



The impossibility to be honest about complex interventions

Original Article [Can We Systematically Review Studies That Evaluate Complex Interventions?](#)

The impossibility to be honest about complex interventions

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Dear Editor,

In their recent article Shepperd and colleagues outline important reasons why it is challenging for researchers to systematically review complex interventions and synthesize data from separate studies. They suggest several ways to handle these problems.

However, this discussion is not new. Shepperd and colleagues, some of them present themselves as Cochrane Review Group members, failed to acknowledge previous publications on this issue [1-3] that could have been easily identified. In 2007 [1] (update in 2008 [4]) we published a methodological review describing and critically appraising available methodologies of systematic reviews on complex interventions. In addition, we proposed solutions for systematically reviewing complex interventions. Patient self-management education programmes of diabetes and hypertension implemented in Germany were used as examples. A Cochrane Review Group member (R.B.) co-authored our study [1]. Preliminary results had been presented already at the annual meeting of the Cochrane Collaboration in 2003 [5]. Our results indicate that methods of current systematic reviews are not equipped to appraise complex interventions. The majority of the reviews that we had analysed reported that the included programmes had been 'multifaceted' or 'multidimensional' or 'consist of multiple active components.' However, neither the approach of 'increasing evidence' (proposed in 2000 by the UK Medical Research Council) [6, 7], nor another comparable approach was integrated in any review. Recapitulating our findings, we proposed to take criteria into account when undertaking systematic reviews of complex interventions, which mostly overlap with those catalogued by Shepperd and colleagues: (1) all studies referring to the development, evaluation and implementation of a complex intervention should be considered. The reviewers should differentiate between "stages of evidence" [8, 9]. A comprehensive analysis of the underpinning theory should be performed; (2) information necessary for the evaluation of complex interventions is difficult or impossible to identify [2, 10]. Therefore, specific

search strategies need to be developed and validated that aim at identifying publications concerning all “stages of evidence”. Literature searches should not be limited by criteria such as certain types of studies, specific target groups and publication dates. Reference tracking should be performed and authors should be contacted systematically; (3) interdependencies between the active components should be taken into account. Components should be identified, described and assessed, but only be examined separately if they are independent and should not be disassembled if they work interdependently. Complex interventions should not be allocated into categories referring to interdependent components; (4) all relevant patient orientated outcome parameters should be included. Pooling of outcome measures across different complex interventions is usually inappropriate. Instead, the relative importance of outcomes [11] and the complex interdependency between treatment goals and outcomes should be described in detail.

Various authors [1, 5, 10] have proposed to create an electronic clearinghouse for the descriptions of self-management educational programs to facilitate testing of programs by independent investigators [10]. At present, The Cochrane Collaboration does not offer a system to systematically collect and evaluate the whole pack of literature for a specific complex intervention. We have proposed to establish an international scientific network to resolve the methodological problems related to the development and evaluation of education programmes [1, 2, 4, 5, 12, 13]. This network would provide a database including an innovative system of data management that supports both systematic tagging of self-management and education programmes and scientific exchange between users. Integrating a modified WIKI-approach, authors would have the option to submit literature referring to all stages of evidence, curricula, and teaching material. In addition, the system would be open to critical exchange between users. The network would for the first time offer the possibility to provide complete information about a specific kind of complex interventions. It would allow systematic identification of components that appear indispensable for best practice approaches for the development, evaluation, and implementation of self-management programmes. The dataset could be continuously updated, enlarged and improved by authors and users themselves. The network would inform scientific exchange including specific rules for reporting and appraising the material.

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