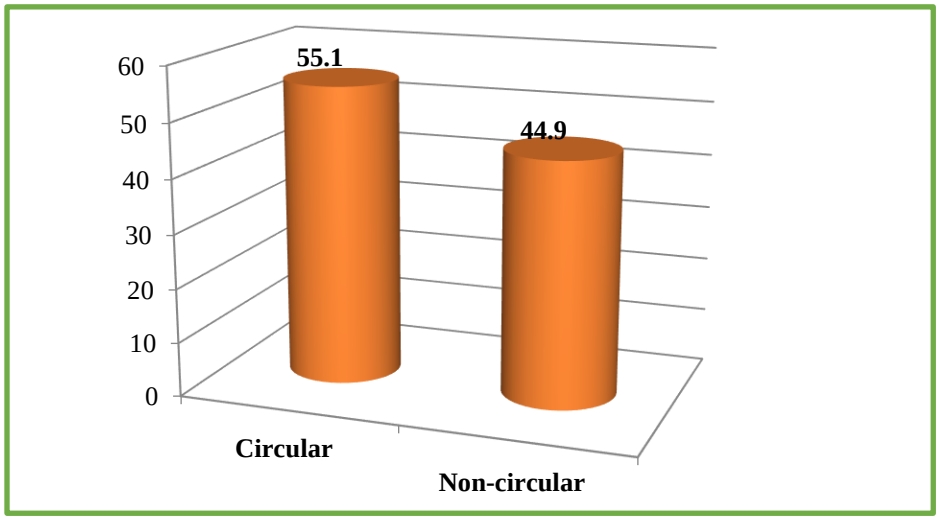

Figure 1: Shape of aphthous ulcer

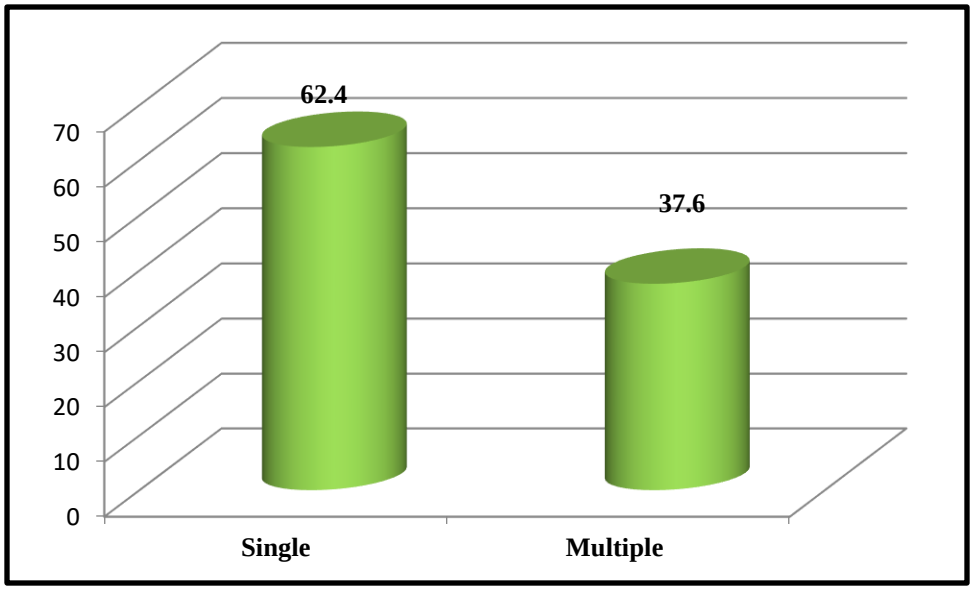

Figure 2: Number of aphthous ulcer

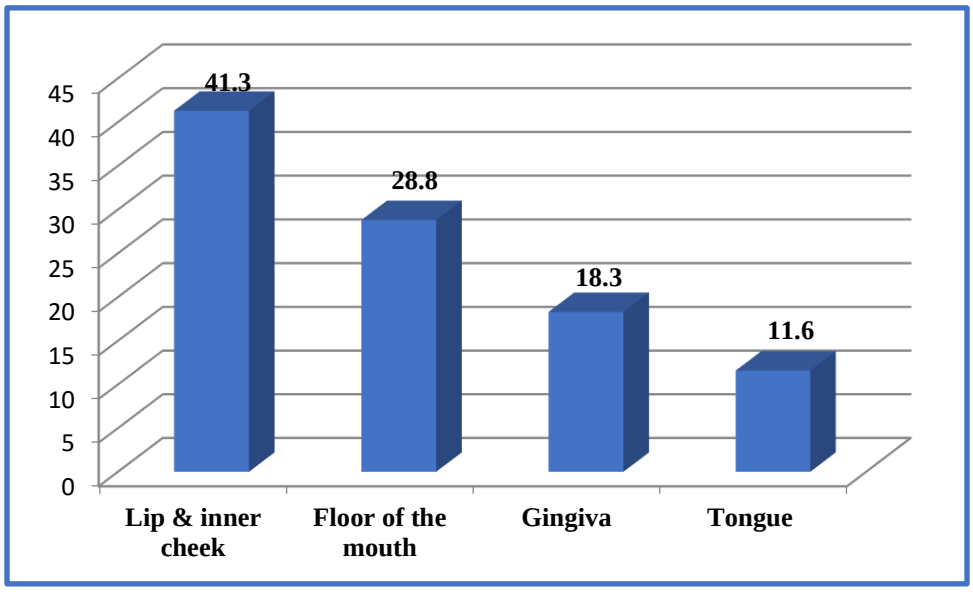

Figure 3: Site of aphthous ulcer

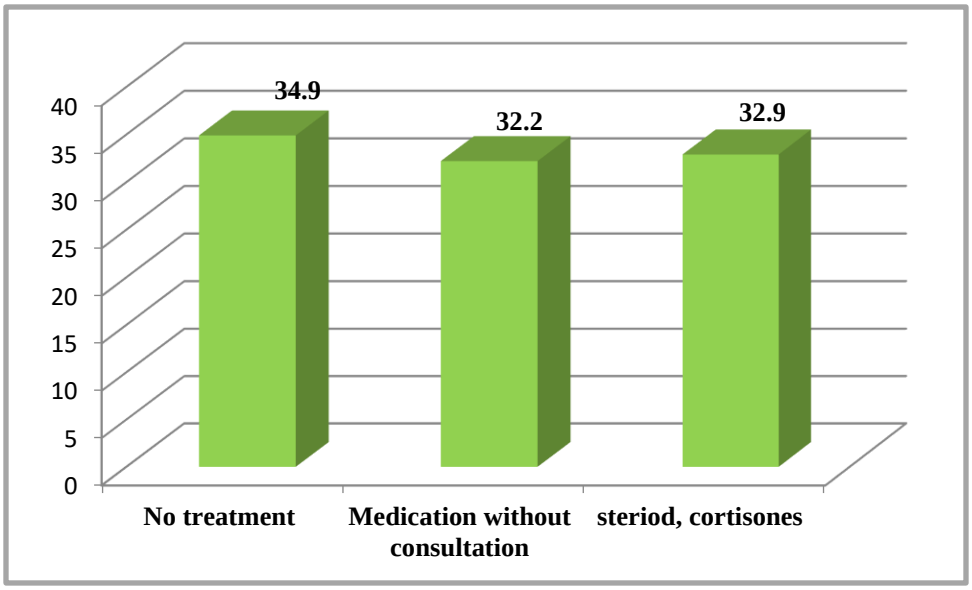

Figure 4: Types of aphthous treatment

Discussion:

This study aimed to identify the characteristics of aphthous ulcers patients during the study period. In this study we found that the highest frequency 47.7% of aphthous ulcer patients were in the age groups more than 45 years old, followed by 19.9% in the age groups less than 20 years and compared with another study in India by Patil et al 2014, they found 187/705(26.5%) of aphthous ulcer patients were

in the age groups 31 to40 years and followed by 146/705(20.7%) in the age groups 21 to 30 years [14]. Davatchi et al 2008 reported 26.4% of aphthous ulcer patients were between the ages of 20 to 29 years [15]. Regarding gender, the female cases 52.3% were more slightly than male cases 47.7% ,and compared with another study done in India, the authors reported the female 56.3% were more than 43.7% male cases[14]. In this study, we found that 67% of them had a history of aphthous ulcer and this result in line with another result in Jordan by Safadi 2009, reported the 78.1% of aphthous ulcer patients had a history of the aphthous ulcer [16]. Furthermore, 56.6% had a size <1cm of aphthous ulcer and compared with another study in Jordan [16], the authors found 84.6% of them had a size for less than 1 cm.

In our study we found that 43.2% of patients had a long duration of aphthous ulcer and compared with another result in Jordan by Safadi 2009 reported the 66.9% of cases had a lesion heal within 7 days [16]. In this study, we found that 32.8% of them had a nutritional deficiency, followed by food 29.1% and 15.2% had stress and compared with another study in India [14], reported the majority of patients 54.8% had stress, followed by 25% had food deficiency. In our study, we found 55.1% of them had a circular shape of aphthous ulcer and 44.9% had non-circular shape.

Compared with another result done in Jordan, reported 65.7% of them had a circular shape of the ulcer [16]. Also, we found 62.4% of them had a single ulcer and 37.6% had a multiple ulcers, and compared with another finding in Jordan, the author found 50.8% of them had a multiple ulcers [16]. In addition, we found 41.3% of them had aphthous ulcer location in lips, 28.8% on the floor of the mouth, and 18.3% in gingival and 11.6% in the tongue and compared with another result in US by Shulman et al 2004, reported the 25.9% had a lesion location in the hard palate, followed by gingival 20.4% and 15.4% in lips[17]. In another study done in India, the authors found that the most prevalent site of lesions was the palate, which showed in (59.7%), (5.7%) on lips, the tongue had (1.5%) and the gingiva (0.4%) [18]. In a retrospective review conducted among 55 cases in Nigeria, the authors found the majority of the ulcers occurred in multiple oral mucosal sites (n=21, 38.1%), while the gingiva (n=10, 18.2%) was the commonest solitary oral mucosal site for the ulcers [19].

In a study conducted among 40 cases in Pakistan, the authors found the Lip was the most common site followed by cheeks and palate [20]. In this study, we found 32.8% of them was used the steroid for treatment; 32.2% use the medication without consultation and compared with another study in India [14], they mentioned to 11.1% of them was use the steroid and 34.4% has used the medication without consultation. A retrospective study conducted among 40 cases in India by Dhanvanth et al in 2021, found the topical steroid has a higher prevalence of complete healing response (83.3%) [21].

Conclusion

We concluded that over age 45 years, female cases, history of aphthous ulcer were the risk factors for aphthous ulcer. Most of them had a long duration of aphthous ulcer. Nutritional deficiency; food stuff and stress were the major cause of the aphthous ulcer. The majority of them had a single ulcer. The most location of the ulcer was lips. Steroid and cortisone are the most types of treatment.

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