

ABSTRAK

PENGUKURAN PAPARAN RADIASI PADA RUANG PEMERIKSAAN KONVENSIIONAL DI INSTALASI RADIOLOGI RUMAH SAKIT UMUM DAERAH MARDI WALUYO BLITAR

Oleh: Didik Kusramadana

Radiasi pengion seperti sinar-X yang digunakan dalam pemeriksaan radiologi memiliki potensi risiko terhadap kesehatan jika tidak dilakukan pengendalian dan proteksi yang memadai. Penelitian ini bertujuan untuk mengukur tingkat paparan radiasi di berbagai titik strategis dalam ruang pemeriksaan konvensional X-Ray II di Instalasi Radiologi RSUD Mardi Waluyo Blitar serta mengevaluasi kesesuaiannya dengan Nilai Batas Dosis (NBD) yang ditetapkan oleh BAPETEN. Metode yang digunakan adalah kuantitatif deskriptif dengan pendekatan survei. Pengukuran dilakukan di sembilan titik menggunakan surveymeter digital Polimaster yang telah dikalibrasi, dengan parameter eksposi tetap sebesar 75 kV, 18 mAs, dan 28 msec. Hasil pengukuran menunjukkan bahwa seluruh titik pengamatan, baik di area masyarakat umum (*uncontrolled area*) maupun area kerja petugas (*controlled area*), memiliki nilai paparan di bawah ambang batas NBD yaitu 0,25 $\mu\text{Sv/jam}$ untuk masyarakat dan 5 $\mu\text{Sv/jam}$ untuk pekerja radiasi. Nilai paparan tertinggi tercatat sebesar 0,1032 $\mu\text{Sv/jam}$. Kesimpulannya, seluruh area pengukuran dinyatakan aman dan sistem proteksi radiasi di RSUD Mardi Waluyo Blitar telah sesuai dengan standar keselamatan kerja radiasi. Penelitian ini mendukung penerapan prinsip ALARA (As Low As Reasonably Achievable) dalam pengelolaan radiasi di fasilitas kesehatan.

Kata kunci: Paparan Radiasi, *Surveymeter*, Proteksi Radiasi, ALARA

ABSTRACT

MEASUREMENT OF RADIATION EXPOSURE IN CONVENTIONAL EXAMINATION ROOM IN RADIOLOGY INSTALLATION OF MARDI WALUYO REGIONAL PUBLIC HOSPITAL BLITAR

Author: Didik Kusramadana

Ionizing radiation such as X-rays used in radiological examinations has the potential to be a health risk if adequate control and protection are not carried out. This study aims to measure the level of radiation exposure at various strategic points in the conventional examination room at the Radiology Installation of Mardi Waluyo Blitar Hospital and to evaluate its compliance with the Dose Limit Value (NBD) set by BAPETEN. The method used is quantitative descriptive with a survey approach. Measurements were carried out at nine points using a calibrated Polimaster digital surveymeter, with fixed exposure parameters of 75 kV, 18 mAs, and 28 msec. The measurement results showed that all observation points, both in the general public area (uncontrolled area) and the officer's work area (controlled area), had exposure values below the NBD threshold, namely 0.25 $\mu\text{Sv}/\text{hour}$ for the public and 5 $\mu\text{Sv}/\text{hour}$ for radiation workers. The highest exposure value was recorded at 0.1032 $\mu\text{Sv}/\text{hour}$. In conclusion, all measurement areas are declared safe and the radiation protection system at RSUD Mardi Waluyo Blitar has complied with radiation safety standards. This study supports the implementation of the ALARA (As Low As Reasonably Achievable) principle in radiation management in health facilities.

Keywords: Radiation Exposure, Surveymeter, Radiation Protection, ALARA