

## **Oro-Facial Features, Related Medical Problems and the Level of Dental Caries in a Group of Children with Down Syndrome**

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Down Syndrome (DS) is a genetic disorder with severe growth and intellectual impairment, which results from the presence of an extra chromosome 21. Although genetic disorders are rare, DS is relatively common with an incidence of 1:700 to 1:1000. Among the range of clinical manifestations, which depend on the variable expression of the genetic mutation, some features are characteristic to DS. A majority of these appear in the oro-facial region either extra-orally such as narrow palpebral fissures or intra-orally such as macroglossia.

Children with DS belong to a large group of patients who need special dental care. This is not only due to their apparent inability to comprehend, but also due to other complications such as cardiac pathologies and impaired immunity, which have serious implications to the choice and execution of treatment. Dental caries incidence was earlier reported to be less in children with DS compared to that of healthy children. This has been attributed to the spacing between teeth and increased salivary Immunoglobulin A levels. Contrary findings have been reported in a more recent study that discovered the level of dental caries of DS children to be higher compared to that of normal children.

The main objectives of this study were to assess the level of dental caries and other intra-oral features, and the common medical problems of DS children and to assess the association of three of the known risk factors for development of DS, i.e., advanced maternal age, having a sibling with DS and consanguineously married parents. This study group consisted of all children with DS, from two special schools in the Kandy district, who met specific selection criteria. The data were collected using cross calibrated examiners after acquiring written proxy consents from parents. Subsequently, results were presented using descriptive statistics.

From the sample, 88% of children had at least one tooth with caries. This is in agreement with current trends in caries patterns that had been observed in DS children. DMFT and dmft indices were 3.25 and 6.7, respectively and were clearly high, compared to those of normal children which were 0.9 and 3.5, respectively (National Oral Health survey 2003). High percentage of children with untreated caries also indicates less attention to dental care of this group of children. Congenital cardiac or thyroid problems were observed in approximately 50% of the sample and all the participating children demonstrated macroglossia or 'relative macroglossia'. Seventy percent of DS children in this sample were born to mothers who were over 35 years of age, and only 8% were from consanguineously married parents.

Higher DMFT and dmft values and high occurrence of medical problems in DS children demand early intervention for prevention of dental caries and special precautions in management procedures.