

# Perbandingan Nilai Panoramic Mandibular Index Antara Wanita Usia 31-45 Tahun Dengan Usia 46-75 Tahun Pada Radiograf Panoramik Digital = Comparison of Panoramic Mandibular Index Value between Women 31-45 and 46-75 Years of Age on Digital Panoramic Radiograph

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## Abstrak

Latar belakang: Prevalensi penyakit osteoporosis di Indonesia tergolong cukup tinggi seiring bertambahnya usia. Berdasarkan hasil Data dan Informasi Kementerian Kesehatan RI (InfoDATIN 2015) mengenai penyakit osteoporosis di Indonesia, tertera bahwa proporsi penderita osteoporosis berusia lebih dari 50 tahun pada wanita mencapai 32,3% dan 28,8% pada pria. Usia lanjut sangat jelas dapat dijadikan sebagai faktor risiko terhadap terjadinya osteoporosis. Didukung pula dengan minimnya pola hidup sehat baik itu olahraga maupun asupan nutrisi tulang dari konsumsi susu masyarakat Indonesia. Hal ini memicu terjadinya porosis bahkan hingga fraktur dini terhadap tulang yang dapat dicegah salah satunya melalui metode deteksi dini Panoramic Mandibular Index (PMI).

Tujuan: Memperoleh data rerata rasio ketebalan tulang kortikal pada subjek wanita usia 31-75 tahun secara radiografis pada panoramik berdasarkan metode PMI.

Metode: Pengukuran PMI menggunakan sampel radiograf panoramik wanita sebanyak 225. Dibagi menjadi tiga kategori dengan interval 15 tahun, yaitu kategori 1 dengan rentang usia 31-45 tahun, kategori 2 yaitu 46-60 tahun, dan kategori 3 yaitu 61-75 tahun. PMI diukur berdasarkan rasio ketebalan kortikal mandibula terhadap jarak antara margin superior atau inferior foramen mental dan margin inferior dari korteks mandibula.

Hasil: Diperoleh rerata dan standar deviasi pada kategori 1 sebesar  $0,30 \pm 0,032$ , kategori 2 sebesar  $0,28 \pm 0,042$ , dan kategori 3 sebesar  $0,24 \pm 0,063$ . Berdasarkan hasil analisis Uji ANOVA, didapatkan perbedaan signifikan antar kategori ( $p < 0,05$ ). Selain itu, berdasarkan hasil pengukuran yang didapatkan, secara statistik pengukuran PMI menunjukkan penurunan seiring dengan penambahan usia dalam interval usia 15 tahun.

Kesimpulan: Nilai PMI menurun seiring dengan penambahan usia dan secara statistik terdapat perbedaan bermakna diantara kategori usia.

.....Background: Prevalence of osteoporosis in Indonesia is quite high with age. Based on the results of Information from Ministry of Health of the Republic of Indonesia (InfoDATIN 2015) regarding the conditions of osteoporosis in Indonesia, it was stated that the proportion of osteoporosis patients aged more than 50 years in women reached 32.3% and 28.8% in men. Old age can clearly be used as a risk factor for osteoporosis. Also supported by the lack of a healthy lifestyle such as physical exercise and bone nutrition intake from milk consumption of Indonesian people. This certainly will trigger the occurrence of porosity

even to the early fracture of bone, which one of them can be prevented through the early detection method of the Panoramic Mandibular Index (PMI).

Objective: To obtain data on mean cortical bone thickness ratio in female subjects aged 31-75 years radiographically on panoramic based on the PMI method.

Method: A total of 225 female panoramic radiograph samples were selected and divided into three categories with 15-year intervals, namely category 1 with an age range of 31-45 years, category 2 is 46-60 years, and category 3 is 61-75 years. PMI is measured based on the ratio of the mandibular cortical thickness to the distance between the superior or inferior margins of the mental foramen and the inferior margins of the mandibular cortex.

Results: The mean and standard deviation obtained in category 1 was  $0.30 \pm 0.032$ , category 2 was  $0.28 \pm 0.042$ , and category 3 was  $0.24 \pm 0.063$ . Based on the one-way ANOVA analysis test result, there were significant differences between categories  $p < 0.05$ . In addition, based on the results of measurements obtained, statistically PMI measurements show a decrease with age in the 15 year age interval.

Conclusion: PMI values decrease with age and statistically there are significant differences between age categories.