

## Korelasi antara Cervical Vertebral Maturation dengan Dimensi Mandibula pada Anak 8-16 Tahun = Correlation between Cervical Vertebral Maturation and Mandibular Dimensions in Children Aged 8-16 Years

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### Abstrak

Penelitian ini merupakan penelitian potong lintang yang bertujuan untuk menganalisis korelasi antara cervical vertebral maturation dengan dimensi mandibula. Data berasal dari 90 radiograf sefalometri lateral (49 perempuan, 41 laki-laki), anak usia 8-16 tahun di Jakarta. Metode: menggunakan penilaian dan pengukuran visual radiograf sefalometri lateral, dimensi mandibula diukur berdasarkan panjang total mandibula (jarak dari titik condylo - gnathion), tinggi ramus mandibula (jarak dari titik condylo - gonion intersection), dan panjang corpus mandibula (jarak dari titik gnathion - gonion intersection), selama tahap maturasi skeletal vertebra servikalis (cervical stage 1 sampai cervical stage 6) yang dinilai dari badan kedua sampai badan keempat tulang vertebra servikalis. Korelasi antara cervical vertebral maturation dengan dimensi mandibula dianalisis menggunakan uji Spearman. Hasil: terdapat korelasi yang kuat dan signifikan ( $p < 0,05$ ) antara cervical vertebral maturation tahap pubertas dengan panjang total mandibula ( $r = 0,663$ ), antara cervical vertebral maturation tahap pubertas dengan tinggi ramus mandibula ( $r = 0,555$ ), dan antara cervical vertebral maturation tahap pubertas dengan panjang corpus mandibula ( $r = 0,510$ ). Terdapat korelasi yang sedang dan signifikan ( $p < 0,05$ ) antara cervical vertebral maturation tahap prepubertas dengan panjang total mandibula ( $r = 0,453$ ), antara cervical vertebral maturation tahap prepubertas dengan tinggi ramus mandibula ( $r = 0,395$ ), dan antara cervical vertebral maturation tahap pascapubertas dengan panjang corpus mandibula ( $r = 0,374$ ).

Kesimpulan: terdapat korelasi antara cervical vertebral maturation dengan dimensi mandibula terutama pada tahap pubertas. Maturasi skeletal dapat digunakan untuk menilai pertumbuhan dan perkembangan mandibula, sebagai pertimbangan dalam mengoptimalkan waktu perawatan ortopedik maksilofasial.

.....This study is a cross-sectional and aims to analyze correlation between cervical vertebral maturation and mandibular dimensions from 90 lateral cephalometric radiograph (49 girls, 41 boys), aged 8-16 years in Jakarta. Methods: The method uses visual measurements of lateral cephalometric radiograph, mandibular dimensions were assessed from total mandibular length (range of condylo - gnathion line), ramus mandibular height (range of condylo - gonion intersection line), and corpus mandibular length (range of gonion intersection - gnathion line), during maturity stages of the cervical vertebral bone (cervical stage 1 to cervical stage 6) which assessed from second to fourth branches. Correlation between cervical vertebral maturation and mandibular dimensions were analyzed using Spearman method. Results: The results showed a significant ( $p <$

0.05) and strong correlation between cervical vertebral maturation pubertal stage and total mandibular length ( $r = 0.663$ ), between cervical vertebral maturation pubertal stage and ramus mandibular height ( $r = 0.555$ ), and between cervical vertebral maturation pubertal stage and corpus mandibular length ( $r = 0.510$ ). The results showed a significant ( $p < 0.05$ ) and medium correlation between cervical vertebral maturation prepubertal stage and total mandibular length ( $r = 0.453$ ), between cervical vertebral maturation prepubertal stage and ramus mandibular height ( $r = 0.395$ ), and between cervical vertebral maturation post pubertal stage and corpus mandibular length ( $r = 0.374$ ). Conclusion: The Correlation between cervical vertebral maturation and mandibular dimension is seen mainly in puberty stage. Skeletal maturity used to assess mandibular growth for optimization maxillofacial orthopaedic treatment timing.