ABSTRACT

Mammography is a special type of radiography for the breast, to increase the contrast in breast images, mammography uses much lower X-ray energy compared to general radiography. Mammography is the best technology available for early detection of breast cancer. Image quality is one of the main things to consider in viewing the quality of mammography. This study aims to analyze the effect of radiation projection on image quality in mammography images using the Signal to Noise Ratio (SNR) parameter so as to produce the highest Signal to Noise Ratio (SNR) value for Mediolateral oblique (MLO) and Craniocaudal (CC) radiation projections. The study was conducted based on secondary data from mammography examinations of Right-Craniocaudal (RCC), Left-Craniocaudal (LCC), Right-Mediolateral oblique (RMLO), and Left-Mediolateral oblique (LMLO) radiation projections at Persahabatan Hospital, the exposure factor chosen was the exposure factor that had the most data, namely at a tube voltage of 28 kV. The results of the study showed that the overall average SNR results were obtained for each projection, namely the highest SNR value of 10,68 in the Left-Craniocaudal projection, while the lowest SNR was 8,84 in the Right-Mediolateral oblique projection. The CC projection provided images with higher SNR values, resulting in better image quality, while the MLO projection was still needed to obtain wider breast tissue coverage.

Keywords : Mammography, Radiation Projection, Signal to Noise Ratio (SNR), Region of Interest (ROI), Image Quality