

# COMPARISON OF SALIVARY RATE AND pH IN CARIES FREE AND CARIES ACTIVE CHILDREN

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## ABSTRACT:

**AIM:** To compare the salivary rate and pH of caries free and caries active children.

**OBJECTIVE:** The objective of this article is to compare the differences in the salivary rate and pH of caries free and caries active children.

**BACKGROUND:** The purpose of this study is to evaluate the relationship between the salivary rate and pH levels in caries free and caries active children. The present study included two groups; group I and group II. Group one comprise of caries free children and group two comprise of caries active children, respectively. Unstimulated saliva will be collected and flow rates will be determined. The samples will be then analyzed for pH. Results of the two groups will be compared.

**REASON:** To know the differences in the salivary pH and flow rate in caries free and caries active children.

## INTRODUCTION:

Saliva is a clear, slightly acidic exocrine secretion. Whole saliva is a complex mix of fluids from major and minor salivary glands and from gingival crevicular fluid, which contains oral bacteria and food debris.[1] [2] The major salivary glands include the parotid glands, the submandibular and sublingual glands. Minor glands that produce saliva are found in the lower lip, tongue, palate, cheeks, and pharynx. Paradoxically, it can be argued that the minor salivary glands are the most important due to their protective component. [3]

Salivary function can be organized into 5 major categories that serve to maintain oral health and create an appropriate ecologic balance: (1) lubrication and protection, (2) buffering action and clearance, (3) maintenance of tooth integrity, (4) antibacterial activity, and (5) taste and digestion.[4,5] It also serves as biological marker. [6]The average daily flow of whole saliva varies in healthy person is between 1 and 1.5 L.

The salivary flow rate should be maintained in order to avoid getting dental caries. Same like salivary flow rate, salivary pH should also be maintained at optimum level to avoid the risk of getting dental caries. This research article concentrates on the difference in the salivary flow rate and pH in caries free and caries active children.

## MATERIALS & METHOD :

Study was conducted in Saveetha Dental College and Hospitals, Chennai, India. Fifty children of age group 6 years to 14 years were chosen. They were divided into two groups. Group 1 consists of 25 children who were caries free. Group 2 consists of 25 children who were caries active, that is children with more deep caries and children with more number of caries.. Stimulated saliva is collected in a container and measured. Then the sample was analysed for knowing the pH value. Then the results of two groups were compared statistically by using SPSS software. Mean value and p value were found out by doing unpaired t test.



**Fig: Salivary Samples**

**RESULT:**

The mean value of salivary flow rate in caries free children was 1.6ml and in caries active children was 1.3ml. The mean value of salivary pH in caries free children was 6.9, whereas in caries active children it was 5.9.

PARAMETER	NORMAL VALUE	CARIES FREE	CARIES ACTIVE
Salivary flow	1-2ml/min	1.6ml	1.3ml
pH	6.5 – 7.5	6.9	5.9

**DISCUSSION:**

It is believed that maintenance of salivary flow rate and pH is important to reduce the risk of dental caries. The statistical results of the recorded values are discussed below.

For salivary flow rate, the two tailed p value equals to 0.0518. By conventional criteria, this difference is not considered as statistically significant. The mean of group 1 minus group 2 is 0.230. The mean value of group one is 1.6ml and group two is 1.3ml.

For salivary pH, the two tailed p value is less than 0.0001. But the conventional criteria, this difference is considered to be extremely statistically significant. The mean of group one minus group two is 1.02. The mean value of group one is 6.9 and for group two it is 5.9.

**CONCLUSION:**

This proves that there is a significant change in the pH of saliva between the caries free and caries active children. Whereas, in the flow rate there is no significant change. To maintain pH the children with caries can be provided alkaline saline mouth wash and other drugs.

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