

# ASSESSMENT OF MICROBIOLOGICAL AND ORAL HEALTH STATUS OF ASTHMATIC AND NON ASTHMATIC CHILDREN – A CROSS SECTIONAL COMPARATIVE STUDY

Usha G Venkatesh, Department of Public Health Dentistry, Bapuji Dental College & Hospital, Davanagere, Karnataka, India

Nagesh Lakshminarayan, Department of Public Health Dentistry, Dayanand Sagar Dental College & Hospital, Bengaluru, Karnataka, India

## INTRODUCTION

Asthma is a serious global health problem affecting one in ten children. More absence from school is caused by asthma and dental caries than any other chronic disease. Around 33% of asthmatic children miss more than three weeks of school each year.

Asthma and its medications can adversely influence oral health, resulting in dental caries, reduced salivary flow rate, mouth breathing, oropharyngeal candidiasis etc.

Considering asthma is such a common disease affecting children, only a limited number of studies have investigated the effects of asthma and anti-asthmatic medications on the oral environment with conflicting results.

## AIM

To assess and compare the dental caries experience, s. mutans count among asthmatic and non asthmatic children.

## MATERIALS AND METHOD

**Study design** – Cross sectional study

**Study population** – 5 to 12-year-old children

**Sample size estimation** –  $\alpha = 0.05$

$\beta = 0.80$

SD = 1.46

n= 40 in each group

**Selection criteria** –

Children diagnosed with asthma, confirmed with lung function tests by pulmonologist of Asthma Care Center, Bapuji Hospital and who are currently under asthmatic medications.

**Sampling Methodology** –

**Study subjects:** Stratified sampling technique

**Control subjects:** Multistage sampling technique

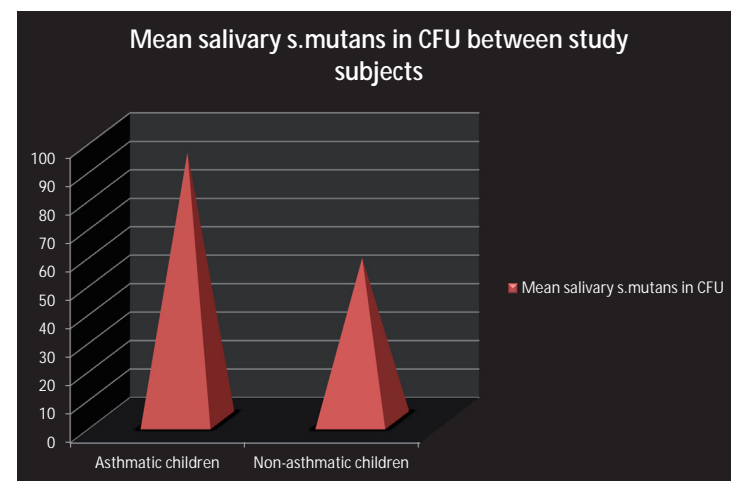
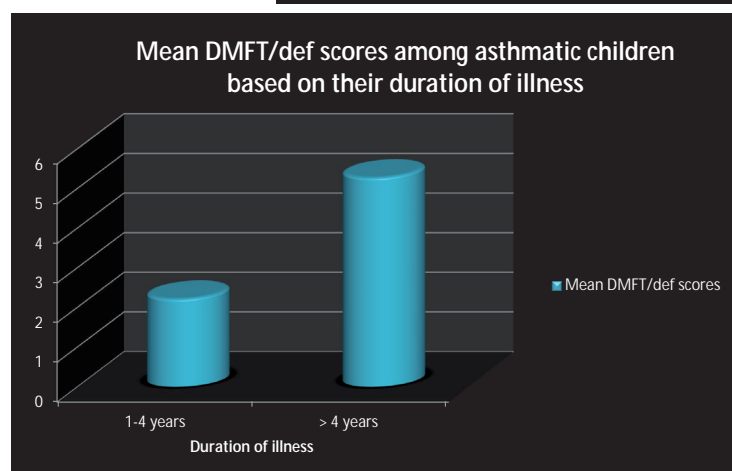
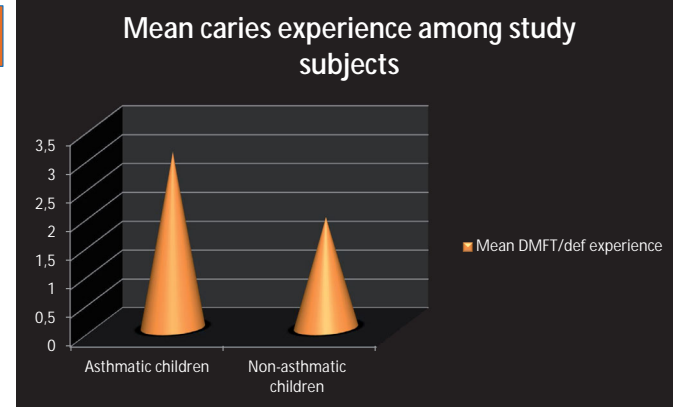
**Collection of data** –

Dental caries experience was assessed by The Decayed, Missing and Filled Teeth index (DMFT); decayed, exfoliation and filled (def) index, respectively. Microbiological analysis of S.mutans was by Mitis Salivarius Bacitracin (MSB) agar.

## REFERENCES

1. Stenson M etal. Oral health in preschool children with asthma. Int J Paediatr Dent. 2008 Jul; 18(4): 243-250.
2. Thomas MS, Parolia A, Kundabala M, Vikram M. Asthma and oral health: a review. Aust Dent J. 2010; 55(2): 128-133.
3. Matthews J. Asthma and dental caries. Evid Based Dent. 2012 ; 13: 41.

## RESULTS



## DISCUSSION

The higher prevalence of dental caries in asthmatic children may be related to prolonged use of beta 2 agonists, which cause a reduction in secretion of whole saliva.

Asthmatic children have higher caries experience, and this increases with severity of bronchial asthma. Other factors leading to this may be mouth breathing and high intake of sugary drinks.

The higher S.mutans count in asthmatic children reflects higher caries activity. The prolonged use of medications, severity of disease and mouth breathing can jeopardize the protective ability of the saliva to clear the fermentable substances.

## CONCLUSION

Prolonged use of asthmatic medications and severity of asthma are risk factors for the development of dental caries among children.

Educating parents and children to follow precautionary measures to prevent adverse events in oral health is the need of the hour.