Impact on decisions to start or continue medicines of providing information to patients about possible benefits and/or harms: a systematic review and meta-analysis

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CRD summary
The review concluded that providing information to patients about possible benefits and/or harms had no effect on their decisions to start or continue medicines and it increased patients’ knowledge and reduced their decisional conflict. The review had some methodological and data limitations that limit the reliability of the pooled data. The authors’ call for further research appears warranted.

Authors' objectives
To assess how providing information to patients on the possible benefits and harms of medicines effects decisions to start or continue medicines.

Searching
MEDLINE, PsycINFO, EMBASE and The Cochrane Library were searched from 1980 to October 2010 for articles published in English. Search strategies were reported. Reference lists of retrieved articles and reviews were searched. The Web of Science cited references feature was utilised.

Study selection
Randomised controlled trials (RCTs) or pseudo-randomised trials of medicines information versus no medicines information in adults (aged 16 years or older) who were making a real decision on their own behalf were eligible for inclusion. All studies had to report the primary outcome measure, which was a decision to start or continue medicine. Secondary outcomes were patient knowledge and decisional conflict. Definitions were provided in the review.

The included interventions varied in content, duration, delivery mechanism and method of assessment. The information interventions were delivered by telephone, face-to-face (clinician or other healthcare provider) or were self-administered. The information given in the intervention group included relative risk reductions, proportion alive and likelihood of event. The control intervention was usual care and/or pamphlets. Types of medicines studied included drugs for osteoporosis, atrial fibrillation, breast cancer and diabetes.

Two reviewers performed study selection.

Assessment of study quality
Study validity was assessed using six criteria: randomisation, blinding, allocation concealment, baseline comparability, follow-up and validation of outcome measures. It appeared that two reviewers were involved in quality assessment.

Data extraction
Data were extracted on decisions to start or continue medications and these were used to calculate odds ratios (ORs) and 95% confidence intervals (CIs). Data were extracted on patient knowledge and decisional conflict and these were used to calculate mean differences and 95% CIs.

Data were extracted by one reviewer and checked for accuracy by a second reviewer. Disagreements were resolved by discussion.

Methods of synthesis
Random-effects meta-analysis was used to calculate pooled odds ratios and mean differences, with 95% CIs. Statistical heterogeneity was assessed using the P statistic (25% was considered to reflect low heterogeneity, 50% was moderate and 75% was high). Subgroup analysis was undertaken for type of medication (prevention or treatment), type of information (benefits or benefits and harms) and delivery of intervention (self or another person). Sensitivity analysis was performed to explore the effects of cluster randomisation.
Results of the review
Eight RCTs were included in the review (1,865 patients, range 85 to 434). Trial quality was mixed. Only one trial blinded outcome assessment adequately. Most trials performed randomisation and allocation concealment adequately.

Compared with control, there was no statistically significant difference in the primary outcome of the decision to start and or continue medicines with the information intervention. There was a statistically significantly greater increase in patient knowledge (mean difference 8.47, 95% CI 2.17 to 14.77; I²=74%; four RCTs) and a statistically significant reduced patient decisional conflict (mean difference -0.15, 95% CI -0.24 to -0.06; I²=35%; five RCTs) with the information intervention compared with control.

Subgroup analysis of the primary outcome did not significantly alter the results.

Authors' conclusions
Providing information to patients about possible benefits and/or harms had no consistent effect on the number who decided to start or continue medicines, although it increased patients' knowledge and reduced their decisional conflict.

CRD commentary
Inclusion criteria for the review were clearly defined. Several relevant data sources were searched. There was potential for language bias as only trials in English were included. Publication bias was not assessed and no unpublished trials were included. Attempts were made to reduce reviewer error and bias throughout the review. Quality assessment indicated that trial quality was generally suboptimal, which the authors acknowledged. The trials spanned several clinical domains and patient types and the type and delivery of intervention varied across the trials. Trials were combined using standard statistical techniques and statistical heterogeneity was assessed, which was appropriate.

The review had some methodological and data limitations that limit the reliability of the pooled data. The authors’ call for further research appears warranted.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that well-designed studies were needed. Research should focus on assessing key information that enabled different patients to become involved in decisions about whether to start or continue a medicine in specific clinical contexts. Different perspectives and types of information needed to be explored. A consensus over the most appropriate ways of measuring the effects of information was required so that results of interventions can be compared more effectively.

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