

## ABSTRACT

Medical imaging is the techniques and process of creating visual representative or view of the interior of the human body to detect, diagnose, monitor or treat the diseases. Modalities of radiation currently used are X-ray, Ultra sonogram, Computerized Tomography, Magnetic Resonance Imaging, and fluoroscopy. In Myanmar, the use of expensive modalities of imaging have been increasing due to increased allocation of budget and supplied those to public hospital recent years. High utilization of imaging imposed overload to the radiologists. It also impacts on the quality and costs of health care services. Over utilization also may exposes to patients un necessary radiation doses. This study was a cross-sectional descriptive study using both quantitative and qualitative methods for utilization and radiation safety measures in radiology department of Yangon Children Hospital (YCH). Utilization of radiology department of YCH during 2017 was assessed by reviewing the records from radiology department of YCH. Checklists were also used for radiation safety measures in radiology department of YCH for general safety measures, personal monitoring, safety of equipment or machine, accommodation and facility. In-depth interviews have been carried out with Medical Superintendent, Consultant Radiologist, technical officer, radiographer and X-ray technician for radiation safety measures. In this study, the total imaging in 2017 were 26320. Among those, the number of X-ray was 18323 (69.7%), USG was 6670 (25.3%), CT was 1038 (3.9%), MRI was 201 (0.76%) and fluoroscopy was 8 (0.33%). As other radiology department, X-ray was the most useful modality in YCH. The safety measures applied in radiology department of YCH were compatible only 66% of overall checklists. Thus, this result suggested that safety measures of the radiology department of YCH is not fully accepted, because safety items were incompatible in adequate protective devices for both patient and provider and general safety measures. Although they had no regular training, the radiation staff strictly followed the safe technical guidelines. This study may help the responsible persons for corrective measures in radiation safety and to support the requirement of radiology department.