

Original Article

Patient Perspectives on a Tailored Self-Management Education and Support Intervention for Low-Income Seniors With Chronic Health Conditions

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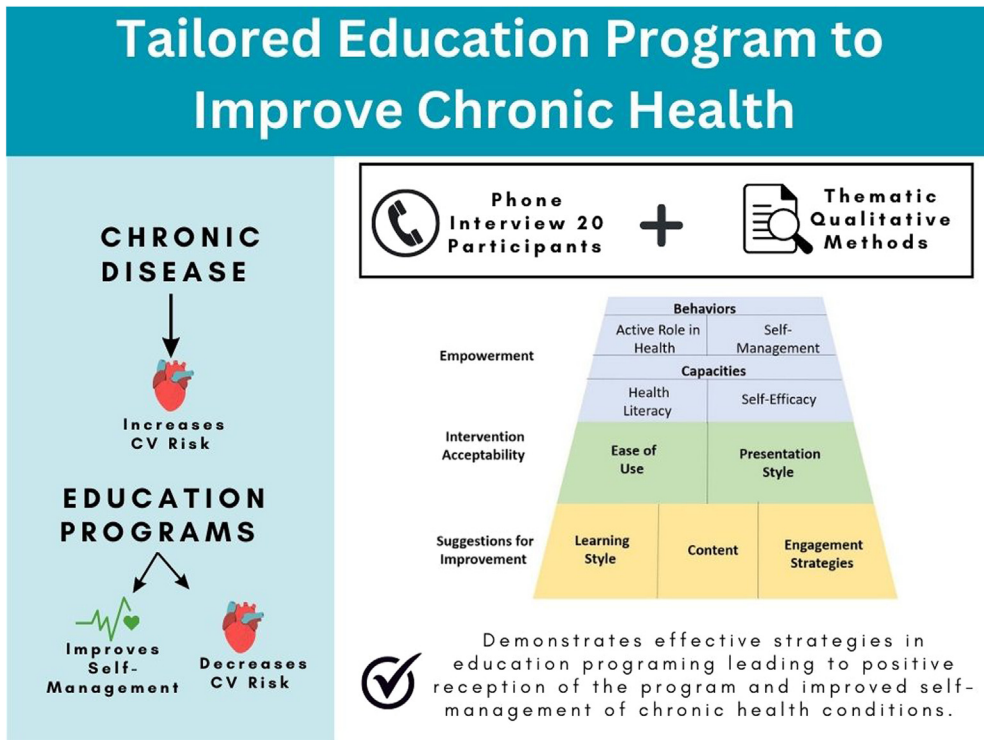
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ABSTRACT

Background: The Assessing Outcomes of Enhanced Chronic Disease Care Through Patient Education and a Value-based Formulary Study (ACCESS) was a 2 x 2 factorial randomized trial that tested the impact of a tailored self-management education support (SMES) program, which demonstrated a 22% reduction in adverse clinical events. We sought to qualitatively explore participants' perspectives on the SMES intervention, and the ways in which it may have improved self-management skills.

Methods: We used a qualitative descriptive approach and conducted individual semistructured interviews. We conducted inductive and deductive thematic analysis using NVivo 12 (QSR International, Burlington, MA).

Results: We interviewed 20 participants who had recently completed the 3-year SMES intervention. The following 3 main themes emerged from the data: (i) empowerment; (ii) intervention acceptability; and (iii) suggestions for improvement. Regarding empowerment, we identified subthemes of health literacy, self-efficacy, self-management, and active role in health. Several participants reported that empowerment promoted health behaviour change or improved confidence in self-management. Regarding acceptability, we identified subthemes of ease of use and presentation style. Most participants expressed positive feelings toward the intervention and felt that it was easy to understand. Finally, we identified subthemes of learning style, content, and engagement strategies, within the theme of suggestions for improvement. Some participants said that the messages were too general and did not fully address the complex health concerns they had.

Conclusions: Our results highlighted key strategies to promote patient engagement and self-management behaviours and demonstrated how they may have been used to improve clinical endpoints. Additionally, we demonstrated the novel use of marketing principles in SMES interventions.

RÉSUMÉ

Contexte : L'étude ACCESS (pour Assessing Outcomes of Enhanced Chronic Disease Care Through Patient Education and a Value-based Formulary Study) était un essai à répartition aléatoire avec un plan factoriel 2 x 2 qui a mesuré l'effet d'un programme personnalisé de soutien à la formation sur l'autogestion dans laquelle une réduction de 22 % des événements cliniques défavorables a été observée. Notre objectif était de réaliser une exploration qualitative du point de vue des patients au sujet de l'intervention et des façons dont elle a permis d'améliorer leurs habiletés d'autogestion.

Méthodologie : Nous avons utilisé une approche descriptive et qualitative et nous avons mené des entretiens individuels semi-structurés auprès des participants. Des analyses thématiques inductive et déductive ont été réalisées avec NVivo 12 (QSR International, Burlington MA).

Résultats : Des entretiens ont été menés auprès de 20 personnes ayant récemment terminé l'intervention de 3 ans. Les données recueillies ont permis de cerner 3 thèmes principaux : (i) l'autonomisation; (ii) l'acceptabilité de l'intervention; et (iii) les suggestions pour l'amélioration du programme. En ce qui concerne l'autonomisation des patients, nous avons relevé les sous-thèmes de la littératie dans le domaine de la santé, de l'auto-efficacité, de l'autogestion et de la participation active dans le domaine de la santé. Plusieurs participants ont mentionné que l'autonomisation avait favorisé des changements de comportements liés à la santé ou avait amélioré leur niveau de confiance quant à leur autogestion. Pour ce qui est de l'acceptabilité, nous avons noté les sous-thèmes de la facilité d'utilisation et du style des présentations. La plupart des participants ont exprimé une opinion favorable au sujet de l'intervention et la trouvaient facile à comprendre. En dernier lieu, nous avons relevé les thèmes des styles d'apprentissage, du contenu et des stratégies de mobilisation, que nous avons regroupés sous le thème des suggestions d'amélioration. Certains participants ont mentionné que les messages étaient trop généraux et n'abordaient pas leurs préoccupations complexes liées à la santé.

Conclusions : Les résultats que nous avons obtenus ont mis en évidence des stratégies clés pour favoriser la participation des patients et leurs comportements d'autogestion et la façon dont elles ont pu améliorer les résultats cliniques de patients. De plus, nous avons démontré une nouvelle utilisation de principes tirés du domaine du marketing dans des interventions de soutien à la formation sur l'autogestion.

Chronic medical conditions are highly prevalent, increasing over time, and disproportionately distributed among older adults, particularly those with lower socioeconomic status.^{1,2} These conditions can have significant effects on quality of life, and they drastically increase the risk of cardiovascular disease—related morbidity and mortality.³⁻⁵ Despite the availability of effective treatments and self-management

practices, not all patients are able to adhere to these,⁶ with only 38%-60% successfully undertaking physician-recommended health behaviours.⁷ Development of effective solutions for the management of chronic conditions has become increasingly important.⁸

Self-management education and support (SMES) interventions have been successful in helping patients make and maintain healthy changes.⁹⁻¹³ These interventions work by providing support, with the aim of improving health literacy and self-management.^{14,15} Prior literature has demonstrated that SMES interventions can result in sustained health behaviour change,^{10,16} potentially leading to lower rates of both hospitalization and adverse outcomes among those with chronic conditions.^{14,17} Most recently, the Assessing Outcomes of Enhanced Chronic Disease Care Through Patient Education and a Value-based Formulary Study (ACCESS)

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See page 814 for disclosure information.

tested the impact of a novel SMES program that incorporated principles of commercial advertising. We demonstrated a 22% reduction in the primary composite endpoint, driven by a 34% reduction in avoidable hospitalizations.¹⁸ However, SMES programs also can be ineffective, often due to their being inadequately tailored to the target population.^{19,20} The specific aspects of SMES interventions that make them successful are unclear. Understanding how the features of these programs are perceived by patients can assist in the development of future interventions.

In this study, we interviewed participants in ACCESS, to explore perspectives of those in a tailored SMES program. This study expands on the previously reported study findings, with the aim of better elucidating what did and did not work for participants during this randomized controlled trial.¹⁸ With this improved understanding, our hope is that the development and implementation of future SMES programs can be better tailored to the needs of patients to assist in cardiovascular prevention efforts.

Methods

Study context

The study was based in Alberta, Canada. Alberta has 4.5 million residents, and all residents have universal public health insurance that fully covers hospital and physician services. Most have a primary care physician, and some patients have access to dietitians, physiotherapists, and disease educators through their primary care networks.²¹ All residents can be referred to specialists through their primary care physician. SMES programs are accessed at the patient's discretion.

ACCESS Study

The present study was nested within ACCESS (clinical trials.gov #: NCT02579655), a 2 x 2 factorial randomized controlled trial conducted to test the impact of 2 interventions on 4761 low-income seniors with cardiovascular (CV)-related chronic conditions.²² The first of these interventions was a tailored SMES program, and the second was the elimination of patient copayments for cardioprotective medications. Both interventions were provided for a duration of 36 months.

Participants eligible for the trial were adults aged ≥ 65 years with an annual household income of $< \text{CAD}\$50,000$ who were diagnosed with any one or a combination of chronic kidney disease, coronary artery disease, heart failure, or stroke, or at least 2 of diabetes, high cholesterol, hypertension, or smoking. Patients with self-reported cognitive impairment were excluded. Enrollment occurred primarily through community pharmacists and physicians, with participants' diagnosed chronic conditions being self-reported at the time of registration.^{23,24} Participants were randomly assigned 1:1:1:1 to each intervention, both, or neither, and were followed for 3 years for the study's outcomes, including both patient-reported measures and clinical outcomes.

Those who were randomized to the SMES program received weekly trifold postcards for 3 years, as well as health support tools. The program and messages were codeveloped by a marketing firm (EMERGENCE Creative; New York, NY) and several Calgary-based clinicians with expertise in managing

patients with chronic health conditions.²⁵ Messages were designed to represent communication from a fictional peer (named 'Moxie'). Each week, the messages opened with a story pertaining to the information that was presented. Messages targeted several aspects of CV health promotion, such as diet, physical activity, and medication adherence. Using individual participant characteristics (ie, presence of diabetes, CV risk factors, smoking status, and current medication use), participants were assigned to 1 of 50 predetermined tracks, which dictated the specific information they would receive. Participants were provided with additional health tools, such as reusable grocery bags (3 months), health-tracking books (6 months), and pedometers (12 months), with the goal of encouraging engagement. The intervention also included a facilitated relay component that consisted of participants being sent letters regarding medications specific to their baseline health data. Participants were instructed to take these letters to their pharmacist and physician to facilitate discussions about preventative medications (specifically statins, and angiotensin-converting enzyme inhibitors or angiotensin receptor blockers).

In addition to receiving the postcards, participants had the option of enrolling in the electronic version of the intervention, which provided them with 3 weekly tailored e-mails and access to a secure personalized website built in collaboration with an information technology consultant (Locus Health, Charlottesville, VA). Participants enrolled in the electronic version were reminded frequently via e-mail to check their tailored portal, where they received additional personalized health tips.

As mentioned, the trial found that the SMES program was associated with a statistically significant 22% reduction in the composite primary endpoint, and a 34% reduction in avoidable hospitalizations. No differences were observed in mortality, major adverse cardiovascular events, medication adherence, quality of life, or healthcare costs.¹⁸

Conceptual frameworks and study design

The study design and execution were influenced largely by 2 conceptual frameworks. First, we utilized the framework proposed by Bravo et al., regarding the indicators of patient empowerment.²⁶ This framework was used to inform the development of the interview guide, with questions designed to assess aspects of participant empowerment through behaviours and capacities. The second framework, developed by Bzowycy et al., was used to evaluate the educational intervention.²⁷ This framework was used to guide the analysis and data synthesis.

A qualitative descriptive approach was used to allow for the analysis and results to best retain the original language of the participants.²⁸ Ethics approval was obtained from the University of Calgary Conjoint Health Research Ethics Board (REB13-1241). Informed consent was obtained from all participants. Rigor was maintained throughout the study process by use of a well-maintained codebook, a project journal detailing meeting records, a field journal to document all participant interactions, and the use of independent data coders, with a third member brought in to assist with discrepancies.²⁹

Sampling

The sampling frame for this study was ACCESS participants who received exclusively the tailored SMES intervention

and completed an end-of-study follow-up survey. Interviews were conducted within 6 months after individuals completed their time in ACCESS. This timeframe was chosen because the participants had a staggered ending of the SMES intervention, and we chose to sample from only the most recently completed group to mitigate differences in recall. We anticipated needing to interview a minimum of 15 individuals, with the intention of continuing sampling until thematic saturation³⁰ was achieved. Several characteristics were identified as potential factors affecting participant perspectives, and purposive sampling was done with consideration of each of the following:

- gender (men/women—self reported);³¹
- intervention type (paper-based only/paper plus electronic);
- whether a participant was taking medications (ie, angiotensin converting enzyme Inhibitors/angiotensin receptor blockers or statins) that were being targeted to increase use, at both baseline and midpoint checkins; and
- level of medication adherence at baseline and changes in medication adherence.

Data collection

Individual semistructured interviews³² were conducted over the telephone. Interviews ranged in length between 30 and 60 minutes. The interviewer was made aware of some prior responses from the participant surveys collected throughout ACCESS, which were used to tailor the questions. This tailoring includes the details of the sampling criteria, as well as the specific chronic health conditions the interviewee had that were of interest. Interviews were conducted by K.P. (female, research assistant), who was trained in qualitative interviewing and had no prior relationship with participants. Participants were informed of the purpose of the interviews. The main topics covered in the interview were as follows: (i) participants' opinions of the intervention; (ii) changes that the intervention had on self-management; and (iii) suggestions for future interventions. Field notes were taken during all interviews, and proceedings were digitally recorded and transcribed by a professional transcriptionist.

Data analysis

Interview transcripts were imported into NVivo 12 Software to assist in the organization of data. Analysis was completed by 2 independent reviewers (K.P. and S.S.). Thematic analysis techniques were used to code the transcripts.³³ A preliminary coding template was developed from the interview guide, and codes were added through inductive open coding. The coders met with a third team member (T.S.-S.) to resolve discrepancies. Focused coding was done by K.P. to synthesize the data and identify broader themes, with regular checkins conducted with K.K.D. and D.J.T.C..

Results

We contacted 31 individuals of a potential 79 individuals who would have been eligible for participation; 11 people declined to participate or were unreachable, and we conducted individual interviews with 20 participants. There was an even

split in self-reported gender between male vs female, and a near-even split between electronic vs non-electronic (Table 1). Participants reported varying adherence patterns and changes in medications during the program. We categorized the feedback received into the following 3 overarching themes: empowerment; intervention acceptability; and suggestions for improvement. Further data can be found in Supplemental Table S1.

Empowerment

Empowerment was comprised of the following 4 sub-categories: (i) health literacy and (ii) self-efficacy, which are considered “empowered capacities”; and (iii) self-management and (iv) active participation, which are illustrative of “empowered behaviours.” Participants expressed a positive influence in all 4 domains and felt confident that the changes would be sustained after the intervention.

With regard to health literacy, participants expressed that the intervention improved their knowledge about their conditions, which helped them make educated decisions: “I found [the messages] were getting me back on track . . . understanding why I should be taking the medication and keep on taking it” (participant (P)14—diabetes).

Several participants expressed that the intervention helped improve self-efficacy, making them more confident in managing their condition: “[MOXIE] helped me feel more confident” (P11—hypertension and heart disease).

Under self-management, participants shared that they were more consistent in their health-related behaviours or had introduced improved behaviours because of the SMES intervention. Areas of improvement included dietary patterns, physical activity, more regular self-monitoring, and organizational systems to aid with medication adherence. One participant expressed that the messages helped motivate him to choose healthier meals: “The food guide I get through MOXIE helps me make choices at mealtime. We can take the better one or the worse one according to MOXIE, and the vegetables that are the best to take as well. So, it helps me with the diet.” (P13—hypertension and heart disease).

Finally, under the theme of active participation in health, several participants expressed that the intervention encouraged them to ask more questions regarding their health needs and pursue information from additional sources: “I would have to look things up and then sometimes check with the doctor to just make sure, the dietitian as well” (P6—hypertension and stroke).

Intervention acceptability

The following 2 subthemes regarding acceptability were predominant: ease of use and presentation style. Regarding ease of use, participants expressed that the messages were simple to read and understand: “[The messages] were easy to read . . . it got so you were getting a message from a friend. You know, you looked forward to them” (P1—heart disease).

Many participants reported that the style of presenting information through stories was engaging and an enjoyable way to learn: “I read it and then there's these little stories behind it. They were interesting and yeah, it's very informative. I have nothing but praise for it.” (P11—hypertension and heart disease).

Table 1. Participant classification

	Interviews (n)	Proportion
Intervention delivery		
Postcards and electronic	11	0.55
Postcards only	9	0.45
Gender		
Woman	10	0.5
Man	10	0.5
Change In type of medication used		
Started one or more target medication* during trial	14	0.7
Discontinued one or more target medication* during trial	6	0.3
Change in adherence to medications		
No change—adherent	5	0.25
No Change—nonadherent	6	0.3
Change—more adherent	5	0.25
Change—less adherent	4	0.2
Age, y		
65—70	9	0.45
71—74	7	0.35
> 75	4	0.2
Income, CAD\$		
0—29,999	7	0.35
30,000—50,000	13	0.65
Highest level of education		
Postsecondary diploma or higher	10	0.5
Lower than postsecondary diploma	10	0.5
Multimorbidity		
0—2 conditions	4	0.2
3+ conditions	16	0.8
Self-reported conditions		
Coronary artery disease	8	0.4
Stroke	5	0.25
Heart failure	4	0.2
Diabetes	12	0.6
Chronic kidney disease	3	0.15
Hypertension	16	0.8
Hyperlipidemia	16	0.8
Depression	5	0.25
Smoking status		
Never smoker	8	0.4
Ongoing smoker	2	0.1
Former smoker	10	0.5

*Target medication = statins and angiotensin-converting enzyme inhibitor or angiotensin receptor blocker.

Finally, regarding style, several participants expressed a desire for both mail and electronic options. Some participants expressed that they found merit in both delivery options and liked having the choice: “Electronically nowadays is probably more effective, although paper mailers are harder to ignore than an email which I get way too many every day” (P20—heart disease).

Overall, most participants expressed positive feelings toward the intervention. Several reported that the messages had a positive effect on their mood, particularly during isolation due to the COVID-19 pandemic: “I enjoy it, it’s educational and you know, when you live by yourself, especially with this COVID you know, you are hunkered down in dodge and I don’t see anyone, only my son. You get these little cards, and they are a pick me up” (P1—heart disease).

During our focused coding, we observed that individuals who enjoyed the delivery style of the messages were more likely to express positive changes in their self-management skills or a greater sense of empowerment compared to those who did not relate well to the Moxie character.

Suggestions for improvement

Although most feedback was positive, some suggestions for improvement were made, which were divided into 3 sub-themes, as follows: learning style; content; and engagement strategies.

Regarding learning style, some participants provided the feedback that the stories in the mailers distracted from the information and that a more direct approach about the consequences of conditions would have had more impact. One participant expressed this sentiment as follows: “Well instead of stories that have no relevancy, it might have been better, if I understood more about the results of diabetes unchecked. Diabetes is unchecked; here is what is going to happen to you: X, Y, Z. The Moxie stuff was kind of hearts and flowers and goodie stuff, but then diabetes is a nasty disease” (P12—hypertension, heart disease, and diabetes).

The most frequent complaint under the theme of content was that the messages were too generic or were “common sense”. One participant said “There are some things that are plain ordinary common sense” (P4—hypertension, heart disease, and diabetes).

Additionally, participants expressed a desire for more personalized content that considered their health complexity, specifically, how to manage multiple comorbidities. An example is the following: “You know, if you are a diabetic and have a heart condition, and a gastric condition, what is the difference from being just one . . . you can’t lump, say diabetes is this when you have the other conditions that affect diabetes too. One affects the other and you can’t get a straight answer for anything” (P21—hypertension, heart disease, diabetes, and stroke).

Finally, regarding the subtheme of engagement strategies, most participants expressed that they would like to have more personal contact or social interaction in future interventions. Suggestions included the development of a website with a question-and-answer feature, a non-emergency helpline, or a social support group that connects individuals enrolled in the intervention.

Discussion

This study explored participants’ perspectives on the successful ACCESS SMES intervention. Although previous literature has demonstrated the benefits of SMES,^{11,13,34,35} little research has been done on the perspectives of participants in these interventions. Overall, the SMES intervention was received positively. Participants felt that the messages provided them with accessible and trustworthy information and assisted them in making positive health behaviour changes.

One factor that may have influenced the patient perceived acceptability of this intervention is that its source is an academic institution, rather than a website that they had sought out. This concept of trust in professional authority is reflected in the literature, with patients expressing a greater trust in information provided by a professional.³⁶ Having a trusted institutional body deliver the SMES intervention could play a role in its ultimate success.

The SMES intervention had a positive effect on many aspects of patients’ health behaviours, including improved health literacy, changes in self-management, and greater

engagement with their healthcare team. Comparable results have been observed in a prior qualitative study of this SMES intervention, which assessed participant perspectives in the initial months of the intervention, as well as in quantitative studies.³⁷ However, in this study, we were able to assess the durability of these changes over 3 years, and the participants' confidence that they could maintain these changes several months after the program concluded. This information is valuable because the overall aim of SMES programs is to create sustainable change, which can go beyond the duration of the intervention. Previous studies on chronic health conditions have found that the development of behavioural habits and organizational systems is essential for long-term health self-management.^{38,39} The tactics employed in this intervention were seen to have a positive effect on habit building and may be effective in promoting sustained behaviour change. The tactics include the repetition of reminders, and the provision of habit-focused advice, such as how to organize a medication schedule or develop physical activity routines.

The SMES intervention was intended to feel like receiving a "message from a friend," with the inclusion of stories and informal language aimed at supporting participants in improving their self-management skills in an accessible way. This technique is commonly used in marketing, often to engender audience engagement and information retention. Prior literature indicates that the use of an authentic voice or narrative messaging can be beneficial in health education, with participants being more likely to identify the aim of the information.^{40,41} In this study, participants who received the tailored self-management intervention appeared to be more receptive to the messages because of the delivery and structuring of the Moxie character, with many citing this as a major factor in their enjoyment. The observed link between participant enjoyment and health behaviour change suggests that SMES interventions are most successful when they use strategies to engage participants, just as marketing tactics are intended to engage the audience. Future SMES interventions may be able to capitalize on this finding by utilizing a character voice in their messaging, as well as other marketing techniques.

An unanticipated result from this study was the revelation that many older adults in Alberta feel socially isolated. At the start of ACCESS, we could not have predicted the COVID-19 pandemic or how this would impact mental well-being. What became clear is that many people have felt isolated in the past few years, both socially and from their healthcare team. Each participant of this substudy received the SMES intervention for at least 1 year in pandemic conditions. A common theme was that the messages offered a sense of support and reminded them that they were not alone. The messages acted as both encouragement for doing the health behaviours and connection during isolation. This result is a valuable reminder of the negative effects of isolation, and stresses the importance of social support among this demographic. Following COVID-19, isolation among seniors remains high, with as many as 30% of Canadian seniors being at risk for social isolation, and a greater risk is seen among those with chronic health conditions and low socioeconomic status.⁴² Social isolation is a known barrier to health, and addressing this issue should be considered as a valuable component of any treatment plan.^{43–45}

Tailoring is a significant challenge in the development of SMES interventions, due to the wide variance in life and

health conditions among participants. Prior literature supports the notion that tailoring interventions to participants' base-level capacities, such as health literacy, can improve the effectiveness of the intervention.⁴⁶ As indicated by our results, a similar level of consideration should be given to physical and health-behaviour capacities when tailoring interventions—including the living conditions of participants, the resources available to them, and their underlying health status. Additionally, the issue of comorbidities was frequently mentioned among participants, and our results suggest that the interactions between comorbidities constitute a significant knowledge gap among older adults. Future SMES programs should be developed to address the interactions between comorbidities and the management of multiple chronic health conditions. Furthermore, improved tailoring may assist in providing participants with less-generic information, which was identified as a suggestion for improvement. Our study did not tailor messages by the length of time that participants have managed their condition, their external access to health information, or their baseline health literacy levels. For some participants, the information may not have been new, as they had prior experience managing chronic health conditions.

This study has several limitations. First, the results represent only the subjective experiences of those participants interviewed. Not all participants will share the opinions represented in this study. Although we did manage to collect data from an even split of participants across our sampling criteria, and we achieved saturation in that no new information was being added to the data during our final interviews,³⁰ we cannot be sure that the data reflected in this study are indicative of all perspectives. However, we believe that we captured an accurate representation of the perspectives of those who received this intervention.

Second, as this study was conducted at the end of a 3-year trial, recalling certain experiences throughout the intervention may have posed challenges. To mitigate this limitation, we structured the interview questions to have significant repetition and gave ample time for participants to answer all questions. Participants with self-reported cognitive impairment were not included in ACCESS, but memory challenges nonetheless were expressed by some during the interview when it came to specific messages. As we focused on the general feelings of participants regarding the SMES program, and not on specific messages, we believe that expecting participants to have retained these impressions is reasonable, and that difficulty with recall is not a threat to the study validity. Finally, we are aware that the predominantly positive feedback may have been influenced by the power imbalance between the interviewer, who was a representative of the university, and the interviewee, who was a low-income older adult. Precautions were taken in the study design to minimize this imbalance, such as having the interviews conducted by an external team member who had no prior connection to the participants. Due to the COVID-19 pandemic and its associated restrictions in force at the time, conducting group interviews or focus groups was not possible. However, individual participants were allowed to have a family member or partner join them for the interview if their preference was to do so.

A strength of this study is that we explored the long-term sustainability of the self-management effects of the SMES intervention by exploring participant perspectives at the end

of the 3-year trial and by beginning interviews 2 months after the conclusion of the intervention. This approach expands on our earlier analysis, which assessed the acceptability of the intervention in the beginning phase,³⁷ and establishes the potential effects of the intervention on the maintenance of behaviour change. Furthermore, this approach better elucidates the perspectives of participants in the SMES program, building on the previously completed quantitative outcomes study.²⁰ Additionally, this study offers a novel participant perspective on the successful use of advertising principles within SMES messaging, which expands on prior literature regarding health education techniques.

Conclusion

This study provides a better understanding of how the Moxie SMES intervention was perceived by participants and gives insights on how SMES interventions could be tailored and implemented to best meet the needs of older adults with chronic health conditions. The findings from this study suggest that SMES interventions such as this can be valuable tools for creating sustained behavioural change and self-management skills. Understanding the way participants receive an SMES intervention is valuable in guiding the development of future educational programs. Efforts in SMES design and implementation should explore new ways of tailoring messages to better suit the personal needs of each patient.

Ethics Statement

Ethics approval was obtained from the University of Calgary Conjoint Health Research Ethics Board (REB13-1241). Informed consent was obtained from all participants.

Patient Consent

The authors confirm that patient consent forms have been obtained for this article.

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Disclosures

R.P. is Chief Executive Officer of Emergence Creative, the social impact creative design firm that created the SMES intervention. The other authors have no conflicts of interest to disclose.

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Supplementary Material

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