Consumer-oriented interventions for evidence-based prescribing and medicines use: an overview of systematic reviews

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This overview concludes that single consumer-oriented interventions are not effective in improving medicine use and health-care outcomes. However, multiple approaches are likely to be effective if they are carefully designed based on the desired outcomes and the specific context of each setting.

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1. INTRODUCTION

The use of medicines is critical to effective health care. It is important that physicians prescribe medicines correctly and patients use them as directed. Improving medicine use through consumer-oriented interventions can be expected to improve treatment outcomes and reduce costs of medicines as well as time spent by health-care personnel in dealing with patients.

Numerous systematic reviews are available on this topic, but most of them are focused on medicines used for particular diseases and specific populations, outcomes or interventions. Such disease- and intervention-specific reviews have not been considered suitable for deciding on interventions that could improve medicine use across the health system. This Cochrane overview of systematic reviews (1) sought to determine which consumer-oriented interventions could improve medicines use effectively across a range of diseases and interventions.

2. METHODS OF THE REVIEW

The overview authors hand-searched the Cochrane Database of Systematic Reviews and the Database of Abstracts of Reviews of Effects (DARE) for suitable reviews published between April 1997 and September 2007. They included only English publications with high relevance to medicine use by health-care consumers, regardless of the type of medicine, indication and number of concurrent medicaments used. The authors then excluded DARE abstracts that substantially overlapped with the identified Cochrane reviews. In addition, the authors applied the AMSTAR assessment tool to filter out low-quality reviews (2).

The authors categorized the included reviews according to an intervention taxonomy as follows; provision of information or education; facilitation of communication and/or decision-making; acquisition of skills and competencies; supporting behaviour changes; provision of support; minimizing risks or harms; improving quality; and consumer system participation.

The authors reported the results by individual reviews with details of interventions and findings. In addition, they rated the effectiveness of the interventions according to the following scheme: sufficient evidence available from studies to make a decision about the effect of the intervention(s); some (less conclusive) evidence available from studies; insufficient evidence from study (interpreted by the authors as 'no evidence


of effect'); and insufficient evidence to determine the effectiveness of the intervention(s).

3. RESULTS OF THE REVIEW

A total of 37 systematic reviews were included in this overview. Most of the included reviews (21 reviews) were deemed to be of high-quality, although there were still some biases in them that could have influenced their results.

The authors divided the included reviews according to the objectives and scope of each review into three groups: (i) group one (20 reviews) focused on improvement of adherence to prescribed medicines and immunizations; (ii) group two (12 reviews) contained reviews that targeted consumers either directly, indirectly or both directly as well as indirectly; and (iii) group three (5 reviews) included interventions that targeted consumers indirectly.

Nearly half of the included reviews (18 reviews) included only randomized control trials. The authors of the overview described the characteristics of the populations studied in terms of age, condition of patients, medical condition, etc. The authors categorized the outcomes as follows: health behaviour (adherence and appropriate use); health status and well-being; consumer adverse events; consumer evaluation of care (satisfaction, attitude, perceived barriers, and intention to use); consumer involvement in the care process; support and consumer skills acquisition; knowledge and understanding; system benefit; and consultation and communication by provider.

3.1 Effects of specific interventions

Providing information or education. As a single intervention, the provision of information or education was likely to be ineffective in improving adherence (to prescriptions) or clinical outcomes. However, there was some evidence to show that combining this intervention with other interventions, such as self-management skills training or counselling, could improve adherence and other outcomes.

Facilitating communication and/or decision-making. There was insufficient evidence to show that facilitating communication and/or decision-making had a beneficial effect.

Acquiring skills and competencies. There was some evidence to support that acquiring skills and competencies improved adherence and clinical outcomes.

Supporting behaviour change. Self-monitoring was found to decrease adverse events. 'Simple' interventions to support behaviour change in relation to medicine use were effective for short-term treatments, while 'complex' interventions were effective for long-term treatments; the overview authors did not provide explicit examples of simple and complex interventions.

Support. Interventions providing support alone or in combination with other strategies may be effective in improving adherence and other outcomes.

Minimizing risks or harms. Self-monitoring, with or without self-adjustment, was effective in decreasing adverse events.

Improving quality. There was some evidence that changing the coordination of care (changing roles of health-care professionals or providing additional services) in order to improve the quality of care may improve adherence and other outcomes related to medicine use.

Consumer system participation. None of the included reviews examined interventions related to consumer system participation.
4. DISCUSSION

4.1 Applicability of the results

This overview concludes that single interventions are unlikely to be effective in improving medicine use and health-care outcomes. Multiple approaches are likely to be more effective (3) when they are carefully designed based on the desired outcomes and the specific context of each setting.

While for most interventions the effect was seen in terms of adherence to prescribed medicine use, certain interventions could affect other outcomes such as consumer adverse events. For instance, self-monitoring with or without self-adjustment, was effective in decreasing adverse events.

4.2 Implementation of the intervention

The overview does not recommend specific interventions that could be used in every setting, but rather informs users about the interventions that are likely to be effective in specific conditions. Policy-makers, researchers or practitioners can use the results of this overview to select the interventions and strategies for use in their particular settings based on the targeted consumers and expected outcomes.

This overview does not provide a simple ready-made solution since the association between interventions and outcomes is subtle. Several factors are proposed for consideration prior to selecting the interventions, including but not limited to, target population, type of expected outcome, type of interventions, and complexity of the interventions. Presently, research data on specific target populations are limited. Likewise, for expected outcomes, such as effects related to health-care consumers, providers or system, evidence is also lacking.

4.3 Implications for research

Most of the reviews included in this overview examined the impact of interventions in terms of adherence to prescribed medicines and usage instructions even though adherence is only one step in the process of improving the health of consumers (4). Hence, future research should go far beyond this surrogate indicator and measure other clinical outcomes such as safety improvements or effectiveness of medicine use. While it has been mentioned in the overview that consumer system participation is a key factors in achieving improved health outcomes, no data were available for this intervention. Further research to explore the effectiveness of consumer system participation should be conducted in appropriately designed trials (5, 6).

References

Preventive Medicine 2011;40:593-598.


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