

## **NORMATIVE DATA FOR CVEMP AND OVEMP IN MALAYSIAN CHILDREN AGED 6 TO 12 YEARS OLD**

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### **ABSTRACT**

**Introduction:** Vestibular assessment in children is crucial in early identification of balance problem. Cervical Vestibular Evoked Myogenic Potential (cVEMP) and ocular Vestibular Evoked Myogenic Potential (oVEMP) were reported to be feasible and effective tools in diagnosing children with vestibular impairment. Therefore, the aim of this study is to provide cVEMP and oVEMP normative data for pre-school and primary education Malaysian children.

**Methods:** Twenty five normal hearing children aged 5 years 9 months to 12 years 4 months (mean  $\pm$  SD  $9.23 \pm 1.86$  years) were recruited for the study. Their saccule and utricle were assessed using cVEMP and oVEMP which were acoustically elicited using ER3A insert phone and Brüel & Kjaer (Naerum, Denmark) minishaker 4810 respectively.

**Results:** For cVEMP, the mean value for p13 and n23 latency and interamplitude were  $13.02 \pm 0.22$  ms,  $20.06 \pm 1.84$  ms and  $101.90 \pm 53.27$   $\mu$ V respectively. For oVEMP, the mean value obtained for n10 latency and amplitude were  $8.89 \pm 1.07$  ms and  $3.77 \pm 2.33$   $\mu$ V respectively. There was a positive correlation between n23 latency with age groups, indicating prolonged n23 latency with increase of age. There was no correlation between gender and VEMPs parameters.

**Conclusions:** The normative data obtained in this study could be used as a guide to relevant health professionals in diagnosing saccular and utricular function in young children.

**Keywords:** cVEMP, oVEMP, Children, Normative

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