



FOCUS ON RESEARCH

Effect of outpatient pharmacists' non-dispensing roles on patient outcomes and healthcare professionals' prescribing patterns. A Cochrane Review update and application of the Behaviour Change Technique Taxonomy

Researchers: Dr M Watson; Ms C Scott; Dr M de Barra; Dr N Scott; Dr C Matheson, Prof M De Bruin; Prof C M Bond; Prof M Johnston; Dr N Nkansah.

Aim: To conduct a systematic review of the effect of pharmacists' roles on the health outcomes of patients.

Project Outline/Methodology: This study involved the update of an existing literature review of the effectiveness of interventions (services) provided by pharmacists to non-hospitalised patients. The update complied with the Cochrane Collaboration recommendations and included searches of several electronic databases, trial registries and contact with other researchers.

In addition to identifying new studies to include in the update, we also used two additional methods to assess the quality with which the interventions were reported, as well as to identify the specific active ingredients (also known as Behaviour Change Techniques (BCTs) which the interventions comprised. The first of these methods used a checklist called the Template for Intervention Description and Replication (TIDieR) and the second method used a coding framework called the BCT Taxonomy (version 1).

Key Results: In total, 87 studies were included in the updated review, 48 of which were new, 12 were identified by the previous review but not previously assessed and 27 that were included in the previous review. Studies were identified from 21 individual countries plus one which included several EU nations. The studies targeted a range of health conditions including high blood pressure, diabetes and asthma, as well as specific patient groups e.g. older people, people at higher risk of harm from medicines.

Pharmacist services were more effective than usual care in reducing blood pressure, improving diabetes control (measured using HbA1c and fasting blood glucose) and total cholesterol. Pharmacist interventions also improved patients' physical function. These results were statistically significant. The pharmacist interventions did not improve the health of patients with asthma or other respiratory conditions. In addition, they did not reduce hospitalisations or the number of patients

experiencing adverse effects of medicines. An "omnibus" analysis of 70 of these studies showed that pharmacist interventions were significantly more effective than usual care. These results are encouraging but need to be interpreted with caution due to the substantial differences which exist in terms of patients, country of study and health condition studied.

The TIDieR checklist showed that, in general, there was poor reporting of the details of the pharmacist interventions. In addition, the identification of active ingredients was limited because of poor reporting of the intervention and control group components. Despite these limitations, 73 studies included at least one identifiable BCT with an average of three and one being identified in intervention and control groups, respectively. Of the 93 possible BCTs, only 31 were found in these studies.

Conclusions: This review presents clear and substantial evidence that pharmacist-led interventions achieve positive health outcomes for patients. However, the replicability of these interventions is limited due to poor reporting. Furthermore, pharmacist interventions do not use a wide range of the techniques available to change behaviour. More effective and comprehensive use of other BCTs of proven value could enhance the effectiveness of pharmacist interventions.

What does this study add to the field?

The results add to the evidence that substantial patient benefit can be achieved with pharmacist interventions.

Implications for Practice or Policy

Pharmacist services should be defined using standard systems such as the BCTT and delivered to enhance patient health.

Where to next?

Analysis is ongoing to explore which BCTs achieve the greatest effect on patient health outcomes.

Further details from: Dr M C Watson, Health Services Research Unit, University of Aberdeen, Aberdeen, AB252AY. Email: m.c.watson@abdn.ac.uk

