

# **Assessment of Impacted Mandibular Third Molar Angulation: A Comparative Analysis of Subjective and Objective Methods in Patients at RSKGM FKG UI = Asesmen Sudut Impaksi Gigi Molar Ketiga Mandibula: Analisis Perbandingan Metode Subjektif dan Objektif pada Pasien di RSKGM FKG UI**

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## **Abstrak**

**Latar Belakang:** Impaksi pada gigi M3 RB adalah impaksi gigi yang paling sering ditemui. Klasifikasi angulasi impaksi gigi M3 RB umumnya bergantung pada pemeriksaan visual (subjektif) terhadap radiograf panoramik menggunakan klasifikasi Winter. Metode subjektif rentan akan variabilitas dan bias pengamat, sehingga perlu adanya metode objektif untuk mengukur angulasi impaksi gigi M3 RB menggunakan alat ukur digital yang lebih akurat. Penelitian ini dilaksanakan untuk menganalisa perbedaan hasil klasifikasi impaksi M3 RB pada pasien RSKGM FKG UI antara metode subjektif dan objektif. **Metode:** Penelitian ini menggunakan desain studi retrospektif analitik, yang menggunakan data rekam medis dan radiograf panoramik pasien RSKGM FKG UI. Data subjektif dikumpulkan dari catatan dokter gigi pada rekam medis, sedangkan pengukuran objektif dilakukan oleh 2 peneliti menggunakan alat ukur digital. Data dianalisis menggunakan tabel tabulasi silang dan analisis Mann-Whitney. **Hasil:** Terdapat 101 kasus impaksi gigi M3 RB dari 89 pasien yang berhasil dikumpulkan, impaksi mesioangular adalah jenis yang paling umum ditemukan baik dalam analisis subjektif (53,47%) maupun objektif (76,24%). Terdapat perbedaan signifikan antara metode subjektif dan objektif dalam mengidentifikasi impaksi horizontal, vertikal, dan distoangular. Pada analisis subjektif, jenis impaksi horizontal banyak dilaporkan (22,77% subjektif dan 2,97% objektif), sedangkan impaksi distoangular kurang dilaporkan (2,97% subjektif dan 19,80% objektif). **Kesimpulan:** Ditemukan perbedaan signifikan ( $p = 0,000-0,012$ ) pada angulasi impaksi gigi M3 RB antara metode subjektif dan objektif, menunjukkan pentingnya penggunaan metode objektif untuk meningkatkan akurasi diagnosis.

.....**Background:** Mandibular third molars are regarded as the teeth most affected by impaction. Their assessment typically relies on subjective visual inspection of panoramic radiographs using classification systems such as Winter's classification. However, these methods are prone to variability and observer bias, emphasizing the need of objective methods which offer precise, reproducible measurements using digital tools. This study addresses the gap in data by comparing subjective and objective methods in classifying mandibular third molar impactions within RSKGM FKG UI population. **Methods:** An analytic retrospective study was conducted using secondary data from patient medical records and panoramic radiographs at RSKGM FKG UI. Subjective assessments were performed by practitioners, and objective measurements performed by 2 practitioners utilizing digital measurement tools. Data were analyzed using crosstabulation table and Mann-Whitney analysis. **Results:** The study included 101 cases from 89 patients. Mesioangular impactions were the most common type in both subjective (53.47%) and objective analyses (76.24%). Significant disparities were found between subjective and objective methods in identifying horizontal, vertical, and distoangular impactions. Horizontal impactions were overestimated (22.77% subjective and 2.97% objective), while distoangular impactions were underreported (2.97% subjective and 19.80%

objective). Conclusion: Significant disparities were found between subjective and objective methods in most pairwise comparisons ( $p = 0.000 – 0.012$ ), highlighting the importance of adopting objective digital measurement tools for precise diagnosis.