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Evaluation of retrospective patient record review as a method to identify patient safety and quality information in orthopaedic care

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ABSTRACT

The great benefits of modern healthcare must be weighed against the risk of patient injury due to human intervention. Studies show that adverse events (AE) are identified in up to 16.6% of all hospitalisations. As a step toward preventing AEs, efforts are made to collect patient safety information at different levels in the healthcare systems. The information is neither effectively organised nor integrated within the healthcare systems, leading to difficulty achieving systematic analysis. This may be due to the use of different methods that yield qualitatively different information about AE.

The general aim of this thesis was to evaluate the capability of retrospective record review (RRR) methods to identify patient safety and quality information in orthopaedic care.

In papers I and II, 395 patient records were retrospectively examined for AEs using both traditional incident reporting methods and RRR for the same cohort. More AEs were identified using RRR than by using traditional incident reporting methods. Also, paper II showed that more AEs were due to deficiencies in care processes rather than to deficiencies in technical skills.

In paper III, the efficiency of an orthopaedic nursing improvement initiative, called "improvement theme months," was evaluated using case study methodology and a RRR of 2,281 patients. Results showed significant improvement over time in performance of risk assessment for pressure ulcers and lowered pressure ulcer prevalence. We found RRR easy to use and valuable as a method to assess improvement over time.

In paper IV, the RRR methods Harvard Medical Practice Study (HMPS) and Global Trigger Tool (GTT) were compared for capability to identify AEs in a sample of 350 randomly selected orthopaedic admissions. Results showed that HMPS identified more AEs than GTT did. The overall positive predictive value was 40% and 30% for HMPS and GTT methods, respectively.

Retrospective record review appears to achieve wider coverage when identifying orthopaedic AEs at a local level. Given that many current methods vary considerably in quality of data gathered and in coverage, which require multiple methods to be used concurrently, the wider coverage characteristic of RRR is an advantage. Consequently, RRR could play a vital role in quality and safety information systems in order to identify, categorise, and analyse quality and patient safety problems and to provide the basis for interventions. Increased awareness, consideration of risk factors, interventions focused on multidisciplinary and interdepartmental teamwork, and strategies that focus on healthcare processes may reduce the frequency of AEs in orthopaedic care. Also, RRR can incorporate a time series display of patient safety intervention outcomes to drive change.

As a method, improvement theme months may serve to organise quality and lead to safety improvement in nursing. However, we found that it was associated with a lengthy period of time before new guidelines, quality indicators, and safety initiatives were noticed and became widely used in clinical practice. To achieve sustainable and significant improvement, interventions on many levels of the organisation were needed.

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