Impact of pharmacist interventions on patients' adherence to antidepressants and patient-reported outcomes: a systematic review

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CRD summary
The authors concluded the data suggested that pharmacist interventions were effective in the improvement of depressed patients' adherence to antidepressants. However, given the potential for bias in the review process and limitations in the quality of the included trials, these conclusions should be considered tentative.

Authors' objectives
To evaluate different types of pharmacist interventions used to enhance patients' adherence to antidepressant medication.

Searching
PubMed, BIOSIS Previews, Web of Science, ScienceDirect, The Cochrane Library, PsycINFO, IngentaConnect, Cambridge Journals Online and Medscape were searched for studies in English that were published in peer reviewed journals from 2000 to 2010. Search terms were reported.

Study selection
Randomised controlled trials (RCTs) that investigated the impact of pharmacists' interventions on depressed adult patients' adherence to antidepressant medication were eligible for inclusion. The studies were conducted in USA, the Netherlands, Kuwait, Canada and Australia. Studies were conducted in hospital, community pharmacies or primary care settings. Pharmacists’ intervention consisted of educating and counselling, drug monitoring, simplifying drug and dose regimes under protocol, regular phone calls and extra advice, support and information or take-home video education. A wide range of adherence measures were used in the included studies (details reported in the review).

The authors did not state how many reviewers performed the study selection.

Assessment of study quality
Trial quality was assessed using the Jadad scale which included assessment of allocation concealment, adequate description of flow of patients, blinding and method of randomisation (maximum score 7). The authors stated that blinding of pharmacists and patients was not possible due to the type of intervention so the maximum possible score was 5 points.

The authors did not state how many reviewers carried out the quality assessment.

Data extraction
Data were extracted for type of pharmacist intervention, patient outcome measures and change in adherence rate.

Two reviewers were involved in data extraction. Any disagreements were resolved by discussion to reach consensus.

Methods of synthesis
The studies were combined in a narrative synthesis.

Results of the review
 Twelve RCTs (1,904 patients, range 60 to 533) were included in the review. Methodological quality ranged from 2 to 5 on the Jadad scale. Only five studies reported appropriate method of randomisation and adequate allocation concealment. The follow-up of the studies ranged from two months to twelve months.

Adherence to antidepressants: Seven studies reported an improvement in patients’ adherence and two studies reported no significant change between control and intervention. Only three studies reported no change in adherence rate.

Impact of pharmacist interventions on patients' reported outcomes and depression severity: Eight studies measured...
depressive symptoms and two reported statistical improvement. Four studies reported an improvement in patients' satisfaction with the treatment and three studies reported a change in patients' drug knowledge after intervention.

**Types of pharmacist intervention:** Five out of six studies that included telephone contact with patients in the intervention reported to have a substantial improvement in medication adherence. Four out of five studies that provided patient education and monitoring showed that patient education and monitoring was associated with a significant improvement in medication adherence.

**Authors' conclusions**
The evidence suggested that pharmacist interventions were effective in the improvement of patient adherence to antidepressants.

**CRD commentary**
The review addressed a clear question and was supported by appropriate inclusion criteria. Several relevant data sources were searched with restriction to studies published in English, so language bias could not be ruled out. Publication bias was not assessed, but the authors acknowledged the possibility of publication bias as nine out of twelve articles were published in pharmacy journals. Two reviewers were involved in data extraction but the authors did not report how many reviewers were involved in study selection and quality assessment, so reviewer bias and error was possible.

The quality of the trials was moderate to poor. Due to the heterogeneity, results were appropriately presented in a narrative format. Control groups and supporting levels of statistical significance were not reported so it was not possible to verify the findings in the review. Most of the studies had smaller sample sizes, shorter follow-up and an involvement of higher numbers of pharmacists compared to normal clinical practice. It may not have been appropriate to combine studies with different interventions, treatment settings, populations and use of different outcome measures and medication adherence measures may not be appropriate which the authors acknowledged.

The authors’ conclusions reflect the evidence presented but given the potential for bias in the review process and limitations in the quality of the included trials, these conclusions should be considered tentative.

**Implications of the review for practice and research**

**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further studies were needed to assess the clinical outcomes of new pharmacist interventions for patient adherence to medication.

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