

## **Prevalence of Recurrent Herpes Labials in Patients Attending Oral Diagnosis Clinic at School Of Dentistry, University Of Sulaimani.**

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### **Abstract:**

**Objective:** This study was designed to determine prevalence and risk factors of herpes labialis in patients attending an Oral diagnosis department at school of dentistry, university of sulaimani.

**Patients and methods:** A retrospective study was done among 338 patients attending School of Dentistry, University of Sulaimani, between January 2013 and December 2015. The age range was between 10-79 years. About 169 (50%) of patients were males and 169 (50%) were females. The male/female ratio was 1:1. informations regarding recurrent herpes labials was recorded including patients age, sex, location of the lesion, as well as risk factors including stress, common cold, fever etc. Chi Square test was used to analyze the data.

**Result:** Prevalence of recurrent herpes labials was 13.01%, it was more prevalent among females than males but it was not statistically significant ( $P>0.05$ ). The most common affected age group was 20-29 years (21.19%), followed by 30-39 years (13.15%), the most common location was lower lip (47.72%), the most common risk factor for recurrent herpes labials was stress (56.81%), followed by common cold (6.81%), and fever (6.81%).

**Conclusion:** Recurrent herpes labials is a significant problem among studies population, it has high prevalent among females, and young age, the most common location for recurrent herpes labialis was lower lip, the most common risk factor was stress. Therefore management of stress and other risk factors will decrease the occurrence of recurrent herpes labialis among studied population. Patients should be educated regarding symptoms, risk factors, and treatment options to decrease their distress and improve their quality of life.

**Keyword:** Risk factors, herpes labials, prevalence

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### **I. Introduction**

After the primary infection, which usually occurs in childhood, herpes simplex virus type 1 (HSV-1) is thought to remain latent in sensory ganglia for the life of the host (1). These infections are among the infections most frequently encountered by humans, worldwide because humans are their only natural reservoirs, and no vectors are involved in their transmission. Although, these viruses can infect both orofacial and pubic areas, HSV1 predominates in the orofacial region while HSV2 in the pubic region (2). Periodic recurrences, manifested usually as recurrent herpes labialis (RHL), are usually triggered by a variety of endogenous or exogenous factors, including cold weather, sunlight, infection, trauma, and stress (3). Recurrent herpes labialis, or cold sores, is a self-limiting infection that causes pain and well-localized blistering on the mucocutaneous junction of the lips (4). Fever and constitutional symptoms are rare and healing is usually complete in 7-10 days without scarring. Most people have no warning of the recurrent attack, but some experience a recognizable prodrome (1) including pain, tingling and burning (5). Herpes labialis is usually caused by reactivation of the nonreplicating dormant HSV1 and sometimes HSV2 in the trigeminal nerve ganglia (6). However, it is the amplification of the preexisting activation that makes the condition, clinically visible. It has been reported that approximately one third of patients who had initial HSV1 viral infection undergo these recurrences at a rate of 1-4 recurrences per year which decrease after 35 years (7). On reactivation, the dormant virus in the trigeminal ganglion resumes multiplication then moves down the trigeminal nerve to the site of initial inoculation to infect the epithelial cells causing a herpes labialis and this is considered as ganglion trigger theory (8). The other, the skin trigger theory proposed by Hill and Blythe, holds that virus is continuously shed from neuronal endings and lesions develop when the susceptibility of the skin is sufficiently permissive for the development of a clinically apparent infection (9). This attests to the existing controversy concerning the mechanism of development of recurrent HSV infections (2). The diagnosis of herpes labialis is usually based on case history, clinical appearance and the location of the lesions in immunocompetent patients while confirmatory laboratory diagnosis in form of viral culture, polymerase chain reaction, serology, direct fluorescent antibody testing, or Tzanck test may be necessary in immunocompromised patients (7). However, prompt recognition of herpes simplex infection and

early initiation of therapy are of utmost importance in the management of the disease as prompt topical or oral antiviral therapy are quite effective in decreasing the severity and duration of herpetic episodes and contributes to the prevention of recurrence of herpes labialis (2) This study was designed to determine prevalence and risk factors of herpes labialis in patients attending an Oral diagnosis department at school of dentistry, university of sulaimani.

## II. Patient And Methods

A retrospective study was done among 338 patients with Oral lesions attending oral diagnosis clinic of School of Dentistry, University of Sulaimani, between January 2013 and December 2015. This research was approved by the Committee of Ethics in Research of the University of Sulaimani. According to declaration of Helsinki, signed consent forms were obtained from all patients before conducting the study. Case files of these patients are retrieved and information regarding herpes labialis was collected including age, sex, location of the lesion, risk factors which include stress, common cold, fever, having a bad dream in the night, menstruation etc. Collected data were analyzed using a software package SPSS program version 16. Associations between categorical variables were tested using chi-square test; Statistical significance was set at  $P < 0.05$ .

## III. Result

The number of subjects was 338 subjects. The age range of the patients was between 10-79 years, with mean age of  $(31 \pm 12.14)$ . 169 (50%) of patients were males and 169 (50%) were females, therefore male/female ratios was 1:1. Patients were divided in to 7 age groups (10 years for each interval). Accordingly more than half of patients 189 (55.91%) were in the 2nd and 3rd age group (Table 1).

Table 1. Sample distribution by age and sex

Age	Male	Female	Total
10-19	13 (44.82)	16(55.17)	29(8.57)
20-29	84(55.62)	67(44.37)	151(44.67)
30-39	19(50)	19(50)	38(11.24)
40-49	14(38.88)	22(61.11)	36(10.65)
50-59	11(32.35)	23(67.64)	34(10.05)
60-69	22(57.89)	16(42.1)	38(11.24)
70-79	6(50)	6(50)	12(3.55)
Total	169(50)	169(50)	338(100)

The prevalence of herpes labialis was 13.01% ( $n=338$ ). It was more common among females 14.79% than males (11.24%) however it was not statistically significant ( $p>0.05$ ). The most commonly affected age group was 20-29 years (21.19%), followed by 30-39 year old (13.15%). These two age groups showed the highest prevalence of herpes labialis for both male and females. group 70-79 years (8.33%) (Table 2).

Table 2. Prevalence of recurrent herpes labials according to age and sex

Age	Sex			Total
	Male	Female	P-value	
10-19	0(00.00)	2(12.5)	0.18	2(6.89)
20-29	17(20.23)	15(22.38)	0.74	32(21.19)
30-39	2(10.52)	3(15.78)	0.63	5(13.15)
40-49	0(00.00)	3(13.63)	0.14	3(8.33)
50-59	0(00.00)	1(4.34)	0.48	1(2.94)
60-69	0(00.00)	1(6.25)	0.23	1(2.63)
70-79	0(00.00)	0(00.00)	-----	0(00.00)
Total	19(11.24)	25(14.79)	0.33	44(13.01)

The most common risk factor was stress (56.81%) followed by common cold (6.81%), fever (6.81%), Having bad dream in the night (4.54%), menstruation (2.27%), respectively (Table 3).

Table 3. The frequency of risk factors of recurrent herpes labials

Risk factors	N (%)
Stress	25 (56.81)
Common cold	3 (6.81)
fever	3 (6.81)
Having bad dream in the night	2 (4.54)
menstruation	1(2.27)
Do not know the cause	10 (22.72)

Total	44 (100)
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The most common location for herpes labials was lower lip (47.72%), followed by both upper and lower (22.72%), upper lip (15.9%), commissure (13.63%) (Figure 1).

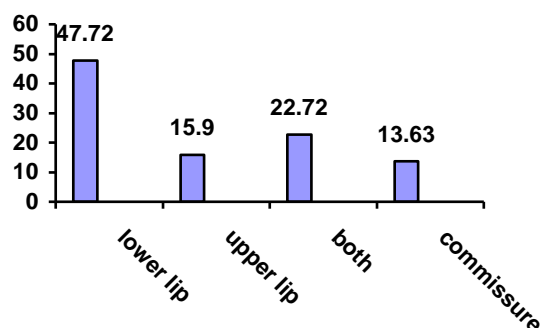


Figure 1. location of recurrent herpes labialis lesions in 44 patients

#### IV. Discussion

Epidemiological studies performed over the past few years have shown considerable variation in the prevalence of herpes labialis among different regions throughout the world. The prevalence of HSV infection worldwide has increased over the last several decades making it, a major public health concern. In this study; prevalence of herpes labialis was (13.01%), This is lower than 52.5% reported among Turkish nursing and midwifery students, (10) 30.2% among Ghanaian and South African health science undergraduates about four decades ago (11) and 26.4% among Jordanian university students (12) This lower prevalence in present study may be due to the fact that the socioeconomic status, race, and culture which are correlated with HSV infection may have differed in participants in this study with the compared studies thereby explaining the difference prevalence (13). To compare the prevalence of RHL between different studies, one should take into consideration variations between samples in age, gender, professions, as well as different methodologies used (whether it is registered when the lesion is present, or it is done through the clinical history), as in this study herpes labialis recorded when the lesion present rather than clinical history.

In this study; the most commonly affected age group was 20-29 years, followed by 30-39 year old. These two age groups showed the highest prevalence of herpes labialis for both male and females.

In this study prevalence of recurrent herpes labialis was more prevalent among females than males but it was not statistically significant, similarly, other studies have found higher prevalence of RHL in women, (14,15) and this findings was explained by the possibility that women were more likely to take notice of herpetic lesions than men( 16). On contrary; other studies showed a relatively higher prevalence of recurrent herpes labialis in men, although with out statistical significant (16), as well as other previous reports (17,18), this could be attributable to insignificant gender difference in the seroprevalence of HSV-1. (19).

The most common location for recurrent herpes labialis was lower lip; similarly in a study done by Sawair et al (16) showed a slight higher occurrence of RHL on lower lip compared with upper lip. It is possible that lower lip is influenced more by RHL triggering factors such as sun exposure and lip biting secondary to emotional stress (16). A French study have also shown a higher occurrence of recurrent herpes on the lower lip compared with the upper lip and linked the location of orofacial herpes with the severity of the disease (20) when less than 6 episodes per year were reported by subjects, lesions were mainly located on lips, whereas those reporting at least 6 episodes per year had significantly higher chance to have lesions on other facial locations such as cheeks, ear, within nose, forehead, or more than one location.

In this study, the most common risk factor for recurrent herpes labialis was stress followed by common cold and fever, in a study done by Sawair et al (16) besides systemic illness, stress was thought to be the second most important predisposing factor of RHL, in a study done by Azodo and Umoh (2), stress was the fourth common trigger for recurrent herpes labialis, in a study done by Ghaemi et al (21), stress and psychological pain was the main reason for the herpes recurrence. The higher state anxiety and increased daily hassles and stressful life events have been found to influence herpes labialis and the suggested biologic mechanism is through the modulations of Tlymphocyte Function (22). in conclusion, recurrent herpes labialis is a significant problem among studies population, it has high prevalent among females, and young age, the most common location for recurrent herpes labialis was lower lip, the most common risk factor was stress. Therefore management of stress and other risk factors will decrease the occurrence of recurrent herpes labialis among studied population.

Patients should be educated regarding symptoms, risk factors, and treatment options to decrease their distress and improve their quality of life.

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