Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

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Medicines optimisation: practice-based audit on pharmacist’s interventions to improve patient safety

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A large practice-based audit in England found that community pharmacists queried an average of 2.22 of every 1000 prescription items. Most of these queries related to dosage instructions, and inaccurate quantities and strength; 1.5% of queried prescriptions (around 0.03 of every 1000 prescription items) could have resulted in severe harm or death if they had not been queried.

Overview and current advice

In 2005, patient safety incidents were estimated by the National Audit Office to cost the NHS £2 billion a year in extra days in hospital. One area in which errors can occur is in the prescribing, dispensing and administration of medicines. These can have serious consequences and are invariably preventable. The government report, Building a safer NHS for patients: Improving medication safety explored the causes and frequency of medication errors, highlighted the drugs and clinical settings that carried particular risks and identified models of good practice to reduce risk.

New evidence

A practice-based audit, published by Pharmacy Voice (the representative body for community pharmacists), looked at prescribing data submitted from 4,409 community pharmacies in England during the last quarter of 2011, and assessed the interventions made by a pharmacist. From the 20.06 million prescription items audited, 44,527 incidents were recorded where an intervention by the pharmacy was required. This suggested that pharmacists query an average of 2.22 of every 1000 prescription items. The most common types of queries were related to dosage instruction (15%), and inaccurate quantities (13%) and strengths (8%) of medicines. However, 1.5% of queried prescriptions (around 0.03 of every 1000 prescription items) were considered by the pharmacists to be rated as category 4 (severe) and category 5 (life threatening) incidents using the National Patient Safety Agency (NPSA*) degrees of harm categories. This means that these prescriptions could have resulted in severe harm to the patient or even death if they had not been queried by a pharmacist.
The results from this audit were extrapolated for the 850.7 million items that are dispensed annually by community pharmacy in England. The authors suggested that community pharmacy teams make 1.89 million interventions each year to improve medicines optimisation and patient safety. Extrapolating the findings for the incidents that were rated as severe or potentially life threatening, suggests that interventions by pharmacists may prevent 43,800 severe or life-threatening incidents each year. The strengths of this audit are that it included a large number of community pharmacies in England and over 20 million prescription items. It is limited by the fact that the incidents were reported by the pharmacies who queried the prescriptions and there could be some subjective variability between pharmacies and pharmacists in what they perceived was an ‘incident’. In addition, there may be variability between prescribers in the numbers and types of prescribing errors and omissions that are made. Therefore, although this study does provide an estimate, it is not possible to determine the precise number of severe or potentially life threatening incidents that community pharmacists will prevent each year.

Commentary

The evidence to support the use of pharmacist-led interventions to reduce medication errors in general practice is limited. However, a recent randomised trial of 72 general practices in the UK found that a pharmacist-led information technology intervention significantly reduced the frequency of some clinically important prescription and medication monitoring errors compared with simple computer-generated feedback. This Pharmacy Voice audit adds to the evidence-base in this area and highlights the important contribution that pharmacists can make towards patient safety by helping to reduce medication errors. Whilst the outcomes of patients were not assessed, 0.03 out of 1000 prescription items were rated by the intervening pharmacists as having the potential to cause severe or life-threatening incidents, if they had not been queried. At face value, this might not seem very high. However, on a national level this translates into a substantial number of potentially severe or life-threatening incidents that community pharmacists could prevent each year (estimated as 43,800 events in England). This is in addition to the many other important interventions that pharmacists make (nearly 2 million in England), which can contribute to patient care. However, this audit did not examine how many medication errors occurred despite being checked by a pharmacist.

One of the five domains in the NHS outcomes framework for the NHS Commissioning Board includes treating and caring for people in a safe environment and protecting them from avoidable harm. The results from this audit support the important role pharmacists can play in preventing harm. These potential benefits are not just limited to interventions within community pharmacy. Evidence, albeit from 1990, suggests that pharmacists can reduce medication errors in hospital as well as in other settings, such as care homes.

References


Note: – The functions and expertise of the National Patient Safety Agency (NPSA) is now part of the NHS Commissioning Board.
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