

ABSTRAK

Proporsi tinggi vertikal wajah dibagi menjadi tiga bagian dengan rasio normal 1:1:1. Proporsi wajah yang berhubungan dengan fungsi mastikasi adalah sepertiga bawah wajah. Tinggi sepertiga bawah wajah pendek umumnya disertai dengan *deep bite* dapat memberikan dampak lebih lanjut berupa gangguan sendi temporomandibular, bahkan disfungsi *eustachian tube*. Hal tersebut dapat mengganggu fungsi mastikasi. Tujuan penelitian adalah untuk mengetahui efek tinggi sepertiga bawah wajah pendek terhadap performa mastikasi berdasarkan *overbite*.

Metode penelitian adalah *cross sectional* dengan tipe survei epidemiologi. Subjek penelitian anak usia 12-15 tahun Sub ras Deutero Melayu di kota Bandung. Teknik sampling menggunakan *multistage random sampling* dengan penentuan besarnya ukuran sampel berdasarkan sampel seadanya dan diperoleh 24 anak (kelompok 1) dengan tinggi wajah normal dan 27 anak dengan tinggi sepertiga bawah wajah pendek terdiri dari 11 anak *overbite* normal (kelompok 2), 16 anak *deep bite* (kelompok 3). Performa mastikasi diukur dengan 20 kali pengunyahan *artificial test food* kemudian dilakukan uji pengayakan. Nilai performa mastikasi dinyatakan dengan *median particle size* (MPS) dan distribusi sebaran partikel (b).

Analisa uji ANOVA diperoleh MPS dengan $F_{hit} = 5.56$ dan $p_{value} = 0.0075$, serta b dengan $F_{hit} = 3.41$ dan nilai $p_{value} = 0.0430$ menunjukkan perbedaan yang signifikan. Dilanjutkan uji T berkelompok MPS ($p_{value} = 0.0925$) dan b ($p_{value} = 0.2076$) antara kelompok 1 dan 2 menunjukkan perbedaan yang tidak signifikan. Sedangkan antara kelompok 1 dan 3 perbedaan MPS ($p_{value} = 0.0037$ dan $\alpha = 0,01$) sangat signifikan dan perbedaan b ($p_{value} = 0.0141$ dan $\alpha = 0,05$) signifikan.

Simpulan penelitian ini adalah anak dengan tinggi sepertiga bawah wajah pendek yang disertai *overbite* normal tidak menurunkan performa mastikasi sedangkan *deep bite* menurunkan performa mastikasi.

Kata kunci : tinggi sepertiga bawah wajah pendek, *deep bite*, performa mastikasi

ABSTRACT

The one-third lower face height belongs to ideal proportion, ratio 1:1:1, of vertical face height. The one-third lower face height could be influenced by mastication. The one-third lower face height that shorter than normal ratio is generally followed by deep bite which may lead to temporomandibular disfunction even so eustachian tube disfunction, this condition may interfere mastication function, which can be measured by mastication performance. The research objective was to determine the effects of short lower face height to the mastication performance based on overbite.

The research method was a cross-sectional study with epidemiology survey type. Research subjects 12-15 years old junior high school with Deutero Melayu Sub races in Bandung. Sampling technique used multistage random sampling by determining the size of sample based on potluck sample and gained 24 children (group 1) with normal ratio of vertical face height and 27 children with short lower facial height which were 11 children overbite normal (group 2) and 16 children deep bite (group 3). Mastication performance by 20 times chewing artificial test food then followed by sieving test. Mastication performance value represented by the median particle size (MPS) and the distribution of the particle distribution (b).

The results of average MPS and b between group 1, 2 and 3 used statistical analysis MPS with ANOVA test which $F_{hit}=5.56$ and $p_{value}=0.0075$, b which $F_{hit}=3.41$ and $p_{value}=0.0430$ showed a significant differences. Continued with group T test MPS ($p_{value} = 0.0925$) dan b ($p_{value} = 0.2076$) between group 1 and 2 showed a non significant differences. While between group 1 and 3 showed a highly significant differences in MPS ($p_{value} = 0.0037$ and $\alpha = 0,01$) and a significant differences in b ($p_{value} = 0.0141$ and $\alpha = 0,05$).

Conclusions of this study was children with short lower face height and normal overbite did not decrease the mastication performance while children with deep bite decrease the mastication performance.

Keywords: short lower face height, deep bite, mastication performance