

# Deaf and Dumb Subjects: School Dental Programme

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## Abstract

A dental check-up was held at a special co- education school of deaf and dumb in Kolkata to find out whether impaired body function has any effect in their oral health status. First day, primary section and next day secondary section participated. Total one hundred and nine residential subjects were examined. All of them had profound (>90%) deafness. Age of the students was from 6 to 25- including both primary and secondary sections. A complete oral health status including orthodontic status was examined. Basic dental instruments- mouth mirror, explorer, cotton forceps, check retractor were used.

Prior permission was taken from school authority and consent was taken from all the subjects before the examination.

### Key Words

Deaf and dumb, speechlessness, anterior crowding, DMFT status, Periodontitis.

1. BDS, ICOI, ADL

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## Introduction

A study was conducted among deaf and dumb students in a specialized co-education school at Kolkata, India. All the subjects were completely devoid of hearing ability since birth leading to improper development of speech. Prior to admission every student passed through medical test and is categorized as deaf. Speechlessness is an associated condition for which persons are unable to communicate in verbal method and oral health is completely devoid of a particular function; i.e. speech. The study was conducted among profound (>90%) deaf and dumb subjects to know their oral health status<sup>1</sup> and to correlate between speechlessness condition and oral health.

## Review of the Article

Sign language recognition for deaf and dumb published in international journal of advanced research in computer science and software engineering shows that there is no single language suitable for their recognition and understanding<sup>2</sup>. Gesture detection for deaf and dumb people published their research in international journal of development research<sup>3</sup>. Article on dentition status and oral health practice among hearing and speech impaired children a cross sectional study in international journal of pediatric dentistry 2011<sup>4</sup>.

## Background

The study was conducted among profound (>90%) deaf subjects to know their oral health status and correlate between speechlessness condition and oral health.

## Materials and Methods

A school dental program was conducted at Calcutta deaf and dumb school and total hundred and nine residential students were examined. Both boys and girls were examined in both primary and secondary sections.

In primary section total fifty-two and in secondary section total fifty-seven students have been participated in the study.

Basic oral health examination instruments- mouth mirror, explorer, cotton- forceps, and periodontal probe were used. Total camp was performed by basic sterilization and examination methods- using examination gloves, masks, patients' drapes and cotton, stainless steel tray were also used. Artificial lights torch and tubes were used. A complete dental check-up was provided. All the students

are complete deaf (profound deafness >90%) and communication was done through the teachers of that school. Most of the cases the students are over aged with comparing normal school student. Most senior student was found at 25 years of class IX. In case of normal school student average age of class IX student is 14 yrs.

**Exclusion Criteria:** No other candidates except residential students were examined.

DMFT status, periodontal status and orthodontic data analysis are presented in tables below:

**Table 1:** DMFT status and periodontal status

Sr. No.	Oral health status	Children (52)	Adult (57)
01.	DMFT Index	20 (38%)	20(35%)
02.	Periodontal Health status	28 (53%)	38(66.66%)

## Orthodontic data analysis:

**Table 2:** Angle's classification and Dewey's modification

Sr. No.	Orthodontic status	Children (52)	Adult (57)
01.	Class I molar relation	50	50
02.	Class I modification 1	10(19%)	17(29.82%)
03.	Class II modification 2	08	X
04.	Class III molar relation	X	05 (8.7%)
05.	Posterior open bite	X	02 (3.5%)
06.	Childs' occlusion	02	X

## Discussion

A two days dental camp was done in a specialised school of deaf subjects in Kolkata. Total one hundred and nine residential students were participated actively and joyfully. Data analysis of complete dental examination are presented in table 1 and 2 and statistical data analysis for table 1 is presented in Pearson Chi- square value is 0.557<sup>a</sup> and Continuity correlation value is 0.312 and Likelihood ratio is 0.576. For all three cases different is 1- highly significant. This shows that poor oral health picture of these subjects in their younger age. High decay status, higher amount of plaque deposition shows that poor brushing concept and poor concept about oral health. Orthodontic data analysis presents Angle's Class II modification I found in 08 cases in children and no adult belongs in this

category. Angle's Class III found in only 05 cases and 02 have posterior open bite. Angles' class I molar relation, Dewey's modification among 17 adult, significantly higher. And difference value is 5 for both Pearson's Chi square value and Likelihood ratio -which are highly significant. Improper growth and poor chewing habit is responsible for higher value. Deaf and dumb-who are devoid of sounds in their life have almost no participation through oral, i.e. speech. Hence they become more inattentive about their oral health and its care. This study shows they require more attention to maintain oral health. The deaf and dumb subjects lead their lives in speechless condition which leads to restricted movement and function of the tongue leading to poor tongue thrust to anterior segment and less quantity of saliva.

### Conclusion

Oral health status of deaf and dumb subjects is affected by improper development of lower anterior segments, poor tongue thrust and psychological negligence.

### Practical Implication

This study helps draw necessary attention for improve oral health of deaf subjects.

Research works among deaf and dumb subjects are first step taken in Kolkata, in INDIA.

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### Conflict of interest: Nil

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