THE STRENGTH OF MASTICATORY MUSCLE AND ORAL HYGIENE STATUS IN CHILDREN WITH DOWN SYNDROME

ABSTRACT

Background. Down syndrome is an autosomal congenital disorder caused by disjunction of chromosome 21, which is characterized by growth retardation of physical, mental and intellectual. Almost all children with down syndrome suffer from muscle hypotonia because the formation of collagen and brain cells have been inhibited by the abnormality. The strength of masticatory muscle which is not maximal in children with down syndrome may cause the disturbance of mastication function that have some bad impacts, such as poor OH (oral hygiene) status, poor nutritional status and other health problems.

Purpose. The aim of this study was to determine the strength of masticatory muscle in children with down syndrome and normal children and its relation to oral hygiene status.

Method. The study was performed on 3 subjects children with down syndrome and 5 subjects normal children. The masticatory muscle of all samples were examined with EMG (Electromyograph) in Medical Rehabilitation of RSUD Dr. Soetomo Surabaya. The status of oral hygiene was measured by using PHPI (Personal Hygiene Performance Index). The measured values of all subjects were expressed by mean and then were analyzed by independent t –test and pearson correlation with α=0.05.

Result. The result of the study shows that there was significant difference in the strength of masticatory muscle and oral hygiene status between children with down syndrome and normal children. The mean of children with down syndrome’s masticatory muscle strength is 372 µV (PHPI= 3.55) and the normal children’s is 788 µV (PHPI=1.47).

Conclusion. It can be concluded that the strength of masticatory muscle in children with down syndrome is lower than normal children, so that children with down syndrome can be impaired of their mastication function and poor on oral hygiene status.

Keywords: down syndrome, masticatory muscle, oral hygiene, electromyograph.