Determinants of glycemic control among patients with type 2 diabetes: testing a self-determination theory process model

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BACKGROUND AND AIM

Self-Determination Theory (SDT) proposes that autonomous motivation for self-care can be enhanced by autonomy support from healthcare providers. In relation to glycemic control, prior research suggests that autonomy support is an important determinant of perceived competence in diabetes and motivation for diabetes management, which in turn may improve glycemic control. We investigated how correlations between autonomy support, wellbeing, perceived competence, diabetes distress, motivation, self-care activities and glycemic control in a population of people with type 2 diabetes (T2D) correspond with the hypothesized process model based on SDT.

METHOD

Participants were recruited from a specialist diabetes clinic in the Capital Region of Denmark. In total 99 people with T2D completed a questionnaire measuring well-being (WHO-5), perceived competence in diabetes (PCD), diabetes distress (PAID), autonomous and controlled motivation (TSRQ), autonomy support from healthcare professional (HCCQ) and self-care activities (SDSCA). The latest HbA1c measurement up to three months prior or one month after the day of questionnaire completion, was used.

Pearson's correlations were used to measure bivariate correlations between variables. Exploratory factor analyses, with principal components and direct oblimin rotation, was applied for the TSRQ scores. Mediation analyses was conducted using multivariate linear regression analyses to explore direct and indirect associations of relevance for elucidation of the SDT process model.

Table 1 Descriptive statistics, reliability estimates, Pearson's correlation coefficients for the variables in the model (n=99)

Variable	Mean(SD)	Cronbach's alpha	1	2	3	Va 4	riable 5	6	7	8
1 WHO-5	65(21)	.88	1	58***	.13	.29***	.16	.08	.40***	.01
2 PAID-5	1.4(0.9)	.90		1	11	33***	.04	.06	11	08
3 HCCQ	5.8(1.3)	.91			1	.52***	.11	.28***	.15	08
4 PCD	5.6(1.4)	.93				1	.27***	.10	.15	13
5 SDSCA	4.3(1.5)	.61					1	.31***	.29***	19*
6 Controlled motivation	5.1(1.6)	.81						1	.51***	13
7 Autonomous motivation	5.9(1.1)	.82							1	14
8 ^{HbA1c} (mmol/mol)	75(13)	-								1
* p < 0.1, **	p < 0.05, *	<** p < 0.01								

RESULTS

Regression analyses showed that the correlation between perceived competence and well-being was mediated by diabetes distress, and the correlation between controlled motivation and self-care activities was mediated by autonomous motivation.

Fig. 1. Results of the regression model. Values are standardised





CONCLUSION

This study essentially supports the hypothesized SDT process model in that autonomy support, autonomous motivation and perceived competence are determinants of well-being and HbA1c levels.

This adds evidence to the importance of autonomy support in clinical practice. More knowledge on how to enhance autonomy support, and how autonomy support is mediated into improved blood glucose control is needed.

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