



## PREVALENCE OF RECURRENT HERPES LABIALIS (RHL) AMONG HEALTH SCHOOL STUDENTS IN PAKISTAN: A CROSS-SECTIONAL SURVEY

Saadia Naseem<sup>1</sup>, Raja Khurram Shehzad<sup>2</sup>, Beenish Haider<sup>3</sup>, Kehkashan Akbar<sup>4\*</sup>, Fiza Shafiq<sup>5</sup>,  
Ifzal Ahmad<sup>6</sup>, Luqman Hakim<sup>7</sup>, Hania Akbar<sup>8</sup>, Sabahat Qureshi<sup>9</sup>

<sup>1</sup>Department of Oral Pathology, Army Medical College, Rawalpindi - Pakistan

<sup>2</sup>Department of Dentistry, Ayub Medical College, Abbottabad - Pakistan

<sup>3</sup>Department of Dental Materials, Akhtar Saeed Medical and Dental College, Lahore - Pakistan

<sup>4\*</sup>Department of Biochemistry, Abbottabad International Medical and Dental College, Abbottabad -  
Pakistan

<sup>5</sup>Department of Oral Pathology, Women Medical and Dental College, Abbottabad - Pakistan

<sup>6,7</sup>Department of Nursing, MTI Mardan College of Nursing BKMC, Mardan - Pakistan

<sup>8</sup>Senior Registrar Gastroenterology, District Hospital, Abbottabad - Pakistan

<sup>9</sup>House Officer, Ayub Medical Complex, Abbottabad - Pakistan

**\*Corresponding Author:** Kehkashan Akbar

\*Department of Biochemistry, Abbottabad International Medical and Dental College, Abbottabad -  
Pakistan Email: kkshan\_7@yahoo.com

### Abstract:

**Background:** Recurrent herpes labialis (RHL) is a disorder with serious health and social consequences and which affects most Healthy Student. However, high degree of research paucity pertaining to its prevalence was observed, especially from Pakistan.

**Objective:** The objective of this study was to assess the Prevalence of Recurrent Herpes Labialis (RHL) among health school students in Pakistan.

**Materials and Methods:** In this prospective study, 180 BDS students and 340 MBBS students taken from three medical and dental colleges Demographic data such as age, gender and risk factors, namely stress, menstruation and common cold, were recorded. Further, data regarding history of itching, fever, malaise and burning on lips followed by vesicles and frequency of lesions and duration were also recorded. After clinical examination site, size and nature of lesion were noted on a clinical pro forma. Results were compared statistically, and  $P < 0.05$  was considered statistically significant.

**Results:** 99% of them are single and 70% live with their families. Among 347 students 141 developed RHL in the past years. Percentage of students who developed RHL is 41%. Prevalence of RHL in male is 17% and in females is 23%.

### ARTICLE DESCRIPTION

The objective of this research was to investigate the epidemiology, awareness, signs and symptoms, as well as the treatment approaches employed for recurrent herpes labialis (RHL) among dental and

medical students. Information was gathered through the completion of a herpes labialis survey form by students who willingly provided their consent.

## INTRODUCTION

Recurrent Herpes labialis (RHL) infection is a global public health problem, with 15 to 40% of the population who experience symptomatic outbreak. Herpes labialis (HL) is a common, communicable and benign disease. The primary method of herpesvirus transmission involves direct exposure of mucous membranes or compromised skin to lesions or mucosal secretions of an individual with active primary infection or recurrence. The virus can also be acquired by respiratory droplets or exposure to secretions of an asymptomatic person shedding the virus

Herpesviruses uniquely feature a period of latency with potential for reactivation following primary infection after primary infection; the virus ascends the sensory nerve axons and establishes latent infection in various ganglia. It appears axonal transport determines the likelihood of latency. Upon entry into the axon, the HSV lytic initiator protein, VP16, is released from the viral particle and requires transport to the nucleus to initiate replication. The longer the distance of axonal transport, the less of this protein will approach the nucleus, which limits viral reproduction. Within ganglia, the viral genomic DNA is copied by cellular DNA polymerases and relies on the host's mechanisms to silence viral genes through packaging of DNA into histones and by methylation processes. Viral protein production is kept to a minimum to avoid immune surveillance.

However, frequent episodes can impair quality of life.<sup>1</sup> RHL is characterized by painful, demarcated bullae at the mucosa and sub mucosal junction. It leads to recurrent infections, which are caused by both internal and external factors, such as cold weather, sunlight, infections, trauma, and stress.<sup>2</sup> Systemic stimuli include fever, menses, immunosuppression and stress. Local triggers include lip injury, exposure to cold, sunlight, wind, and iatrogenic trauma.<sup>3</sup> Recurrent episodes of herpes labialis, also known as **cold sores or fever blisters** can be frequent, painful & long-lasting.<sup>4</sup>

It is usually transmitted by direct contact with the lesions or body fluids of an infected individual, although transmission through skin-to-skin contact is also possible.<sup>5</sup> Herpes labialis lesions on the lip and associated pain alter physical appearance & can cause psychological problems, interfere with social activities, and consequently impair quality of life.<sup>6</sup>

The epidemiology of RHL has been somewhat neglected. In addition, the prevalence of RHL reported in previous studies have focused on lifetime occurrences of the disease (lifetime prevalence = LTP), prevalence during the past year (annual prevalence = AP), or the clinical presentation of the lesion (point prevalence = PP)<sup>15</sup> Epidemiology of orofacial herpes simplex virus infections in the general population & results of the HERPIMAX study shows Lifetime prevalence of clinically manifest orofacial herpes was 38.3% (42.1% in women, 32.4% in men).<sup>7</sup>

## METHODOLOGY

A cross-sectional study involved the inclusion of 180 BDS students and 340 MBBS students from three medical and dental colleges, namely Army Medical and Dental College, Ayub Medical and Dental College and Rawal Medical and Dental College.

Data on the sociodemographic characteristics of the participants, their history of RHL, and the treatment methods were collected using a standard self-reported questionnaire form. The questionnaires were distributed and completed in the lecture halls and small group Discussion Rooms.. The students were informed about RHL lesions, and colored photographs of the lesions were shown, before they filled out the questionnaire. Sociodemographic characteristics, history of RHL, knowledge, sign & symptoms of disease were elaborated well in the form of interactive lecture to the participants. In addition, the students were reminded that their participation was voluntary. A total of 500 forms were distributed to students, with 347 being fully and accurately completed. Out

of these, further analysis was conducted on 141 students who had experienced recurrent herpes labialis (RHL), focusing on the triggering factors leading to RHL, the healing time of the ulcers they developed, and the treatment methods they employed for recovery.

The data was collected and carefully checked, and the identification of students was kept confidential for ethical reasons.<sup>33</sup>

The survey comprised a total of 19 questions, with six aimed at gathering demographic data. Four questions were dedicated to the history of the disease, five focused on assessing knowledge and understanding of the signs and symptoms of the illness, and the final four inquired about the causes and treatment of the disease. The collected data underwent analysis and interpretation through the utilization of SPSS 21.

### RESULTS:

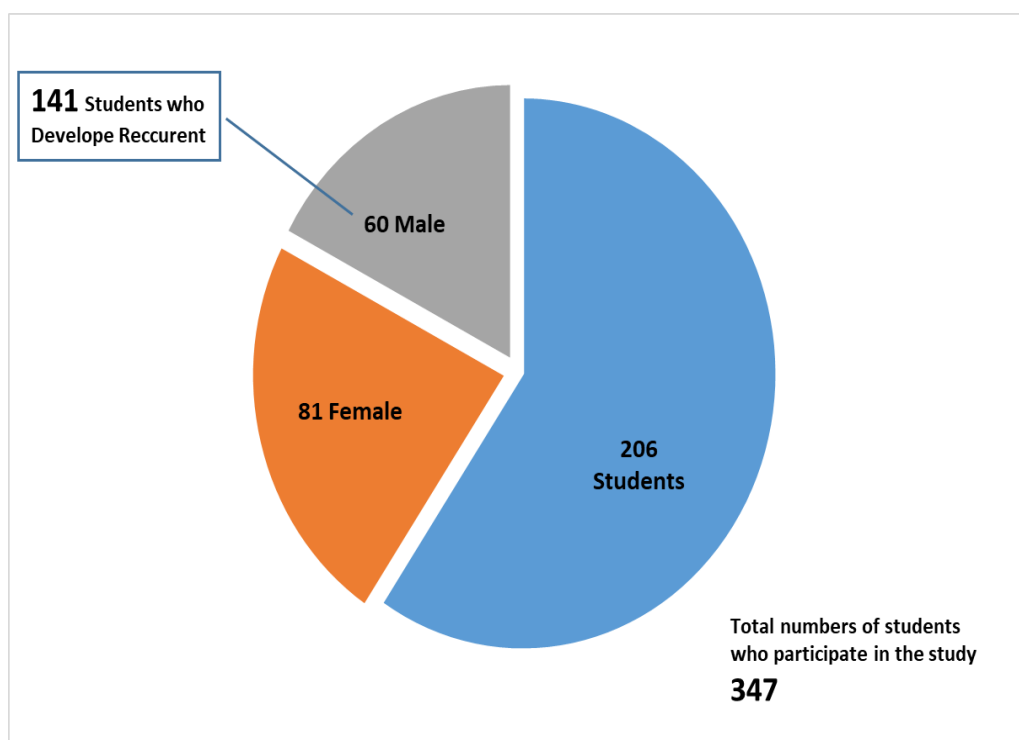
In this study 347 students participate. Average age of the students is 21 to 22 years.

99% of them are single and 70% live with their families. Among 347 students 141 developed RHL in the past years. Percentage of students who developed RHL is 41%. Prevalence of RHL in male is 17% and in females is 23%.

Most students have the previous knowledge of RHL , 64% know the cause of disease is viral and 66% know that RHL is contagious .36% of the students have smoking habit, among them 4% developed RHL. When they were asked about the triggering factor for the reoccurrence of herpes labialis. 42% said it is due to common cold infection and 41% relate it to stress.

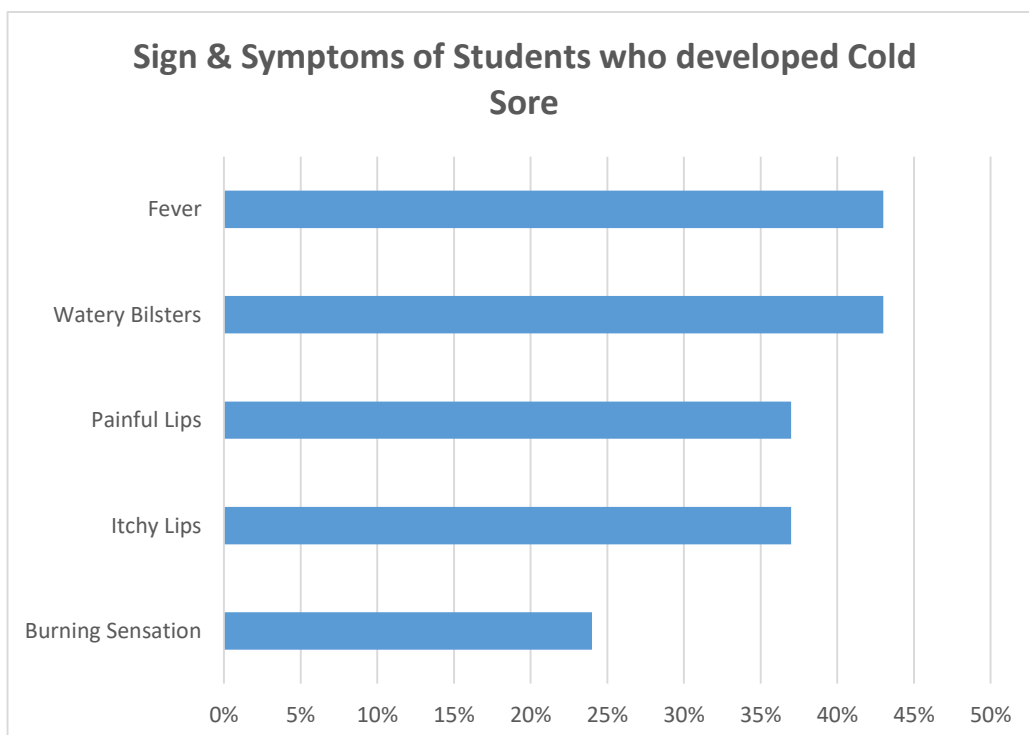
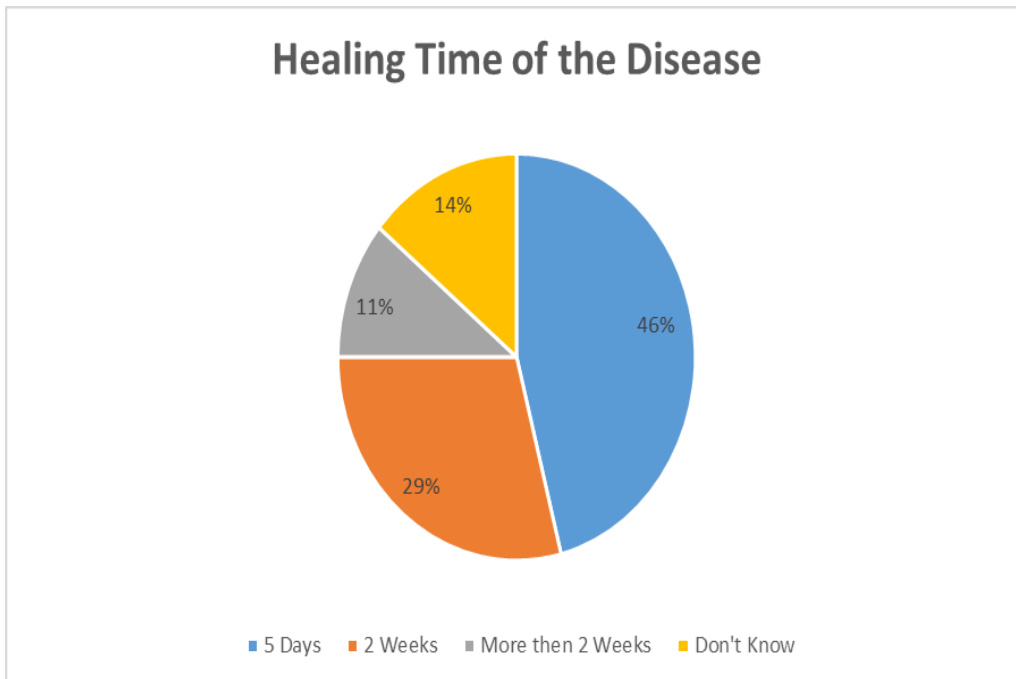
Sign and Symptoms of the RHL among the students is burning sensation on the lips 24%, itchy lips and painful lips 37%, watery blisters 43% and fever 43%.

A question is asked from the student about what treatment they preferred when they had this disease. 25% of the students consult physician, 20% use home remedies on the blisters like garlic, onion and cold pack to reduce pain. 26% of the students didn't consult and self-medicated themselves as they know the disease and apply antiviral cream, Vaseline and polyfax etc.

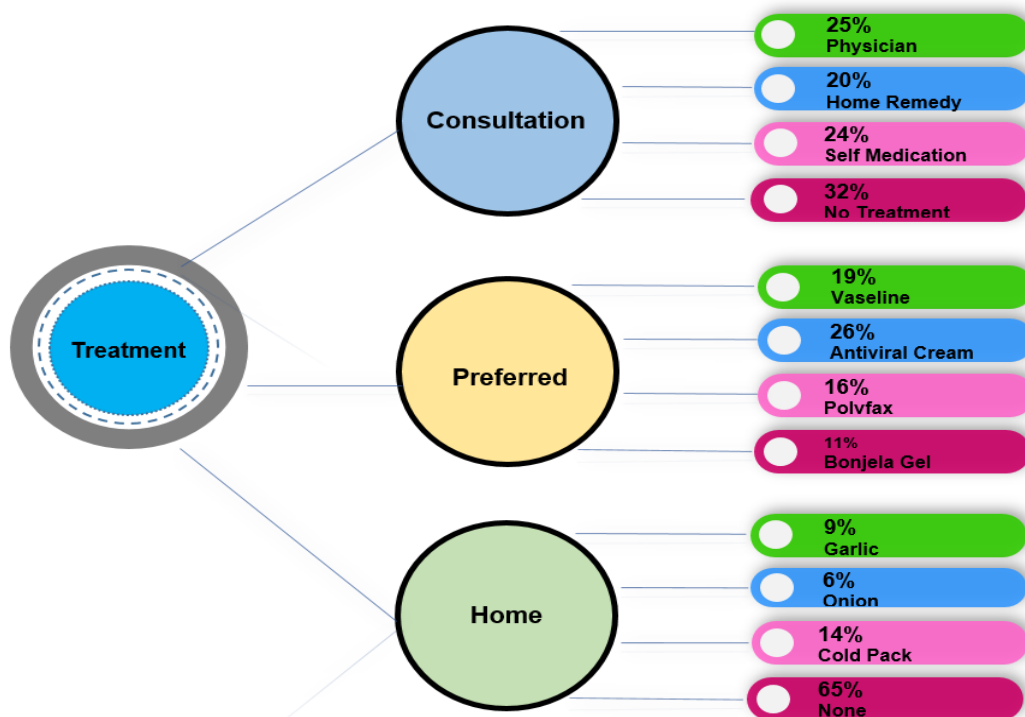


Demographic variables and knowledge of the students for the disease Recurrent Herpes Labialis  
 Students who developed cold sore had the following triggering factors:

Cause of the Disease	Yes	No
1. Common Cold	42%	58%
2. Low Immunity	36%	65%
3. Fever	21%	79%
4. Sun Exposure	6%	94%
5. Trauma	9%	92%
6. Stress	41%	33%



**TREATMENT:**



**DISCUSSIONS:**

Delivery of oral health care is the fundamental responsibility of health professionals. Herpes viruses shed in saliva can cause persistent infections in most exposed individuals, thus making such exposure is a concern.<sup>8</sup> A study was conducted to prove that RHL can be reduced by using sunblock stick in summer.<sup>9</sup> In episodic therapy, it is essential that patients recognize prodromal symptoms for immediate self-medication.<sup>10</sup>

It is a very common communicable disease that affects millions of people. In France, the HERPIMAX<sup>11</sup> study reported a lifetime prevalence of 38.3% and an annual prevalence of 14.8 %. Between 20% and 40% of the population is estimated to suffer from episodes of recurrent herpes labialis .<sup>6</sup> In elderly patients, the frequency of RHL sinks to approximately 20 %.<sup>12</sup>

Result of this study shows a slight predominance of disease in females which is also confirmed by a study conducted among Swedish population on occurrence of RHL .<sup>13</sup>

Result of this study shows a slight predominance of disease in females which was previously studied in Swedish population on occurrence of RHL<sup>14</sup>.

**CONCLUSION:**

The results of the study indicated that RHL was a significant health problem among college students. There is a need to educate patients with RHL on treatment options available to reduce their distress and to improve their quality of life. Awareness of the signs and symptoms is crucial for early diagnosis and treatment, which can help reduce the duration and severity of the condition.

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