

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Canadian Journal of Diabetes

journal homepage:
www.canadianjournalofdiabetes.com


Editorial

A Paradigm Shift in the Evaluation of Behavioural Interventions for Diabetes: Promotion of Sustained Behaviour Change in Clinical Practice



Psychological factors associated with diabetes (e.g. diabetes distress, comorbid mental health disorders and self-management behaviours) are recognized in the 2018 Diabetes Canada Clinical Practice Guidelines as having a significant impact on individuals' health outcomes and lived experience with diabetes (1). As such, prevention and intervention treatments (e.g. motivational interventions, coping skills, self-efficacy enhancement, stress management and family interventions) have all been promoted in the literature to help address these psychosocial factors (1). In this issue of the *Journal*, several articles are presented that also focus on the promotion of psychosocial well-being and mental health among individuals with diabetes (type 1, type 2 and gestational) across the lifespan. The Perspectives in Practice article by Vallis (pages 85–89) provides a new framework to evaluate behavioural interventions in practice—here, successful behavioural interventions need to be able to support sustained behavioural changes over time (a measure of output), rather than trying to determine a single, “panacea” behavioural treatment approach that is applicable to everyone (a measure of input).

Vallis suggests that one way of being more effective at creating sustained behavioural change is to be more flexible when initially designing behavioural interventions. This is exemplified in the article by Versloot et al (pages 3–10), where the authors integrate a stepped care model into their outpatient diabetes clinics as a way to match the levels of support provided by the diabetes team with the individual needs of adolescents with type 1 diabetes, based on patient-reported outcome measure (PROM) responses. This refinement of routine clinical care allowed the participating clinics to tailor their services, thereby allocating resources more appropriately, which subsequently improved psychosocial factors, including general and diabetes-related quality of life.

Vallis also suggests that behavioural interventions be evaluated not only on how they may impact adherence metrics (i.e. self-management behaviours) but also on improving other key psychosocial factors, such as self-efficacy (the confidence that one has the ability to overcome barriers) and intrinsic motivation (alignment of one's values and behaviours) over time. Ren and Li (pages 94–101) provide a meta-analysis on Pender's health promotion model (i.e. personal characteristics and experiences; cognitive and emotional processing; behavioural outcomes) for adults with type 1 and type 2 diabetes. The results of the meta-analysis suggest behavioural interventions that incorporate Pender's model were more effective at improving self-management behaviours than general educational and knowledge-based interventions in this population. Ren and Li also highlight how increased levels of self-efficacy enhanced the patient's commitment and maintenance of these self-management behaviours over time as well as how “subjective

initiative” (i.e. intrinsic motivation) helped patients commit to action.

Among adolescents and young adults with type 1 diabetes, developing greater engagement with treatment (i.e. intrinsic motivation) is noted as a key factor by Commissariat et al (pages 66–72), where the authors present their validation of a new PROM entitled Accepting Diabetes and Personal Treatment (ADAPT). This PROM focusses on how youth incorporate their type 1 diabetes into identity development (including stigma management, adjustment to perceived interference of diabetes and benefit-finding factors). The authors hypothesize that the development of future behavioural interventions, which focus on helping youth incorporate type 1 diabetes into their self-concept, may bolster the integration of diabetes into their life as well as improve health outcomes and psychosocial well-being (e.g. quality of life, fear of hypoglycemia and diabetes distress) over time.

Diabetes distress is one of the most common psychosocial issues facing individuals with diabetes (2,3); therefore, there is not always sufficient access to mental health specialists to treat diabetes distress symptoms. Vallis discusses how diabetes distress can be managed by the diabetes teams before having to refer to formal mental health services. Mach et al (pages 51–57) outline the feasibility and acceptability of integrating the 5-item Problem Areas in Diabetes as a PROM to measure diabetes distress in adults with type 1 and type 2 diabetes into diabetes clinics. These findings not only replicate previous research on the ability to implement this tool into routine diabetes care, but also provide qualitative feedback from patients and providers about their experiences with the PROM administration. The authors found that most patients who reported discussions about mental health issues with their diabetes providers were helpful and they did not always feel like they needed a mental health specialist. However, the providers interviewed felt like they needed more education to build their confidence in screening and following up on diabetes distress-related issues with their patients. Similarly, Melamed et al (pages 11–18) discuss the importance of screening and providing subsequent follow-up (including pharmacotherapy options) by primary care/family physicians for depression in adults with type 1 and type 2 diabetes. This was particularly salient for subgroups with elevated risk (e.g. female sex, living more in disadvantaged neighborhoods, younger age, receiving insulin treatment, having comorbid chronic obstructive pulmonary disease and polypharmacy use).

Finally, Vallis calls for more use of technology in future behavioural interventions to help sustain change over time. Sushko et al (pages 102–113) present a scoping review article for mobile health (mHealth) behavioural interventions for adults with diabetes in pregnancy (inclusive of both pre-existing

diabetes and gestational diabetes). The findings from this scoping review suggest that adults with diabetes in pregnancy who participated in mHealth interventions reported reduced stress and anxiety in qualitative follow-up as well as improvements in social isolation, especially those who engaged in an online peer support forum. Subsequently, the authors provide recommendations for how to adapt future mHealth behavioural interventions to be more successful in sustaining behaviour change over time by providing more tailored and person-centred psychosocial support.

It is time to base our evaluations of the effectiveness of behavioural interventions on how well they fit into the lived experience of the person with diabetes and meet their unique psychosocial needs in a clinical setting. Moreover, these behavioural interventions need to be able to support the individual's ability to make behavioural changes that are not only personally relevant but

also sustainable. Many of the articles in this issue help set the foundation for this paradigm shift.

Jessica C. Kichler CDCEs, PhD, CPsych
Department of Psychology, University of Windsor, Windsor, Ontario,
Canada
E-mail address: jessica.kichler@uwindsor.ca

References

1. Robinson DJ, Coons M, Haensel H, Vallis M, Yale J-F. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada: Diabetes and Mental Health. *Can J Diabetes* 2018;42(Suppl. 1):S130–41.
2. Sturt J, Dennick K, Hessler D, Hunter BM, Oliver J, Fisher L. Effective interventions for reducing diabetes distress: Systematic review and meta-analysis. *Int Diabetes Nurs* 2015;12:40–55.
3. Hagger V, Hendrieckx C, Sturt J, Skinner TC, Speight J. Diabetes distress among adolescents with type 1 diabetes: A systematic review. *Curr Diabetes Rep* 2016;16:9.