

عنوان مقاله:

Quality Control Monitoring of Medical Diagnostic X-Ray Units in Southern Tanzania

محل انتشار:

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خلاصه مقاله:

Introduction: The study focused on the assessment of quality control tests in X-ray units from the Southern regions of Tanzania to yield the data required to create and implement quality control policies and strategies. **Material and Methods:** Quality control tests were conducted on twenty-six diagnostic X-ray units in private and government hospitals in southern regions of Tanzania during ۲۰۲۰ – ۲۰۲۱. The tests focused on the reproducibility of accelerating tube potential, time reproducibility, the accuracy of accelerating tube potential, half-value layer, beam alignment, and collimation. The statistical analyses were done by using the Microsoft Excel spreadsheet of ۲۰۱۳. The results were compared with the tolerance limits. **Results:** Of all X-ray units evaluated, ۹۲.۳۱% had kVp accuracy within the tolerance limit of ۵% and ۹۲% of the X-ray units had acceptable HVL values ≥ ۲.۳ mm Al at ۸۰ kVp. Moreover, results have shown that ۸۶.۹۶% and ۸۲.۶۱% of X-ray units had acceptable beam collimation ($\leq \pm ۲$ cm) and beam alignment ($\leq ۳\%$ of the X-ray source and X-ray table), respectively. **Conclusion:** Comprehensive regulatory inspections and equipment maintenance plans in the Southern zone is significantly required due to the high patient workload which attributes frequent breakdown of X-ray units. Moreover, radiographers need to be trained on how to minimize and detect beam misalignment and collimation failure since the most unacceptable results were observed from these tests.

کلمات کلیدی:

Quality Control Diagnostic X, Ray Unit Ionizing Radiation Diagnostic Imaging

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