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Title : PROACTIVE RISK ASSESSMENT OF VINCRIStINE USE PROCESS IN A TEACHING AND REFERRAL HOSPITAL IN KENYA

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Background: The chemotherapy use process is considered as potentially risky for cancer patients due to its complex process, use of agents with narrow therapeutic indices, multiple drug use and use of potentially toxic compounds adding to morbidity and mortality for patients with cancer. Vincristine, a “High Alert” medicine, has been associated with fatal but preventable medication errors.

Objective: To determine hazards associated with vincristine use process by performing proactive risk assessments using Healthcare Failure Mode Effect Analysis (HFMEA).

Methods: A multidisciplinary health team identified and evaluated potential failure modes based on vincristine use process flow diagram using a hazard scoring matrix in a leading referral hospital in Kenya treating patients with cancer. The hazard score matrix was based on the published literature. Failure modes were prioritized using decision tree analysis in which recommendations to counteract the risks were determined.

Results: The processes evaluated were; prescribing, preparation and dispensing, transportation and storage, administration and monitoring of use. A total of 77 failure modes were identified over the 3 months period of the study, April to June 2017, of which 25 were classified as high risk. Thirteen were adequately covered by existing control measures while the other 12 required the development of mitigation strategies. Two of the 12 failure modes were single-point weaknesses.

Conclusions:

Multiple medication errors, some with serious consequences, can occur at each stage of the chemotherapy use process making it a high-risk process. HFMEA is a useful tool to identify improvements to medication safety and reduce patient harm. The HFMEA process brings together the multidisciplinary team involved in patient care in actively identifying potential failure modes and therefore owning the recommendations made. This is now being followed up.

