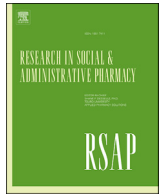




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Randomized controlled trials covering pharmaceutical care and medicines management: A systematic review of literature

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ABSTRACT

Objective: To review the effects of pharmaceutical care on hospitalizations, mortality and clinical outcomes in patients.

Methods: Systematic searches were conducted in MEDLINE, EMBASE and International Pharmaceutical Abstracts (IPA) databases to identify studies that were published between 2004 and January 2017. Studies included in this review were randomized controlled trials (RCTs) that spanned across both community and hospital settings. Using strict inclusion/exclusion criteria studies were included if they reported level 1 or 2 outcomes in the hierarchy of outcome measure i.e. clinical and surrogate outcomes (e.g. blood pressure (BP) control, blood glucose level, cholesterol BMI). Each study was assessed for quality using the Jadad scoring system.

Results: Fifty-four RCTs were included in the present review. Forty-six of these studies ranked high quality according to the Jadad scoring system. Studies were categorized into their general condition groups. Interventions in patients with diabetes, depression, respiratory disorders, cardiovascular disorders, epilepsy, osteoporosis, and interventions in older adults were identified. In the majority of studies pharmaceutical care was found to lead to significant improvements in clinical outcomes and/or hospitalizations when compared to the non-intervention group. Some conditions had a large number of RCTs, for example for cardiovascular conditions and in diabetes. Statistically significant improvements were seen in the majority of the studies included for both of these conditions, with studies indicating positive clinical outcomes and/or hospitalizations rates. Within the cardiovascular condition, a subset of studies, focusing on cardiac heart failure and coronary heart disease, had more mixed results. In other conditions the number of RCTs conducted was small and the evidence did not show improvements after pharmaceutical care, i.e. in depression, osteoporosis, and epilepsy. The majority of interventions were face to face interactions with patients, whilst a smaller number were conducted via the telephone and one via a web-based system. Patient education was a key component of most interventions, either verbal and/or written. Longitudinal data, post intervention cessation, was not collected in the majority of cases.

Conclusions: RCTs conducted to evaluate pharmaceutical care appear to be effective in improving patient short-term outcomes for a number of conditions including diabetes and cardiovascular conditions, however, other conditions such as depression are less well researched. Future research should attempt to evaluate the conditions where there is a lack of data, whether the positive effects of pharmaceutical care persist in patient populations after the interventions cease and what the long-term clinical outcomes would be of continued pharmaceutical care.

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1. Introduction

Worldwide, the demands on primary health care services are growing, mainly due to an ageing population.^{1,2} The consequence of this is an increased strain on the primary health care workforce^{3–6}

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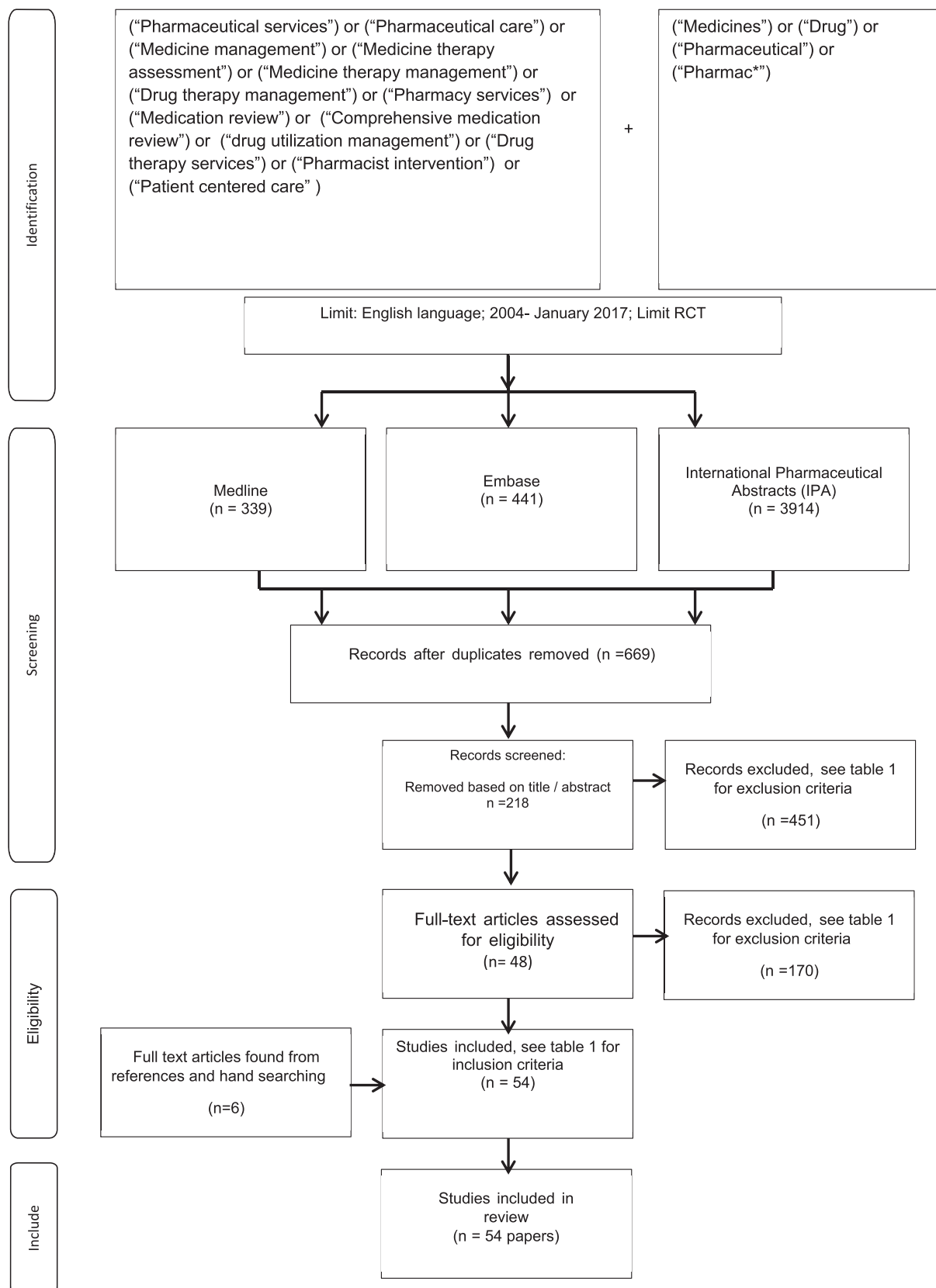


Fig. 1. The process of identification, screening and inclusion of papers for this review.

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