ABSTRACT

DETEKSI OSTEOPOROSIS DENGAN OSTEOMETER PADA GAMBARAN RADIOGRAFIK PANORAMIK WANITA MENOPAUSE

(DETECTION OF OSTEOPOROSIS USING OSTEOMETER ON PANORAMIC RADIOGRAPHS OF MENOPAUSAL WOMEN)

Background: Osteoporosis is defined as a disorder that is characterized by decreased bone mass leading to bone fragility and an increased risk of fracture. One of the factors which affect osteoporosis in women undergoing menopause are the insufficiency of estrogen that can cause the bone mass to decreased. Mandibular bone on panoramic radiographs has been proven to be useful for identifying postmenopausal women with low skeletal bone mineral density. A computer program called Osteometer was created to aid in detection of osteoporosis using panoramic radiographs. Purpose: To detect osteoporosis using Osteometer program through panoramic radiographs on menopausal women. Method: 60 women were divided into two groups. 30 women with menopause and osteoporosis and 30 women without menopause and osteoporosis. Panoramic radiographs were processed to see the whole region existing in the oral cavity. Results of the panoramic radiograph was sent to Institut Teknologi Sepuluh Nopember and scanned with a flatbed scanner (HP Scanjet G2410). Digitalized form from the panoramic radiographs were analysed using a special program in measuring the density on the trabeculae pattern. The Osteometer program measures the line strength on trabeculae and the results were recorded. Results: Based on the experiment on 60 data, we were able to achieve 87% accuracy, 90% on sensitivity and 83% on specificity. Conclusion: Osteometer can be used to detect osteoporosis on menopausal women using panoramic radiographs.

Keywords: Panoramic radiographs, Osteometer, BMD, osteoporosis.