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Reduction of polypharmacy in the elderly: a systematic review of the role of the pharmacist

V Rollason and N Vogt.

Review published: 2003.

CRD summary

This review assessed the impact of pharmacists on the reduction of polypharmacy in the elderly. The authors concluded that [intervention](#) by a pharmacist can reduce the number of drugs prescribed to elderly patients. Given the lack of methodological details, and that the evidence from non-[randomised trials](#) was not supported by the [randomised controlled trials](#), the results should be treated with caution.

Authors' objectives

To determine the impact of pharmacists on the reduction of polypharmacy in the elderly.

Searching

MEDLINE (1996 to February 2003), EMBASE: Geriatrics and Gerontology (2002 edition; 1991 to December 2002), the Cochrane Library (up to February 2003) and International Pharmaceutical Abstracts (1970 to February 2003) were searched; the search terms were reported. The references of retrieved articles were also checked.

Study selection

Study designs of evaluations included in the review

[Randomised controlled trials \(RCTs\)](#) and controlled studies were eligible for inclusion.

Specific interventions included in the review

Studies in which a pharmacist participated in the drug [therapy](#) were eligible for inclusion. The [interventions](#) included: a team including a pharmacist reviewing the medication of patients together; a pharmacist reviewing the medication of patients; pharmacists making recommendations to physicians and patients; pharmacists interviewing patients and discussing changes in medication with the physician; and clinical pharmacists prescribing medications.

Participants included in the review

Studies of elderly people, or where results for the elderly participants were reported separately, were eligible for inclusion. The participants of the included studies were either out-patients or nursing home residents, or were hospitalised.

Outcomes assessed in the review

Studies reporting the change in the number of medications taken by the elderly were included in the review.

How were decisions on the relevance of primary studies made?

The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality

The authors did not state that they formally assessed validity. Some methodological flaws of the included studies were discussed.

Data extraction

The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis

How were the studies combined?

The studies were combined in a narrative, ordered by study design.

How were differences between studies investigated?

Study details and outcomes were tabulated.

Results of the review

Fourteen studies (n=4,393) were included in the review: 8 [RCTs](#) (n=3,277) and 6 controlled trials (n=1,116).

All 6 controlled trials reported a reduction in the number of medications prescribed to elderly people when a pharmacist was involved in their drug regimen.

One RCT reported a reduction in the number of medications prescribed to elderly people when a pharmacist was involved in their drug regimen, while two reported a smaller increase in prescribed drugs when a pharmacist was involved. However, five [RCTs](#) reported no significant effect on the number of medications prescribed to elderly people when a pharmacist was involved, compared with controls.

Authors' conclusions

An [intervention](#) of any kind by a pharmacist can reduce the number of drugs prescribed to elderly patients.

CRD commentary

The review question was clearly stated. A number of relevant electronic databases were searched and the search terms were stated. The authors did not report how the study selection and data extraction processes were carried out; therefore, it is unclear whether any attempts were made to minimise the possibility of introducing error and bias. The use of a narrative [synthesis](#) was appropriate given the nature of the studies included. Most of the positive results originated from the 6 non-[randomised controlled trials](#), with the majority of the [RCTs](#) showing no effect of the pharmacist [intervention](#). Due to the lack of information on the methodological rigour of the review, and the results of the non-randomised controlled trials not being reflected by the RCTs, the authors' conclusions need to be interpreted with caution.

Implications of the review for practice and research

Practice: The authors stated that optimising the drug regimen of elderly patients is worthwhile as any superfluous drug can be potentially dangerous.

Research: The authors stated that further studies are needed to find the most effective way to reduce polypharmacy, and to minimise the adverse clinical events induced by polypharmacy. Interventional studies should be designed to measure the clinical consequences of simplifying drug regimens.

Bibliographic details

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Record Status

This is a critical abstract of a [systematic review](#) that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.

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CRD has determined that this article meets the [DARE scientific quality criteria](#) for a systematic review.

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