Social support, self-efficacy and motivation: a qualitative study of the journey through HEALD (Healthy Eating and Active Living for Diabetes)

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Received: 9 May 2014
Accepted in revised form: 14 August 2014

Abstract
This study aimed to describe the influence of social support on participants’ self-efficacy and motivation to perform physical activity before, during and after the Healthy Eating and Active Living for Diabetes in primary care networks (HEALD) programme. HEALD was a controlled trial of a 24-week primary care-based walking programme for people with type 2 diabetes, proven effective in increasing physical activity. Data used in this qualitative sub-study were derived from semi-structured interviews with purposefully selected HEALD completers (n=13) six months after the programme ended. Qualitative data were analysed using content analysis.

Prior to HEALD, participants reported feeling a lack of social support for diabetes management and fear of diabetes consequences. During the programme, they reported feeling supported by exercise specialists and peers in general and specifically to do physical activity; they reported weakening social support after HEALD ended. Accordingly, participants reported having self-efficacy and motivation to increase their physical activity during HEALD, but these did not persist after HEALD ended; many relapsed into former behaviours. Participants recommended a longer programme, with more contacts.

Our findings are congruent with Social Cognitive Theory. Participants’ reported self-efficacy and motivation to adopt physical activity during HEALD were tied to feeling supported by the exercise specialists who led the programme and peers participating in the programme. However, these perceived improvements were compromised when social support was no longer available through HEALD. Periodic contacts with a health care provider post-programme may promote maintenance of positive behaviour changes following diabetes self-management programmes. Furthermore, an optimal mode of peer support requires study.

Key words
type 2 diabetes mellitus; self-care behaviours; motivation; self-efficacy; social support; HEALD

Introduction
Successful management of type 2 diabetes (T2DM) depends on self-care behaviours, including blood glucose testing, performing adequate levels of physical activity, and following a healthy diet. Indeed, the Canadian Diabetes Association recommends that people with diabetes check their blood glucose levels at least twice a day,¹ perform 150 minutes of aerobic exercise and two resistance training sessions each week,² reduce overall caloric intake (if exceeding age- and sex-specific targets), and substitute low glycaemic index carbohydrates in place of high glycaemic index carbohydrates.³ However, people with T2DM often struggle with self-care behaviours such as diet and physical activity,⁴,⁵ due to personal factors like feeling overwhelmed or burdened by the prospect of introducing major lifestyle changes.⁴,⁶ Some individuals may require intervention from health care providers (HCPs) to adopt positive lifestyle changes.

The evidence base for lifestyle interventions targeted towards individuals with T2DM demonstrates that theoretical approaches are more effective than atheoretical approaches.⁷,⁸ Social Cognitive Theory⁹,¹⁰ is widely reported in the literature as a theoretical platform for guiding interventions. It provides insight on cognitions involved in operationalisation of behaviours and proposes an ‘action plan’ on how to influence behaviour change.¹⁰

According to Bandura’s Social Cognitive Theory, behaviours are shaped according to dynamic interactions across personal factors and environmental influences.⁹ A basic tenet of Social Cognitive Theory holds that people learn from their
own experiences along with observing the actions and results of actions from other people’s behaviours.9,10 Commonly recognised constructs within Social Cognitive Theory that are often targeted in behaviour change interventions include self-efficacy, goal setting and self-monitoring.9,10 For example, HCPs can assist individuals in identifying reasonable task-oriented goals (e.g., achieving a certain number of steps each day), teach individuals to monitor their progress, and co-develop strategies to help them overcome obstacles to positive behaviour change. Mastery of specific tasks may improve individuals’ perceptions of capability (i.e., efficacy), and encourage them to operationalise health behaviours over time.

Context and overview of the present study
The need to promote the adoption of physical activity among people with T2DM has been recognised in clinical settings, resulting in the development of effective behaviour change interventions.11,12 However, it is unclear whether such interventions translate successfully into real-world settings.13–15 The Healthy Eating and Active Living for Diabetes (HEALD) programme was implemented in four primary care networks (PCNs) in Alberta in order to assess whether primary care is a feasible setting to promote and support behaviour change in people with T2DM.16 HEALD effectively increased daily walking among adults with T2DM.17 The purpose of this qualitative sub-study was to describe the roles of social support, self-efficacy and motivation in participants’ experiences of the HEALD programme.

Methods
HEALD programme
The HEALD programme was guided by Social Cognitive Theory and has been described previously.16 Briefly, HEALD consisted of a 24-week, group-based walking programme led by exercise specialists in four local PCNs. HEALD focused primarily on increasing participants’ physical activity within a classroom setting and through a practical group-walking element. Classes and walking activities took place at community recreation centres. HEALD consisted of two phases, in which: (1) participants were coached to increase their daily steps; and (2) participants were asked to increase the intensity of their walking. Pedometers and stopwatches were given to all participants in the classroom sessions, along with goal-setting cards and workbooks, to enable participants to monitor their progress.16

Participants
We explored participants’ perspectives on the HEALD programme and their self-reported maintenance of physical activity after HEALD ended. As such, individuals who completed the programme were considered most suitable to answer the research questions. Participants who attended at least one session in both phases of HEALD were considered ‘completers’. From 68 completers, we purposefully sampled participants from four different recruitment waves across the four PCNs, to elicit perspectives on the HEALD programme among these different settings. We stopped recruiting once we felt adequate representation was achieved, thus generating in-depth interviews with 13 HEALD completers.

Data collection
Data collection for this qualitative sub-study took place between July 2011 and March 2013. The comprehensive HEALD implementation evaluation18 was based on the RE-AIM Framework,19 which informed the interview guide for this qualitative sub-study. Interview questions focused on what participants liked or did not like about HEALD, and their maintenance of physical activity six months after the programme ended. A sample interview question is ‘What did you like about HEALD?’ No questions related to constructs from Social Cognitive Theory were included in the interview guide. Interviews were digitally recorded and varied in duration from 20 to 60 minutes, and participants’ responses were verified during interviews. The Health Ethics Research Board of the University of Alberta deemed this qualitative component of the larger HEALD study exempt.18

Data analysis
Interviews were transcribed verbatim by a third party; transcripts were verified for accuracy by ABM, who was not involved in data collection or transcription. Transcripts were entered into and managed using NVivo 10.20

In this qualitative sub-study of the HEALD evaluation, content analysis was used.21 We used an inductive approach to coding where data were read and re-read to identify codes or concepts. Two researchers (ABM and LW) met regularly to compare codes and discuss any discrepancies until agreement was achieved and no new codes emerged (data saturation). Similar codes were grouped together and emerging themes were organised into higher-level categories. Data were re-read to ensure that each portion corresponded accurately with the category to which it was assigned. Some coded and/or categorised data were re-organised, and similar codes were combined. Throughout data analysis, coding and findings were also discussed with the entire research team. To protect participant anonymity, we used study codes for highlighted quotes denoting gender (F/M), PCN (1–4) and recruitment wave (A–D); e.g. ‘F2, WA’ indicates a female participant from PCN 2, recruitment wave A).

Findings
Sample characteristics
Among the 13 HEALD completers included in the current study, seven were male (53.8%), mean age was 57.8 years, BMI was 35.5 kg/m² and A1c was 7.1% (54 mmol/mol). Eight participants were married (61.5%). Our sample was diverse in terms of employment status, income, diabetes duration (range 3–336 months) as well as baseline number of total steps over three days (range 375–38 033).

Key findings
Key concepts that emerged as participants talked about their HEALD experiences included perceived social support (from HCPs and/or peers), self-efficacy and motivation for physical activity before, during and after participating in HEALD. We present the findings in this temporal sequence (i.e. before, during, and six months after HEALD) since the data suggested there was variability in the importance of each of these themes at different times along the participants’ experiences with HEALD.
Before HEALD: lack of social support

Participants described their reasons for participating in HEALD, including a perceived lack of HCP support for managing diabetes, a desire to manage diabetes better, and fear of diabetes implications.

Among participants who reported inadequate social support from HCPs prior to enrolling in HEALD, one expressed:

‘I felt a little bit flying solo… The doctor kind of said, “Oh and by the way, you’re diabetic”. This is life changing for me, and he just kind of throws it at me,’ (F4, WB).

They described experiences with HCPs where they felt abandoned or patronised, rather than supported in managing their diabetes, prior to HEALD.

Some participants reported that they joined HEALD to get more education and support around physical activity and self-managing their diabetes: ‘The exercise specialist asked me to join, and this kind of thing is of interest to me, especially if there’s some learning for me,’ (F4, WD).

Other participants described being motivated to participate in HEALD due to fear of diabetes implications or feeling desperate:

‘I wanted to take part because diabetes runs in my family… You kind of get desperate… it is a scary topic, and more and more Canadians are developing it,’ (F1, WB).

In contrast, some participants reported joining HEALD to comply with their physicians, as opposed to joining for personal reasons. One participant stated: ‘It wasn’t my decision [to take part in HEALD]; it was my doctor’s recommendation. He signed me into that programme,’ (M3, WC).

During HEALD: feeling confident, motivated, supported

Alberta- retrospective, participants reported feeling confident and motivated to perform physical activity, as well as feeling socially-supported during HEALD.

Participants described having confidence in their ability to walk or perform physical activity. For example, one participant who had previously struggled with physical activity said: ‘When I started with this walking – I mean, that is something I can do. I can walk. So that was a big thing,’ (F4, WA).

Participants also reported feeling motivated to partake in physical activity during HEALD. Several participants explained that HEALD motivated them or offered incentive (i.e. a challenge, a boost) to become more active: ‘Sometimes you just want a little push… and you know, sort of continue to be steered in the right direction,’ (F1, WB).

Participants reported that a supportive social environment, in which they received support from HCPs (i.e. the exercise specialists) and their peers in the programme, encouraged them to engage in HEALD.

Many participants described the HCP support they received during HEALD in terms of supervision and personalised feedback provided by the exercise specialists:

‘It’s just that it’s easy to slack off if nobody’s looking. So sometimes it’s good to have a professional looking or giving you feedback that you’re doing [it] right,’ (M2, WC).

For these participants, supervision and check-ins with the exercise specialists motivated them to adhere to their walking goals:

‘I liked that you’d check in and so it kept you more motivated, because they were looking at [your log book] – I felt like I had to do the walking,’ (F4, WA).

Regarding peer support, participants described the group meetings as enjoyable and supportive environments:

‘I just really enjoyed going to those meetings because it really gives you a little family to talk to, someone who’s in the same boat as you,’ (F1, WB).

In addition, one respondent said that commitment to the other members of the group compelled her to attend the HEALD sessions (F2, WB).

However, a minority of participants reported that social support weakened as HEALD progressed. Some attributed this to diminishing group sizes:

‘It was unfortunate that some people that were involved with the programme weren’t able to come and participate. By having others there, it helps to encourage everybody to stay with the programme,’ (M2, WA).

These participants stated that better attendance at the HEALD classes would have encouraged more discussion and created a more supportive environment.

In summary, most participants reported feeling confident, motivated and socially-supported to do physical activity while they were involved in HEALD.

After HEALD: diminishing self-efficacy, social support and motivation

When participants were asked whether they maintained their physical activity six months after HEALD ended, many described diminished self-efficacy to continue being active and not being able to do it alone:

‘I know if I do what [the exercise specialist] said that I wouldn’t have to take medication. It’s just being able to do it. I thought I was disciplined enough to do it – and I can’t,’ (F2, WB [emphasis added]).

Participants reported relapsing into former sedentary behaviours after completing HEALD. They stated that the lack of social support available to them after HEALD ended contributed to their relapses, due to a loss of motivation or accountability. For example, one participant spoke of losing motivation to be active without his peers:

‘I do not like to walk alone. After every one of those exercise [sessions], I felt really good. It seemed like something had been accomplished. On my own, I don’t have any sense of accomplishment whatsoever,’ (M3, WC).

Participants also suggested changes to the HEALD programme that they believed would help them maintain their physical activity, including extending the length of the programme for ongoing social support.

One participant said that a longer programme would better support sustainable behaviour changes among participants because they would be accountable to others for a longer time:

‘It’s a great idea, except it’s not enough time to change a behaviour. At least a year to monitor the records and keep the walking up – adults still need to be held accountable,’ (F2, WB).

In addition, participants recommended emphasising the peer support aspect of HEALD more, as group discussions and sharing experiences...
with peers were enjoyable aspects of the programme. For example, one participant recommended having a support group ‘like AA [Alcoholics Anonymous]’ for people with diabetes to foster ongoing peer support (M3, WC).

In summary, participants reported not feeling confident or motivated to maintain physical activity after HEALD ended, along with the discontinuity of social support that the programme offered them. They recommended longer-term support from the exercise specialists and more opportunities for sharing and discussion with peers, to facilitate maintenance of physical activity.

Discussion
We found that perceptions of social support, self-efficacy and motivation, and interplay between these conceptual factors, were key themes underlying participants’ experiences before, during and after their involvement in HEALD. Greater perceived availability of social support during HEALD, relative to before HEALD, was tied to participants’ reported self-efficacy and motivation towards adopting physical activity behaviours. Six months after the programme, when less social support was available, participants reported that self-efficacy and motivation to maintain physical activity likewise ebbed.

Participants discussed feeling supported and motivated by the exercise specialists who led HEALD to increase their physical activity, and having physical activity-related self-efficacy while involved in the programme. Existing research shows that: social support from HCPs is associated with successful adherence to diabetes self-management activities including exercise;22 collaborations between individuals with T2DM and their HCPs can motivate people to engage in more physical activity;25 and professional-led exercise interventions can improve exercise-related self-efficacy in sedentary adults.24 Thus, our findings pool current knowledge by suggesting that social support from HCPs can rouse participants’ motivation and self-efficacy towards physical activity during a programme for people with T2DM.

Participants in this study also spoke highly of receiving peer support during HEALD. Participants expressed that they enjoyed the supportive group environment and discussing their experiences with other people who have diabetes, and were compelled to attend HEALD sessions out of a sense of commitment to their peers in the programme. Despite the lack of consistent evidence for peer support in improving various diabetes outcomes, including physical activity and self-efficacy,25 our results demonstrate that social support derived from one’s peers can have a powerful impact on attendance and adherence to a physical activity programme for some individuals with T2DM.

In spite of the positive HEALD experiences that participants described, several reported struggling with physical activity-related self-efficacy and motivation, and difficulty in maintaining their physical activity after HEALD. Struggles with self-discipline when it came to maintaining their physical activity without supervision from exercise specialists may have undermined the confidence these participants had built during HEALD. Transitional assistance post-intervention could benefit individuals with T2DM who struggle to continue exercise without supervision.26 Reasonably, providing periodic contacts following completion of a programme like HEALD, wherein an HCP such as an exercise specialist ‘checks in’ on individuals (i.e. reviews their activity records, addresses their concerns etc), may satisfy the support needs of low self-efficacy participants and motivate them to maintain their physical activity. Indeed, more contact with a counsellor in the six months after a health behaviour intervention has been associated with behaviour maintenance, compared to less contact;27 however, the optimal number and frequency (i.e. dose) of contacts remain to be determined.

For HEALD completers who expressed a desire for more peer support, the most suitable form of offering structured peer support is uncertain due to the varying needs that were identified (i.e. motivation from group exercise versus a support group like ‘AA’). Existing research shows that many individuals face barriers that make attending face-to-face meetings difficult.28,29 However, web- and telephone-based approaches hold promise,30,31 and their utilities in extending peer support after programmes to promote physical activity in individuals with T2DM require further study.

Study strengths and limitations
In this study, we add to the current literature around social cognitive factors and motivation in health behaviour interventions targeted towards adults with T2DM. A strength of the current study includes reporting on the emergence of complex interplay between the availability of social support and having self-efficacy and motivation to engage in physical activity for diabetes management. However, because we used self-reported data and did not empirically evaluate changes in social support, self-efficacy or motivation, some may consider this a weakness. In addition, participants in other lifestyle programmes may have perspectives different from those reported by HEALD completers. Nevertheless, our findings are relevant to modifying HEALD or similar health behaviour programmes based on Social Cognitive Theory. Health care providers should carefully
consider these themes when establishing a support structure for T2DM management.

Acknowledgements
Research reported in this work was supported by grants from Alberta Health, the Lawson Foundation of Canada, and an Emerging Team Grant to the Alliance for Canadian Diabetes Outcomes Research in Diabetes (ACHORD) (reference no. OTG-88588), sponsored by the Canadian Institutes for Health Research Institute of Nutrition, Metabolism and Diabetes.

Declaration of interests
There are no conflicts of interest declared.

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