

ABSTRAK

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Latar belakang: Morfologi mandibula merupakan aspek penting dalam antropometri dan kedokteran gigi karena mencerminkan variasi anatomi yang dipengaruhi faktor genetik, etnis, dan lingkungan. Parameter mandibula seperti sudut gonial, sudut antegonial, dan lebar bigonial memiliki aplikasi luas dalam ortodonti, bedah maksilofasial, dan identifikasi forensik. Perbedaan etnis memberikan wawasan mengenai adaptasi fungsional dan pola pertumbuhan rahang spesifik pada populasi tertentu, dengan panoramik sebagai modalitas pencitraan yang praktis dan presisi tinggi untuk analisis morfometrik mandibula. Penelitian ini bertujuan untuk mengetahui perbandingan sudut gonial, sudut antegonial, dan lebar bigonial antara suku Batak dan suku Tionghoa berdasarkan radiografi panoramik. **Metode:** Penelitian ini merupakan studi kuantitatif observasional analitik dengan desain *cross-sectional* terhadap 50 individu (25 suku Batak dan 25 suku Tionghoa) yang dipilih melalui *purposive sampling*. Data radiografi panoramik digital dari RSGM Prima diukur menggunakan aplikasi *ImageJ* untuk menentukan sudut gonial, sudut antegonial, dan lebar bigonial mandibula. Analisis uji normalitas Shapiro-Wilk, uji homogenitas Levene, dan uji T-independen dilakukan menggunakan SPSS versi 25. **Hasil:** Berdasarkan analisis deskriptif, lebar bigonial suku Batak menunjukkan rata-rata $22,88 \text{ cm} \pm 1,39$ lebih besar dibandingkan suku Tionghoa ($22,46 \text{ cm} \pm 1,77$). Sudut gonial suku Tionghoa ($122,49^\circ \pm 7,50$) sedikit lebih besar dari suku Batak ($121,68^\circ \pm 5,92$). Sudut antegonial suku Batak ($163,53^\circ \pm 7,61$) lebih besar dibanding suku Tionghoa ($160,41^\circ \pm 9,94$). Namun, hasil uji T-independen menunjukkan tidak terdapat perbedaan bermakna secara statistik pada sudut gonial ($p = 0,672$), sudut antegonial ($p = 0,219$), dan lebar bigonial ($p = 0,362$) antara kedua suku. **Kesimpulan:** Tidak terdapat perbedaan yang bermakna secara statistik pada sudut gonial, sudut antegonial, dan lebar bigonial antara suku Batak dan suku Tionghoa. Karakteristik morfometri mandibula kedua suku relatif serupa berdasarkan radiografi panoramik.

Kata kunci: sudut gonial, sudut antegonial, lebar bigonial, radiografi panoramik, suku Batak, suku Tionghoa, morfometri mandibula.

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Background: Background: Mandibular morphology is an important aspect of anthropometry and dentistry because it reflects anatomical variations influenced by genetic, ethnic, and environmental factors. Mandibular parameters such as the gonial angle, antegonial angle, and bigonial width have broad applications in orthodontics, maxillofacial surgery, and forensic identification. Ethnic differences provide insight into functional adaptations and specific jaw growth patterns in certain populations, with panoramic imaging being a practical and highly precise modality for mandibular morphometric analysis. This study aims to determine the comparison of gonial angle, antegonial angle, and bigonial width between the Batak and Chinese ethnic groups based on panoramic radiography. **Methods:** This study is a quantitative observational analytical study with a cross-sectional design involving 50 individuals (25 Batak and 25 Chinese) selected through purposive sampling. Digital panoramic radiographic data from Prima Dental Hospital were measured using the ImageJ application to determine the gonial angle, antegonial angle, and mandibular bigonial width. Shapiro-Wilk normality test, Levene's homogeneity test, and independent T-test were performed using SPSS version 25. **Results:** Based on descriptive analysis, the bigonial width of the Batak ethnic group showed an average of $22.88 \text{ cm} \pm 1.39$, which was larger compared to the Chinese ethnic group ($22.46 \text{ cm} \pm 1.77$). The gonial angle of the Chinese ethnic group ($122.49^\circ \pm 7.50$) was slightly larger than the Batak ethnic group ($121.68^\circ \pm 5.92$). The antegonial angle of the Batak ethnic group ($163.53^\circ \pm 7.61$) was larger than the Chinese ethnic group ($160.41^\circ \pm 9.94$). However, the independent T-test results showed no statistically significant differences in gonial angle ($p = 0.672$), antegonial angle ($p = 0.219$), and bigonial width ($p = 0.362$) between the two ethnic groups. **Conclusion:** There are no statistically significant differences in gonial angle, antegonial angle, and bigonial width between the Batak and Chinese ethnic groups. The mandibular morphometric characteristics of both ethnic groups were relatively similar based on panoramic radiography.

Keywords: gonial angle, antegonial angle, bigonial width, panoramic radiography, Batak ethnic group, Chinese ethnic group, mandibular morphometry.