ABSTRACT

The slice spacing parameter in CT scan plays an important role in maintaining the accuracy of volume representation in image reconstruction results. IndoQCT software has a feature for automatic slice spacing measurement, but its accuracy on the Philips phantom has not yet been evaluated. This study aims to evaluate the performance of IndoQCT software in measuring slice spacing using the Philips *phantom with variations in tube voltage (kVp) and Field of View (FOV), and to assess the influence of both parameters on the measurement results. Testing was performed using a Philips Ingenuity Core 128-slice CT scanner at the Radiology Installation of RSND Semarang with tube voltage variations of 80, 100, 120, and 140 kVp and FOV variations of 200, 250, 300, and 350 mm. Measurements were taken on 10 consecutive image pairs for each parameter variation. The results showed that for tube voltage variations, the measurement difference was below 0.10 mm with a percentage error not exceeding 12%, while for FOV variations the measurement difference ranged from 0.06 to 0.24 mm with a percentage error between 6% and 24% (three out of four FOV variations remained within the 20% tolerance limit). Overall, IndoQCT software is capable of automatically measuring slice spacing with good accuracy across tube voltage variations and most FOV conditions, demonstrating its potential as a Quality Control tool in CT scan procedures.*

Keyword: *Computed Tomography, slice spacing, IndoQCT, tube voltage, Field of View*