

## INTISARI

Radiograf panoramik adalah citra yang sering digunakan oleh dokter gigi untuk membantu penegakan diagnosis kasus-kasus kedokteran gigi, diantaranya berfungsi untuk mengevaluasi kondisi gigi geligi pada periode gigi bercampur. Terdapat 2 metode radiografi panoramik, yaitu konvensional dan digital (*direct* dan *indirect*). Penelitian ini bertujuan untuk mengetahui perbedaan kualitas citra radiograf panoramik antara metode konvensional dan digital *indirect* di RSGM UGM Prof. Soedomo pada pasien periode gigi bercampur.

Tiga puluh sampel radiograf panoramik konvensional dan digital *indirect* yang memenuhi kriteria inklusi diambil dari data *base* secara acak. Penilaian radiograf panoramik konvensional dilakukan secara manual pada *illuminator box*, sedangkan pada radiograf panoramik digital *indirect* dilakukan langsung pada komputer menggunakan *software* prosesing DBS Win 5.7.0 (Durr Dental, Jerman). Radiograf dibagi menjadi 6 zona yaitu area gigi geligi, nasal dan sinus, mandibula, TMJ, spina-ramus, dan tulang hyoid. Masing-masing zona dinilai dari aspek cakupan anatomi, densitas dan kontras, serta struktur anatomi.

Hasil uji *inter* dan *intraobserver* menunjukkan *excellent agreement*. Hasil uji *Independent Sample T-test* menunjukkan perbedaan yang signifikan ( $p < 0,05$ ) pada aspek densitas dan kontras serta struktur anatomi, tetapi tidak terdapat perbedaan yang signifikan ( $p > 0,05$ ) pada aspek cakupan anatomi.

Kesimpulan penelitian ini adalah citra radiograf panoramik digital *indirect* lebih unggul pada aspek densitas dan kontras serta struktur anatomi dibandingkan metode konvensional, tetapi tidak terdapat perbedaan yang signifikan pada aspek cakupan anatomi antara radiograf metode konvensional dan digital *indirect*.

**Kata kunci:** radiografi panoramik, digital *indirect*, konvensional, penilaian kualitas citra

## ABSTRACT

Panoramic radiograph is an image which used by dentist to maintain diagnosis in dentistry, for example, to evaluate teeth condition in mixed dentition period. There are two technique of panoramic radiography, i.e conventional and digital (direct and indirect) method. The aim of this study was to determine differences of image quality between conventional and digital indirect panoramic radiograph in mixed dentition patients at RSGM UGM Prof. Soedomo.

Thirty samples of conventional and indirect digital panoramic radiograph were randomly taken from data base according to inclusion criteria. The image quality of conventional radiograph was manually assessed by using illuminator box, while in indirect digital was done directly on computer by using DBS Win 5.7.0 software (Durr Dental, Germany). The radiographs were divided into 6 zones: teeth area, nasal and sinus, mandible, TMJ, ramus-spine, and hyoid bone. The image quality assessment was done in each area based on 3 criteria : anatomical coverage, density and contrast, and anatomical structure.

The result of this study showed excellent agreement for inter and intraobserver reliability. The Independent Sample T-test showed significant difference ( $p < 0.05$ ) between conventional and indirect digital method in density and contrast as well as anatomical structure aspects, but there was no significant ( $p > 0.05$ ) in the aspect of anatomical coverage.

It can be concluded that indirect digital panoramic radiograph showed better image quality than conventional radiograph, especially in the anatomical structure aspect, density and contrast. Furthermore, there was no significant difference in the anatomical coverage aspect between conventional and indirect digital panoramic radiograph.

**Keywords:** panoramic radiography, digital indirect, conventional, rating of image quality