DSEN ABSTRACT

Preventable adverse drug events as percentage of total

Summary

- Adverse drug events (ADEs) account for one in nine emergency room (ER) visits and remain a leading cause of unplanned admissions and deaths. Given the burden they place on patients, families, and the health system, developing and evaluating effective strategies for prevention is an international priority.
- This study assesses three different approaches for determining ADE preventability in patients presenting to the ER by measuring the inter-rater agreement of reviewers when applying each method and explore their strengths and weaknesses using qualitative methods
- Two-thirds of adverse drug events were found to be preventable, and there was good agreement between all three methods. However, clinicians preferred' best practice based' methods to algorithmic approaches.
- A high proportion of ADEs were repeat events, most of which were deemed preventable.

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What is the current situation?

- Adverse drug events (ADEs) account for one in nine emergency room (ER) visits and remain a leading cause of unplanned admissions and deaths. Given the burden they place on patients, families, and the health system, developing and evaluating effective strategies for prevention is an international research and healthcare management priority. Prospective studies indicate that 28 to 80% of ADEs are considered preventable. The high variability is likely due to variations in study design, heath setting, and patient populations, and also to the lack of standardized uniform preventability assessment methods.

What was the aim of the study?

- Most ADE preventability assessment methods described in the literature can be categorized into one of three central themes:
    1. grounded in the concept of adherence to best medical practice;
    2. rooted in error avoidance and identification of modifiable risk factors;
    3. application of an explicit algorithmic approach.
- In the current study, we aimed to
    - assess the different approaches for determining ADE preventability in patients presenting to the ER by measuring the inter-rater agreement of reviewers when applying each method.
    - measure the inter-rater agreement between methods by comparing the consensus ratings for each method, and to explore their strengths and weaknesses using qualitative methods.

How was the study conducted?

- In phase I, we conducted a retrospective chart review of patients diagnosed with an ADE to determine the preventability of the event, identify contributing factors, determine the ADE-related harm and interventions required, and identify the kind of drug re-exposure that would likely cause a future repeat ADE. In phase II, we linked the prospective and chart review data to PharmaNet, BC's provincial medication dispensing database, and determined the proportion of ADEs in which the patient was re-exposed to the culprit medication after hospital discharge from the index ER visit.

What did the study find?

- All methods to assess preventability found approximately two-thirds of adverse drug events to be preventable.
- There was good agreement between all three methods of determining the preventability of adverse drug events. However, clinicians found the algorithmic approach constraining and preferred 'best practice'-based assessment methods.
- A high proportion of ADEs were repeat events, most of which were deemed preventable.
- Interventions to ensure that care providers are aware of previously diagnosed adverse drug events when prescribing or dispensing need to be developed and evaluated and may reduce unintentional re-exposures to previously harmful medications.

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