

Stages of Intensive Therapy: Validation of a New Measurement Tool

Helen Jones¹ RN MSN CDE, Barbara Cleave¹ RN BSN CDE, George Tomlinson² PhD,
Christie Hamilton² RD CDE, Denice S. Feig^{1,2} MD FRCPC

¹Leadership Sinai Centre for Diabetes, Mount Sinai Hospital and University of Toronto, Toronto, Ontario, Canada

²Department of Medicine, University Health Network and University of Toronto, Toronto, Ontario, Canada

A B S T R A C T

OBJECTIVE

To develop a valid instrument for measuring stage of change related to intensive therapy (IT) self-care behaviours.

METHODS

Sixty-nine insulin-treated participants were recruited. Face validity was assessed by a panel of 10 experts and 5 patients. Construct validity was measured against self-efficacy, stage of change determined through a personal interview, downloaded blood glucose meter data and A1C results. Participants completed the questionnaire twice within 72 h. A chart review was used to obtain laboratory data.

RESULTS

The expert panel and all patients rated 7 self-care behaviours as integral to IT, and staging questions were edited based on their feedback. There was a significant association between self-efficacy scores (on a scale of 1 to 5) and stage of change for each self-care behaviour. Mean self-efficacy scores for

R É S U M É

OBJECTIF

Mettre au point un outil valide pour mesurer les stades du changement des comportements relatifs à la prise en charge personnelle du traitement intensif.

MÉTHODES

Soixante-neuf patients insulinotraités ont été recrutés. La validité apparente a été évaluée par un groupe de 10 experts et de 5 patients. La validité conceptuelle a été mesurée en fonction de l'auto-efficacité, du stade du changement d'après une entrevue personnelle, des données téléchargées à partir d'un indicateur de glycémie et des taux d'HbA_{1c}. Les participants ont rempli le questionnaire à deux reprises en 72 heures. On a tiré les données de laboratoire du dossier des patients.

RÉSULTATS

Le groupe d'experts et tous les patients ont déterminé que 7 comportements relatifs à la prise en charge personnelle faisaient partie du traitement intensif et des questions sur le stade ont été rédigées à partir de leurs commentaires. Il y avait un lien important entre les scores de l'auto-efficacité (sur une échelle de 1 à 5) et le stade du changement pour chaque comportement. Les scores moyens de l'auto-efficacité pour ce qui est de la prise d'insuline avant les repas étaient de 3,4 au stade de la prévision et de 4,5 au stade de l'entretien ($p < 0,001$). L'HbA_{1c} était significativement plus basse chez les patients qui avaient adopté de 5 à 7 comportements que chez ceux qui avaient adopté de 0 à 4 comportements ($p < 0,04$). Le stade de tous les comportements déclarés par les patients était en étroite corrélation avec le stade du changement d'après l'entrevue (coefficient de corrélation de Spearman de 0,69 à 0,79). La fiabilité des questions sur le stade a été démontrée par des indices kappa de 0,67 à 0,91. Les coefficients de corrélation de Spearman pour les scores de l'auto-efficacité de chaque comportement ont varié de 0,57 à 0,87.

Address for correspondence:

Helen Jones
Leadership Sinai Centre for Diabetes
Mount Sinai Hospital
60 Murray Street, Suite 5019
Toronto, Ontario
M5G 1X5 Canada
Telephone: (416) 586-4800, ext. 2368
Fax: (416) 361-2662
E-mail: hjones@mtsinai.on.ca

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taking pre-meal insulin were 3.4 in the pre-contemplation stage and 4.5 in the maintenance stage ($p < 0.001$). A1C was significantly lower in those who were engaging in 5 to 7 behaviours vs. those who were engaging in 0 to 4 behaviours ($p < 0.04$). Self-reported stage for all behaviours correlated well with stage of change as assessed by interview (Spearman correlation of 0.69 to 0.79). Reliability for staging questions was demonstrated with kappa values of 0.67 to 0.91. Spearman correlations for self-efficacy scores related to each behaviour ranged from 0.57 to 0.87.

CONCLUSIONS

The Stages of Intensive Therapy Questionnaire demonstrates satisfactory initial validity and reliability as an instrument for measuring stage of change related to IT self-care behaviours.

INTRODUCTION

The Stages of Change (or Transtheoretical) Model has been demonstrated to be a successful component of education programs designed to promote healthy self-care behaviours (1). Interventions based on this approach have been evaluated in the field of smoking cessation (2), exercise (3), reduction of dietary fat (4) and other health behaviours (5). However, the model must be applied in a behaviour-specific manner, with staging parameters developed for each behaviour, and this can be difficult when applying the model to intensive therapy (IT) for people with diabetes, which comprises a number of self-care behaviours. The results of both the Diabetes Control and Complications Trial (DCCT) and the United Kingdom Diabetes Prospective Study (UKDPS) have proven the benefits of intensive therapy (6,7), but diabetes care providers are still challenged to find effective, feasible and economical ways to implement IT. For instance, it is not clear whether the extensive resources used by patients in the DCCT are required to provide advanced self-management education to a wider population.

The Stages of Change Model may be useful in the development of effective and efficient self-management education programs for IT, but valid staging tools are essential to this endeavour. Originally proposed by Prochaska and colleagues as the Transtheoretical Model (2), the model incorporates 4 elements—stages of change, self-efficacy (or temptations), decisional balance (pros and cons) and change processes—that have been taken from a number of models of human behaviour and learning (2). The strength of a person's motivation to change a behaviour within a given time frame is described in 5 distinct stages: pre-contemplation (no intention of making any behaviour change within 6 months), contemplation (aware of the need, but not committed to taking action); preparation (intending to take action soon); action (doing the new behaviour at the recommended level); and maintenance (doing the new behaviour for longer than 6 months) (5). Decisional balance and self-efficacy theories

CONCLUSION

Le questionnaire sur les stades du traitement intensif a démontré que la validité et la fiabilité initiales étaient satisfaisantes comme instrument de mesure du stade du changement des comportements relatifs à la prise en charge personnelle du traitement intensif.

are included within the model as determinants for each stage. Decisional balance theory postulates that people decide to take action after weighing potential gains and losses for themselves and others, as well as potential approval or disapproval from themselves and others. Prochaska and colleagues integrated the decisional balance construct into the Stages of Change Model using a 2-factor analysis of pros and cons instead of the original 8 factors (2). Self-efficacy, also a leading theory of behaviour change, holds that confidence in one's ability is the major determinant of a person's behaviour (2). True to its original name (the Transtheoretical Model) the Stages of Change Model incorporates both self-efficacy and decisional balance theories to determine an individual's readiness or intention to engage in a particular behaviour. The model then proposes the need to deliver interventions appropriate to the individual's stage of readiness to change in order to facilitate that behaviour. Interventions associated with different educational and/or psychological theories of behaviour change are classified into several 'processes of change' (2).

Clinicians are seeking strategies to help people with diabetes at all stages to use IT well, since many interventions are currently aimed only at those who are interested or willing. A stage-based educational intervention has not yet been described in the literature, although such an approach may offer significant benefits to a large number of people with diabetes. Developing a valid and reliable staging questionnaire specific to IT self-care behaviours is an essential first step toward creating and evaluating self-management interventions, and it is the objective of this study. A valid staging instrument would help providers identify their patients' stage of readiness to change and allow them to provide interventions appropriate to each stage. In this paper, we will describe the test-development process and the psychometric properties of the Stages of Intensive Therapy Questionnaire. We deemed the following as essential for demonstrating the validity and reliability of a staging questionnaire specific to intensive therapy self-care behaviours:

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