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The decision evaluation scales

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Abstract

There are several instruments to assess how patients evaluate their medical treatment choice. These are used to evaluate decision aids. Our objective is to investigate which psychological factors play a role when patients evaluate their medical treatment choices. A pool of 36 items was constructed, covering concepts such as uncertainty about and satisfaction with the decision, informed choice, effective decision making, responsibility for the decision, perceived riskiness of the choice, and social support regarding the decision. This pool was presented to patients at high risk for breast and ovarian cancer, awaiting a genetic test result, and facing the choice between prophylactic surgery or screening. Additional measures were assessed for validation purposes. Factor and Rasch analyses were used for factor and item selection. Construct validity of emerging scales was assessed by relating them with the additional measures. Three factors summarised the psychological factors concerning decision evaluation: Satisfaction–Uncertainty, Informed Choice, and Decision Control. Reliabilities (Cronbach's α) of the three scales were 0.79, 0.85, and 0.75, respectively. Construct validity hypotheses were confirmed. The first two scales were similar to previously developed scales. Of these three scales, the Decision Control scale correlated most strongly with the well-being measures, was associated with partner's agreement and physician's preferences as perceived by patients, and with a negative emotional reaction to the information material. In conclusion, the Decision Control scale is a new scale to evaluate decision aids, and it appears to be rooted in health psychological theories.

Keywords: Shared decision making; Decisional conflict; Decision satisfaction; Decision control; Regret; Responsibility; Rasch analyses; BRCA1/2

1. Introduction

An increasing number of studies evaluate the effects of involving patients in the medical decision making process [1]. Patients may be involved, for instance through the provision of information, through values clarification, or by helping patients to formulate their questions. A wide array of outcomes has been used in such evaluations including treatment choice and strength of treatment preference, quality of life outcomes, psychological outcomes such as anxiety, depression, and decisional conflict, satisfaction with care, cognitive outcomes relating to information needs, knowledge and risk perception, and

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outcomes such as use of care, and work absenteeism [2,3].

This study focusses on how patients evaluate the treatment decision itself. In general, these decision related outcomes are meant to assess how patients evaluate the effects of interventions designed to increase patient involvement in decision making, and not to distinguish between patients.

In the study of treatment decisions in the context of decision support interventions, two approaches have been followed: (1) assess the patient's evaluation of the decision making processs [4]; and (2) assess the patient's evaluation of the decision. The first approach deals primarily with the quality of the information processing. Improving information processing is an important goal of decision support. For example, Hollen [5] developed a taxonomy of decision styles and decision quality inventories building on the framework developed by Janis and Mann [6]. Related approaches can be found in the coping literature, for instance coping with information [7], and Decision Styles Questionnaire [8]. It has been shown that these concepts can mediate the effectiveness of patient information material.

Our interest, however, is the second approach, i.e. the evaluation of the decision by patients. Such decision related evaluations have been found to be associated with treatment choices [9] or treatment choice intentions [10].

Several scales have been developed: the Decisional Conflict Scale [9], comprising the subscales Uncertainty, and Factors Contributing to Uncertainty; the Effective Decision Making scales; [9] the Satisfaction with Decision scale [11], the Decision Attitude Scale [4], the Satisfaction with decision making process questionnaire [12], the Satisfaction with Decision Made Questionnaire [12], the Decision Self Efficacy Scale [13] the Decision Emotional Control scale [13], and the Decision Regret scale [14]. In general, these scales have shown good internal reliability (Cronbach's α), and test–retest reliability. Evidence supporting construct validity has also been reported.

While a wide array of scales exist, it is unclear to what extent these scales assess different components of decision evaluation. For instance, Decision Uncertainty and Satisfaction with the Decision have generally been found to be strongly correlated [9,11]; but whether both scales tap into the same construct is not known. Furthermore, some scales (e.g. the Decisional Conflict Scale) do not yield similar factor structures when translated into other languages [15].

Our goal is to uncover the factors underlying the evaluation by patients of treatment decisions. It was not our intention to translate existing scales completely or literally. Additional concepts were considered. These concepts emerged after reviewing the above literature [1–15], and the decision making, social psychological, health psychological, and coping literatures. The following concepts were identified: (1) affective evaluation including uncertainty and satisfaction with the decision; (2) informed choice; (3) effective decision making; (4) responsibility, blame, control; (5) perceived riskiness; (6) social support and social approval. The last three concepts are not covered by existing scales. Responsibility was added because it may affect treatment compliance. Responsibility may modify feelings of regret, which in turn affects decision making [16]. Avoiding blame for future accidents is also believed to affect decision making [17]. Sense of control is believed to affect health outcomes [18]. Perceived riskiness was included because risk is a major dimension in decision making [19]. Social support was included because of its importance in models for health behavior and stress.

2. Methods

2.1. Item construction

The decision items were developed in Dutch by one of us (PFMS). Some of the items were from existing scales, new items were developed for the additional concepts. We considered items from the studies discussed above and a questionnaire kindly provided by Broadstock and Michie [20]. Items were shortened or adapted to get brief unambiguous items. All items were presented to three investigators, of whom two investigated medical decision making from the patients perspective, the third was an expert in questionnaire construction. Items were discarded when they were deemed insufficiently clear or indicative of the concept they were meant to operationalise. Refinement of this process took place in two extra rounds. As a result, 36 items came up. A five-point response scale ranging from 'strongly disagree' (1) to 'do not agree/do not disagree' (3) to 'strongly agree' (5) was used. A complete list of concepts and items is available, also in Dutch, from the first author.

2.2. Study population

The study was implemented in the Family Cancer Clinics of the University Hospitals of Nijmegen, Groningen, and Maastricht in the Netherlands. Both women with and without breast/ovarian cancer who had chosen to undergo DNA-testing were eligible.

2.3. Procedure

Original study aims and detailed methods have been published elsewhere [21,22]. Questionnaires were sent at baseline, T1, that is after blood sampling to test for a BRCA1/2 mutation, at T2, 4 weeks after blood sampling, at T3, 2 weeks after a positive test result and at T4, 3 months after a positive test result. Half of the women received a video and brochure [21], dealing with the decision between