

## Prevalence Herpes Labialis among South Indian Population: an Institutional Study

Research Article

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## Abstract

Herpes labialis is the most commonly occurring infection in the orofacial region in the form of cold sores and fever blisters. Most of the patients often have episodes of relapse. Herpes labialis is often characterised by a common set of symptoms which includes rashes over the lips areas, erythematous blisters and burning pain. Herpes labialis is caused by herpes simplex-1 virus while rarely caused by herpes simplex 2 virus. The diagnosis of herpes labialis is often limited to taking patients history and performing physical examinations. A primary infection is often characterised by small clusters of blisters or ulcers (2mm to 10mm) in front of the lip, tongue, mouth characterised by presence of fever. This study was aimed to assess the prevalence of herpes labialis and its association with age among the patients reporting to a private institutional set up in Chennai. The study was conducted among 44,000 patients attending the outpatient department of a private institution in Chennai during a time period of 6 months between June 2019 to December 2019. The patient records were assessed and tabulated in MS-Excel. The data was analysed by SPSS software and the results were interpreted. The prevalence of herpes labialis was 0.14% among the study population attending the outpatient department of a private institution. Male predilection was observed. Within the limitations of our current study, it is concluded that there is a reduced prevalence of herpes labialis in the study population.

**Keywords:** Gender Predilection; Herpes Labialis; Prevalence; South Indian.

## Introduction

Herpes labialis is the most commonly occurring infection in the orofacial region in the form of cold sores and fever blisters [1]. Most of the patients often have episodes of relapse [2]. Herpes labialis is often characterised by a common set of symptoms which includes rashes over the lips areas, erythematous blisters and burning pain. Herpes labialis is a contagious disease even though it heals within 10 days, it can still spread to a person who is still not immune to the disease [3] nor being infected before the recent infection unlike other white and red lesions of the oral cavity, carcinoma and pericoronitis [4-13]. In addition, Herpes labialis through orogenital contact can lead to genital herpes [14].

Herpes labialis is caused by herpes simplex-1 virus while rarely caused by herpes simplex 2 virus [15]. The primary infection most commonly occurs before the second decade of life, while 80%

of the antibodies can be found in the adolescents probably due to increasing socioeconomic status. Recently there has been an increased prevalence of herpes labialis caused by genital ulcers [14, 16, 17].

The virus remains latent in the ganglion of the sensory nerves, where stimulus such as sunlight, menstruation, fever and respiratory infection reactivates [18] the virus which affects the mucosa of the hard palate and lips only [19] in contrast to the primary infection. The number of relapses rapidly decreases above 35 years of age [20].

The diagnosis of herpes labialis is often limited to taking patients history and performing physical examinations. A primary infection is often asymptomatic while when symptoms occur, it most commonly includes small clusters of blisters or ulcers (2mm to 10mm) in front of the lip, tongue, mouth characterised by pres-

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ence of fever [21].

The occurrence of relapse is often characterised by burning skin rashes around the mouth which manifest as papules, macules, crusts and vesicles. Many of the dental surgeons miss diagnose herpes labialis which could pave the way for surgeons to get infected without precautions.

Henceforth the current study aims to assess the prevalence of herpes labialis and its gender association among the patients reporting to an institutional set up in Chennai, TamilNadu which is a tertiary health center with advanced diagnostic aids [22-26]. Previously our team has a rich experience in working on various research projects across multiple disciplines [27-41]. Now the growing trend in this area motivated us to pursue this project.

**Materials and Methods**

This study was performed in a private institution in Chennai, among the outpatients during a time period of 6 months from June 2019 to December 2019. The total sample size was 44,000. Patient records were assessed and interpreted for the number of people who were diagnosed with herpes labialis in a private institution in chennai. Incomplete data without diagnostic notes and photographs were excluded from the study.

Institutional ethical committee clearance was obtained for data retrieval and usage as needed for the study (SDC/SIHEC/2020/DIASDATA/0619-0320).The verification of the details was done

with the presence of two reviewers to reduce observer’s bias. The verification process was done with the help of diagnostic notes and Photographs. The data obtained was tabulated in MS-Excel software with parameters which include age, gender, presence of herpes labialis and etiology. The data was interpreted using IBM SPSS (version 20) and the results were tabulated and interpreted.

**Results & Discussion**

The prevalence of Herpes labialis in our current study was 0.14% where 44,000 individuals participated during the time period of 6 months from June 2019- December 2019.

Among the patients diagnosed with herpes labialis, patients were aged between 6-66 years with a mean age of 41 years. (Figure 1).There was a male predilection (53%) while females had 47% (Figure 2).

There was no association between the age groups and gender in patients with herpes labialis. There was no statistical significance (p-0.996)( p value>0.05) (Figure 3). This could be due to the unequal distribution of cases among various age groups.

The prevalence of herpes labialis in our current study was 0.14% over a period of 5 months, which consisted of patients aged between 6 years to 66 years with the mean age of 41 years affected by the disease. There was a male predilection which was not statistically significant. There was no correlation between age and gender to the prevalence of herpes labialis.

Figure 1: Bar graph depicts the percentage of patients diagnosed with herpes labialis among various age groups; where Y axis shows the percentage of patients diagnosed with herpes labialis and X axis shows the various age groups. Majority of the patients diagnosed with herpes labialis are between the age 20-50 years (Red) when compared to other age groups such as below 20 years (Orange) and above 50 years (Yellow).

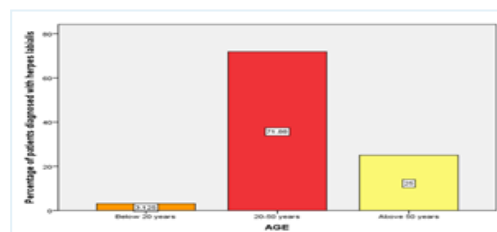


Figure 2: Bar graph depicts the percentage of males and females diagnosed with herpes labialis; where Y axis shows the percentage of patients diagnosed with herpetic ulcer and X axis shows the gender of patients. Males (Blue) experienced a slight increase in frequency of herpes labialis in comparison to females (Green).

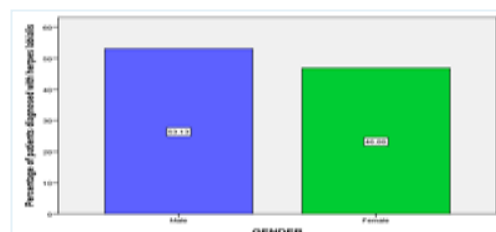
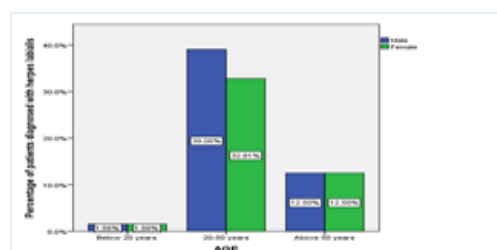


Figure 3: Bar graph depicts association between the age group and gender; where Y axis shows the percentage of patients diagnosed with herpes labialis and X axis shows the various age groups. Chi square test was done and association was found to be statistically not significant ; Pearson’s value:0.009, DF:2, p value: 0.996 (>0.05). Even though the majority of patients diagnosed with herpes labialis was under the age group 20-50 years among which males (Blue) experienced higher prevalence than females (Green) in comparison to other age groups.



Van der Linden MW et al., [1] reported that the prevalence of herpes labialis was 2.5% among the Netherland population when the Netherland institute of public health and institute of environment undertook a study. 1.6 per 1000 patients were diagnosed with herpes labialis. The results of our current study contradicts the previous study as there was an increased prevalence of herpes labialis. The variations of the results could be due to geographically isolated population, short term analysis of the current study.

Graham worrall et al., [42] in the BMJ clinical evidence journal suggested that the prevalence of herpes labialis was 1% among the population of the United kingdom with no gender predilection. The results of our current study is in favour of the previous study in relation to the gender predilection but contradicts with a 10 fold increase in the prevalence.

Jun A et al., [2] reported that out of 10532 patients participating in the study among 21 different countries and 43 institutions, the prevalence of herpes labialis was 15% approximately with a mild male predilection (33%). He also reported that there is significant difference in the presence of ulcers and profession. This implicates that increase in stress, increases the occurrence or prevalence of the ulcers. The present study is in contradiction with the previous study due to increased prevalence of herpes labialis while in agreement with the gender predilection of the previous studies.

Jenifer kula et al., [43] in 2015 suggested that the prevalence of herpes labialis in 402 individuals consisting of mainly high concentration of women was 28%, while most of the lesions were associated with stress and lowered immunity. Above mentioned study contradicts the results of our current study where the prevalence is only 0.14%.

Amadori et al., [44] reported that there was a prevalence of 11% of herpes labialis among 170 teenagers in the Italian population which was statistically not significant and also reported that systemic diseases do not have any association with herpes labialis or HSV infections. The previous literature contradicts the results of our current study.

Ali riza et al., [45] reported that there is a 2% prevalence of herpes labialis among the Turkish population with a female predilection (68%) which contradicts our present study which has reduced the prevalence and had no gender predilection. This might be due to the reduced population or sample size of the previous study which had only 5000 samples. Our institution is passionate about high quality evidence based research and has excelled in various fields [46-56]. We hope this study adds to this rich legacy.

## Conclusion

The present study can be concluded that there was male gender predilection towards prevalence of herpes labialis which occurs in ages and predominantly affects the population during the first four decades of life. There was a decreased prevalence of herpes labialis indicating that the population of south India did not seek professional help for the treatment of herpes labialis, which implicates that knowledge and awareness of herpes labialis was less among the study population and more awareness need to be

brought about by medical camps amongst the population in order to curb the disease and limit its spread.

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