INTISARI

Karakteristik maloklusi dipengaruhi faktor genetik dan lingkungan. Karakteristik jaringan keras dan lunak maloklusi kelas I skeletal etnis Jawa dapat diketahui menggunakan analisis sefalometri. Maloklusi kelas I skeletal etnis Jawa dapat diklasterisasi berdasarkan homogenitas variabel karakteristik tertentu yang spesifik. Penelitian ini bertujuan untuk menganalisis karakteristik jaringan keras skeletal, dental, dan jaringan lunak serta klasterisasi pada maloklusi kelas I skeletal etnis Jawa.

Penelitian dilakukan dengan analisis 31 parameter sefalometri secara digital pada 106 sampel sefalogram lateral etnis Jawa yang memiliki maloklusi kelas I skeletal untuk mengetahui karakteristik jaringan keras skeletal, dental, dan jaringan lunak. *Principal Component Analysis* (PCA) untuk menentukan komponen yang berpengaruh terhadap variasi klaster. Analisis Wards dilakukan untuk mengetahui klasterisasi. Hasil klasterisasi dianalisis dengan uji Kruskal-Wallis dan uji *post hoc* Mann Whitney.

Hasil penelitian menunjukkan maloklusi kelas I skeletal etnis Jawa memiliki karakteristik jaringan keras skeletal cenderung protrusif dan hiperdivergen, bidental proklinasi, serta profil fasial protrusif. Berdasarkan analisis Ward diperoleh 3 klaster pada penelitian ini. Klaster 1 (19,81%) memiliki karakteristik protrusif, bimaksiler, normodivergen, bidang oklusal datar, bidental proklinasi, bibir atas dan bawah normal, serta profil protrusif. Karakteristik klaster 2 (55,66%) adalah maksila dan mandibula normal, hiperdivergen, bidang oklusal normal, bidental proklinasi, bibir atas normal, bibir bawah protrusif, serta profil protrusif. Karakteristik klaster 3 (24,33%) yaitu maksila dan mandibula normal, normodivergen, bidang oklusal normal, bidental retroklinasi, bibir atas dan bawah retrusif, serta profil normal. Kesimpulan penelitian ini adalah maloklusi kelas I skeletal etnis Jawa dapat diklasterisasi menjadi 3 klaster berdasarkan perbedaan karakteristik jaringan keras dan lunak.

Kata kunci: maloklusi, kelas I skeletal, etnis Jawa, karakteristik jaringan keras, karakteristik jaringan lunak, klasterisasi

ABSTRACT

The characteristics of malocclusion are influenced by genetic and environmental factors. The hard and soft tissue characteristics of Javanese skeletal class I malocclusion can be determined using cephalometric analysis. Javanese ethnic skeletal class I malocclusion can be clustered based on the homogeneity of certain specific characteristic variables. This study aims to analyze the characteristics of skeletal hard tissue, dental and soft tissue as well as clustering of skeletal Class I malocclusions of Javanese ethnicity.

This study was carried out by digitally analyzing 31 cephalometric parameters on 106 Javanese ethnic lateral cephalogram samples who had skeletal class I malocclusion to determine the characteristics of skeletal hard tissue, dental and soft tissue. Principal Component Analysis (PCA) to determine the components that influence cluster variations. Wards analysis was carried out to determine clustering. Clustering results were analyzed using the Kruskal-Wallis test and the Mann Whitney post hoc test.

This study showed that Javanese skeletal class I malocclusion has characteristics of skeletal hard tissue that tend to be protrusive and hyperdivergent, proclined teeth, and a protrusive facial profile. Based on Ward's analysis, 3 clusters were obtained in this research. Cluster 1 (19.81%) has the characteristics of protrusive bimaxillary, normodivergent, flat occlusal plane, proclined bidental, normal upper and lower lips, and protrusive profile. The characteristics of cluster 2 (55.66%) are normal maxilla and mandible, hyperdivergent, normal occlusal plane, proclined bidental, normal upper lip, protrusive lower lip, and protrusive profile. The characteristics of cluster 3 (24.33%) are normal maxilla and mandible, normodivergent, normal occlusal plane, retroclined bidental, retrusive upper and lower lips, and normal profile. The conclusion of this study is that Javanese skeletal class I malocclusion can be grouped into 3 clusters based on differences in hard and soft tissue characteristics.

Keywords: malocclusion, skeletal class I, Javanese, hard tissue characteristic, soft tissue characteristic, clustering