

## **Nasalance score in normal children and in surgically repaired cleft lip and palate children speaking the Malay language**

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### **ABSTRACT**

#### **Introduction**

Cleft lip and palate is a common facial birth defect. Corrective surgery to repair the cleft is often done early in infancy, before the child learns to speak. However, a number of these patients still develop speech problems. A common speech problem in these patients is hypernasality. Hypernasality was traditionally determined perceptually by speech-language therapists involved in the management of cleft patients. It can now also be measured objectively using the nasometer, which measures nasalance scores. This is a comparative cross-sectional study on nasometric analysis which ran from January to May 2004 in Hospital Universiti Sains Malaysia.

#### **Objectives**

Its purpose was to gather and compare nasalance data from normal and repaired cleft children and to compare objective nasalance scores with perceptual nasality ratings done by speech-language therapists.

#### **Methodology**

The subjects were one hundred and three normal Malay children and twenty-seven repaired cleft lip and palate children with Malay language/Bahasa Melayu as their first language. A Kay Nasometer model 6400 was used to obtain the nasalance scores. Three Bahasa Melayu passages (a nasal, an oral and an oronasal passage) were constructed which resemble the passages used to measure nasalance with English speaking subjects. Two speech-language therapists listened to the audio recordings and rated the nasality on a seven-point equal appearing interval scale. Our results showed that the groups' mean overall nasalance scores were 37.2% (SD 5.62) for the normal children and 50.4% (SD 9.38) for the cleft lip and palate children. The difference was significant at  $p < 0.001$ .

#### **Conclusion**

There was a fair to moderate correlation between the mean nasalance scores and the nasality ratings made by the speech-language therapists with  $p < 0.05$ . This study provides the normative nasalance scores for children using the Malay language, which can be used as objective references in the management of patients with resonance disorders.

*Key words:* cleft lip and palate, speech, hypernasality, nasometer, nasalance.