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What does theory-driven evaluation add to the analysis of self-reported outcomes of diabetes education? A comparative realist evaluation of a participatory patient education approach

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ABSTRACT

Objective: To explore the effects of the Next Education (NEED) patient education approach in diabetes education.
Methods: We tested the use of the NEED approach at eight intervention sites ($n = 193$). Six additional sites served as controls ($n = 58$). Data were collected through questionnaires, interviews and observations. We analysed data using descriptive statistics, logistic regression and systematic text condensation.
Results: Results from logistic regression demonstrated better overall assessment of education program experiences and enhanced self-reported improvements in maintaining medications correctly among patients from intervention sites, as compared to control sites. Interviews and observations suggested that improvements in health behavior could be explained by mechanisms related to the education setting, including using person-centeredness and dialogue. However, similar mechanisms were observed at control sites. Observations suggested that the quality of group dynamics, patients' motivation and educators' ability to facilitate participation in education, supported by the NEED approach, contributed to better results at intervention sites.
Conclusion: The use of participatory approaches and, in particular, the NEED patient education approach in group-based diabetes education improved self-management skills and health behavior outcomes among individuals with diabetes.
Practice implications: The use of dialogue tools in diabetes education is advised for educators.

1. Introduction

Good self-management is viewed as fundamental to the prevention or delay of diabetes complications [1]. Research on the effect of self-management interventions often focuses on outcomes such as quality of life, clinical outcomes and use of health care resources. The mechanisms behind self-management interventions are rarely investigated [2,3]. To address this deficit, theory-driven forms of evaluation have gained attention; they develop and use program theory in the evaluation process to identify mechanisms as well as outcomes of the intervention [4]. The advantages of theory-driven forms of evaluation include the possible generation of new knowledge regarding intervention results, as well as the underlying mechanisms leading to them [4]. This knowledge can lead to important insights for replicating and improving interventions [5].

1.1. Realist evaluation

The realist evaluation approach develops and applies program theory to understand how, for whom and under what conditions interventions will work [6]. This understanding is reached through the identification and examination of mechanisms hypothesized to be associated with the intervention, conditions under which mechanisms operate and the outcomes produced [6]. Thus, program theories may be expressed as context-mechanism-outcome configurations [6]. The aim of this paper is to apply the realist evaluation method to Next Education (NEED),

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a participatory patient education approach in diabetes education, to explore its effects and mechanisms [7,8].

1.2. The program theory of Next Education (NEED)

In keeping with the realist evaluation framework [6], we developed a program theory to guide data collection and analysis. The program theory draws on the theoretical and empirical basis of NEED [8,9], as well as interviews with researchers who developed NEED. The program theory outlines the hypothesized mechanisms and outcomes activated by NEED, as well as contextual conditions assumed to activate the hypothesized mechanisms.

The primary aim of NEED is to inspire and support educators in tailoring patient education to the needs and challenges of individual participants living with diabetes and to ensure that participants engage in dialogue with peers as well as educators. NEED was developed in 2010 and revised in 2012 [7]. It consists of two theoretical models and 24 tools. The first model, The Balancing Person, outlines the challenges for people living with chronic illness [10]; the second model, The Health Education Juggler, defines the roles of educators that are required to master the facilitation of participatory and group-based education [11]. The dialogue tools provide a medium through which people are stimulated to express themselves and are intended to facilitate participant involvement and interaction [7,8]. Tools make use of picture cards, quotations, and 'gamification' to stimulate different learning styles [7,8]. This approach is inspired by the theoretical perspectives of social learning and empowerment [12,13]. Each tool is accompanied by step-by-step instructions for use that allow for flexibility and individual variation. More information about NEED is available online [8].

1.2.1. Mechanisms and outcomes activated by NEED

We expected the following mechanisms to be activated by NEED in diabetes education:

- Participants reflect upon and share their experiences of living with diabetes.
- Participants increase their motivation for health-promoting behavior.
- Participants feel involved in the education and trust that their needs are understood.
- Participants become aware of their habits.

We hypothesized that these mechanisms in diabetes education would support participants in improving self-management skills and engagement in health-promoting behavior. Thus, we defined the following outcomes as part of the program theory:

- Participants increase self-management skills.
- Participants increase their engagement in health-promoting behavior.

1.2.2. Contextual conditions relevant to the implementation of NEED

NEED allows for a large degree of flexibility and is intended to allow adjustment to the local education setting. As a result, we expected that the intended mechanisms and outcomes were contingent on contextual conditions. We defined the following contextual conditions:

- Educators' abilities to facilitate and structure group-based education sessions.
- The match between learning preferences of participants and NEED dialogue tools.
- The match between participants' characteristics in the group, e.g. age, education level.

We assumed that mechanisms, outcomes and contextual conditions were highly interrelated, so we did not define specific associations between them. The program theory is outlined in Fig. 1.

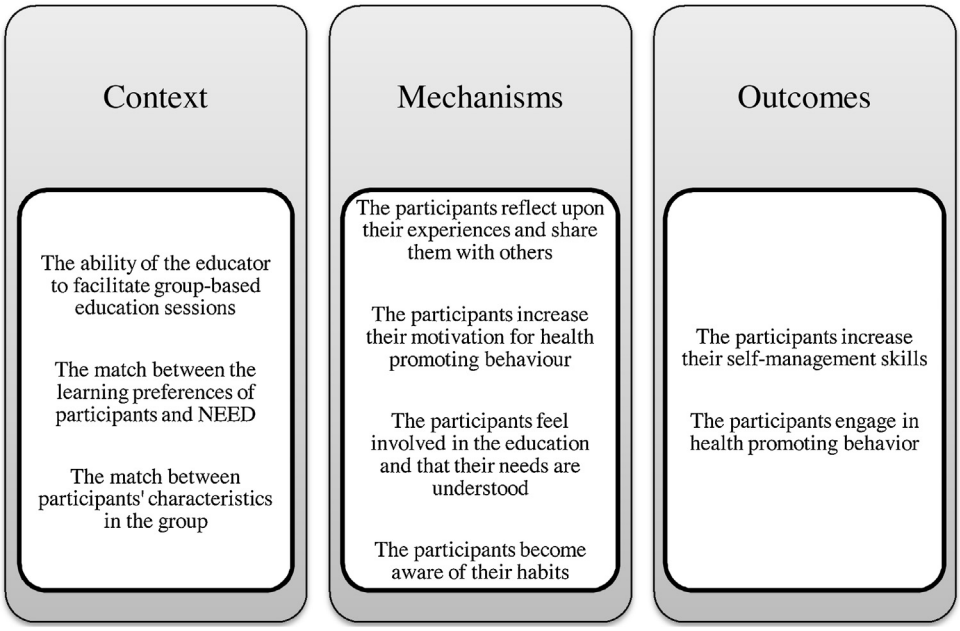

Fig. 1. Program theory.