

Guided Self-Determination: A self-management intervention for young adults with type I diabetes

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Background and rationale for the study

Australia ranks sixth in the world in T1D and the incidence has doubled in the last twenty years (Kyi *et al.* 2015). T1D requires intensive management that incorporates permanent lifestyle modifications to maintain blood glucose levels within a specified range. Contemporary practice is to empower the patient to monitor their glycaemia, replace insulin by means of injections or a continuous infusion pump, and to be vigilant about diet, exercise and signs of secondary complications. Clients are also linked to a network of healthcare providers, including diabetic nurse educators.

Adhering to such a rigorous healthcare routine is challenging and poor glycaemic control is a common outcome for people with T1D. Teaching and facilitating self-management and supporting a client with T1D is also a demanding process for the diabetic nurse educator.

Young adults are particularly at risk of non-adherence and the literature cites a number of reasons for this. The focus of this study was young adults with T1D and the educators charged with their care.

Zoffmann (2004) developed Guided Self-Determination (GSD) as a life-skills development approach to support individuals with T1D and diabetic nurse educators. GSD requires clients to reflect on their diabetes and to engage in series of conversations with the nurse educator to foster mutual problem solving and shared decision-making for optimal self-care.

Technology offers potential solutions to engage young adults with T1D and educators in this process (Sheehy *et al.*, 2014). As digital natives, young adults are familiar with internet technologies to communicate effectively and efficiently according to their perceived needs.

The aim of this pilot study was to develop and test an online version of GSD exploiting the advantages of technology to promote communication between clients and educators, and assist in the development and implementation of lifestyle action plans that would meet the unique and changing needs of young adults with T1D.

Method

Nine educator-client dyads participated in this study. Educators recruited clients from their existing caseload. When surveyed before starting the pilot project all had access to portable devices using Windows based operating systems and all were connected to the NBN or ADSL. All were regular users of social media.

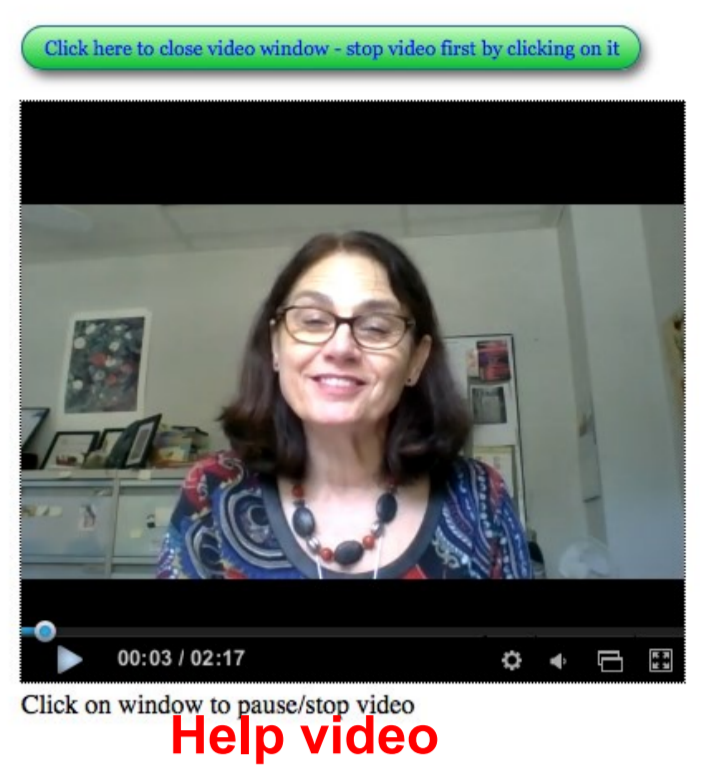
The online GSD program was developed according to strict parameters to mimic the properties of the paper-based face-to-face conversation format. It was necessary for educators and clients to see one another and to share a screen to complete written information collaboratively, and to review the client's reflections on managing T1D. Zoom® was used as the video-conferencing tool. Zoom was chosen due to its capacity to share screens while still allowing the client and educator to view each other. Clients shared their screen with the educators allowing the client to retain control of the data recorded.

Educators were trained to use the tool in a workshop supplemented with one-on-one remote follow-up if necessary. On initial contact with the client the dyads were also offered training via Zoom if required. The educators then taught their clients to use the online GSD methodology

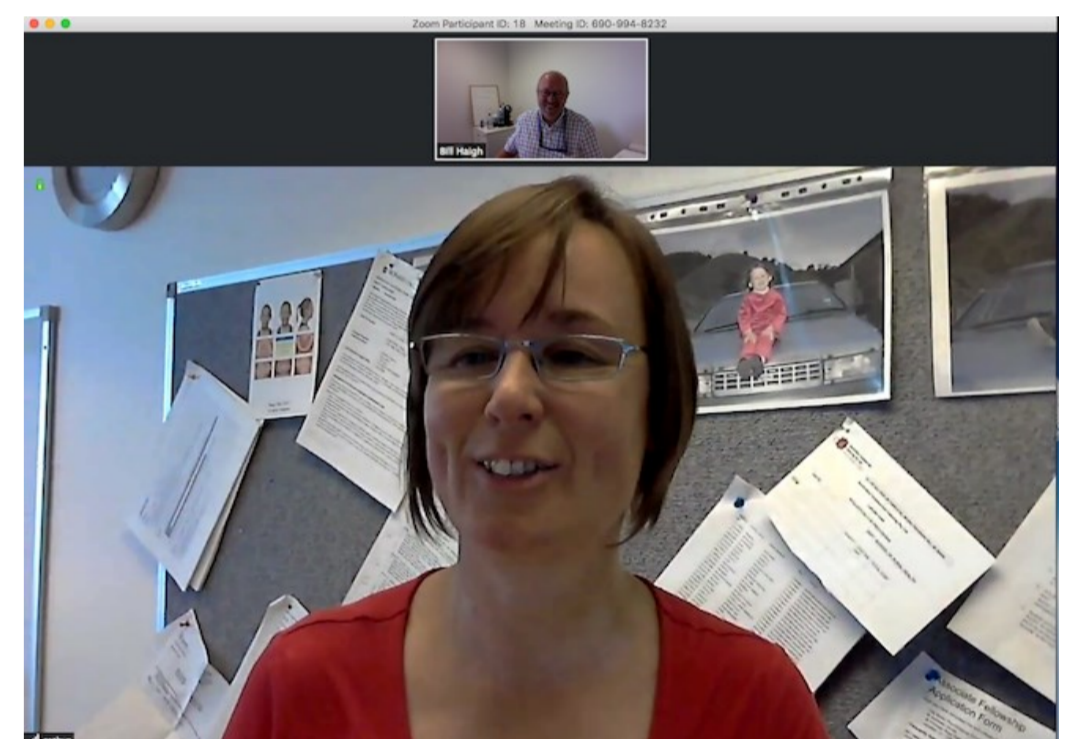
Date	Breakfast		Lunch		Afternoon Snack		Dinner		Bed Time	HbA1c	Average
	Before	After	Before	After	Before	After	Before	After			
20-08-16	5.1	5.7	5.5	6.2	6.5	5.7	5.2	5.8	5.5	6.5	5.7

Each "conversation" page had a dedicated help video. These videos were no longer than one minute in duration.

Participants were surveyed about their perceptions of the online GSD program post implementation.



Click on window to maximize video
Help video

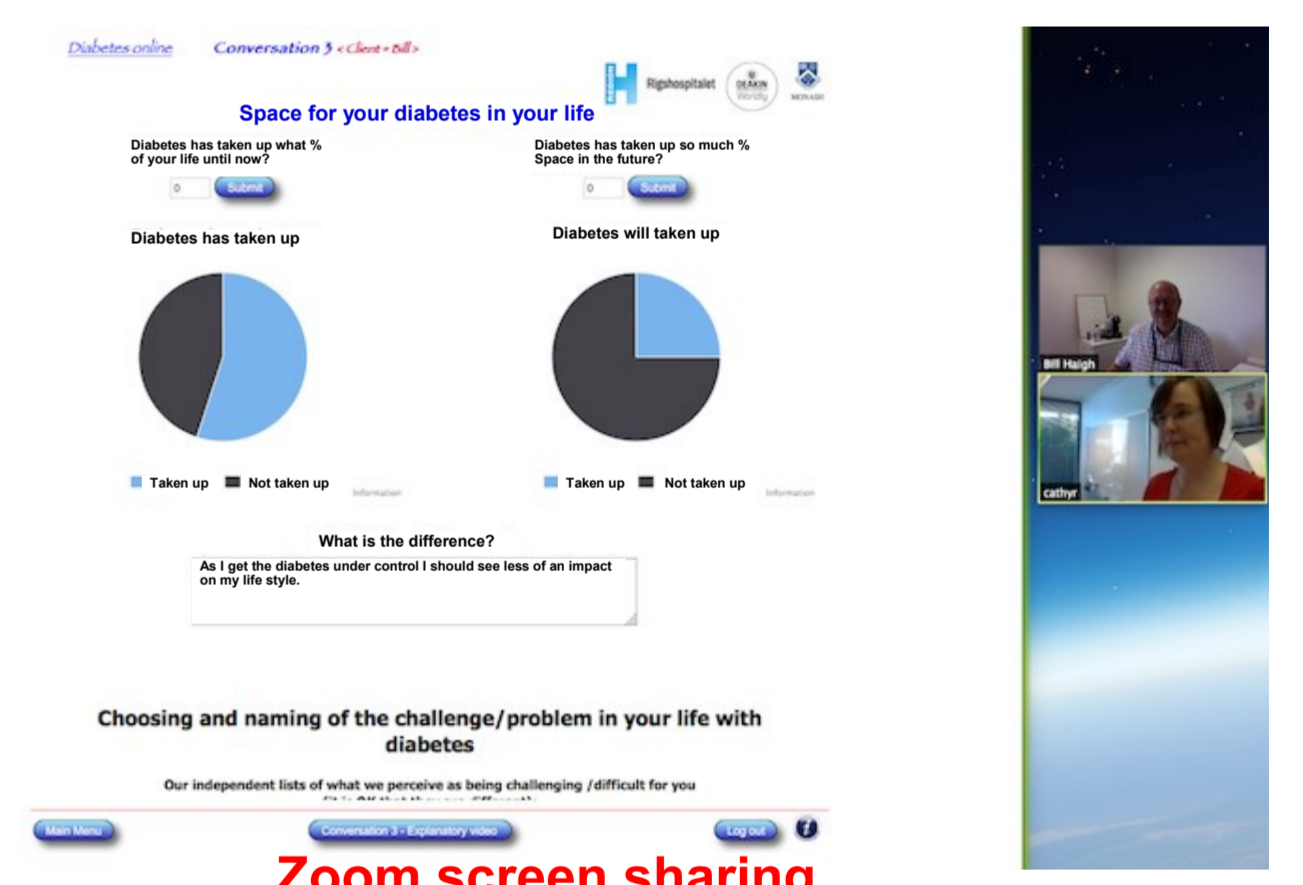


Initial Zoom connection

Results

Six out of nine dyads completed all conversations as per the original GSD protocol. The remaining three were stopped due to practical reasons (educator going on leave, timing extending beyond the period of the pilot study) rather than any difficulties encountered. The minimum number of logons to complete the conversations was 7, the mean number of logins was 20, indicating that clients did revisit the site to reflect on and review the action plans generated. The clients controlled their own data and very much took ownership of the conversation process.

Given the reciprocal support from digital natives to immigrants, training was not intensive. Barriers to implementation were institutional with concerns being raised regarding organisational network policy and procedures. Firewalls prevented external access in some cases. Such barriers were eliminated by educators choosing to use their own devices outside of the workplace to engage with clients. This was a testament to the user-friendliness of the process.



Zoom screen sharing

Feedback from Clients

"I absolutely loved this program and would really appreciate this sort of approach from my healthcare providers. I really got a lot out of the program which helped me with other broader health and wellbeing goals."

"I was able to reflect on the bigger picture of my diabetes since diagnosis and to see how well I have managed myself over the last 10 years which I had lost sight of during a recent rough patch. Being able to complete the program in my own home was also extremely convenient for someone who lives in a regional area."

"Overall, I thought this educational method was really positive as it enabled me to drive the learning a bit more which was different to my past experiences with educators"

"Having regular check ins to see how you were progressing with a goal. Saving time and money on not having to pay for appointments, petrol and time off work. Convenient doing it within my own home."

...and from Diabetic Educators

"Access to appointments for the client without interrupting work or life commitments as much."

"I am unsure if would fit in for the Educator as well as many of the times aimed for are after hours contact. Increasing work commitment."

"I can see that this online system could provided great benefit to some individuals and help develop a strong rapport between the client and DE."

Plans to change lifestyle

Many of the rules and recommendations to people with diabetes can be difficult to fit into everyday life.

Select the check box in the left column beside all the HFDs that you think applies to your everyday. Select the check box in the right columns, if there is something you would like to change or have no plans to change

My everyday life is characterised by the fact that I (Please click as appropriate)	I would like to change (Please click as appropriate)			I have no plans to make changes (Please click as appropriate)
	Within the first month	Within the first 6 months	After the first 6 months	
<input checked="" type="checkbox"/> I do not eat the meals I need according to my treatment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> I do not adjust my insulin when what I drink and eat contains more carbohydrates than normally	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> I eat too much when my blood glucose is low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> I do not exercise enough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> I sometimes do not take the amount of insulin I need	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion / Implications for Future Applications of the Online GSD

This pilot study provided proof of concept for an online version of GSD to support both clients to self-manage T1D optimally and educators to foster these efforts. Future iterations of the program could exploit the real-time and dynamic aspects of online tools, moving away from the static paper-based format of the original tool. The online GSD in its current format is heavily reliant on text input, a feature which is not user-friendly particularly on mobile devices. The program needs to be upgraded to reflect current internet standards.

Data from both clients and educators could be collated and would contribute to the evidence base for best practice in self-management education packages for clients, and underpin training to credential diabetic educators in skills linked to the national core competencies. In addition, the policy and procedures of healthcare organisations will need to keep pace with technological innovations to support clients and educators to manage T1D sustainably and efficiently and optimising patient care in general.