

Evaluation of a teleconference-delivered energy conservation education program for people with multiple sclerosis

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Mots clés

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Abstract

Background. *Little is known about the strengths and limitations of teleconference delivery for energy conservation education for people with multiple sclerosis (MS). This study evaluated such a program to address this gap.* **Methods.** *Data were collected from 28 individuals with MS who participated in a teleconference-delivered energy conservation education program. Participants shared their perspectives on the course and its delivery format. Session notes from the three occupational therapists who delivered the program were also reviewed.* **Findings.** *Participants found the format to be convenient and relaxed, and the content to be relevant to their everyday lives. Technical issues, lack of time for sharing, and lack of time to practice strategies were limitations. Although the format challenged the occupational therapists' group leadership skills, they were surprised at the extent of group cohesion that developed using this format.* **Implications.** *Feedback from both people with MS and occupational therapists suggests that providing energy conservation education by teleconference is acceptable, practical, and worth pursuing in the future.*

Résumé

Description. *Les forces et les limites de la prestation de services par téléconférence pour enseigner des techniques de conservation de l'énergie aux personnes atteintes de sclérose en plaques sont peu connues. But. Cette étude avait pour but d'évaluer ce genre de programme afin de combler cette lacune.* **Méthodologie.** *Des données ont été recueillies auprès de 28 personnes atteintes de sclérose en plaques ayant participé à un programme d'enseignement des principes de conservation de l'énergie offert par téléconférence. Les participants ont exprimé leurs perspectives sur le cours et sur le style de présentation du cours. Les notes des séances d'enseignement des trois ergothérapeutes qui ont donné le cours ont également été examinées.* **Résultats.** *Les participants ont trouvé que le style de présentation était pratique et détendu, et que le contenu était pertinent pour leur vie quotidienne. Les problèmes techniques et le manque de temps pour échanger avec les autres et pour mettre les stratégies en oeuvre ont été cités comme des limites. Bien que le style de présentation ait mis à l'épreuve les compétences des ergothérapeutes pour la direction de groupe, ils ont été étonnés du degré de cohésion atteint par le groupe à l'aide de ce mode de prestation.* **Conséquences.** *Les commentaires et réactions des personnes atteintes de sclérose en plaques et des ergothérapeutes indiquent que la prestation d'enseignement par téléconférence est un moyen acceptable et pratique qui mérite d'être utilisé dans l'avenir.*

Technological advancements and increased emphasis on effective use of human and financial resources has led to telehealth as a growing approach to the delivery of health care services (Lehoux, Battista, & Lance, 2000). Liss, Glueckauf and Ecklund-Johnson (2002) have defined telehealth as the use of telecommunications and information technologies to provide access to health information and services across a geographical distance including but not limited to consultation, assessment, intervention, and health maintenance. Telehealth is not a new form of practice, rather it is a tool to facilitate practice and the delivery of already established practices over distance (Emery, Heyes, & Cowan, 2003;

Lehoux et al., 2000; Nickelson, 1998). Consequently, telehealth can be viewed as a convenient and flexible way of providing health care services to populations that have difficulty accessing services due to distance, mobility limitation, scheduling conflicts, or financial restraints (Liss et al., 2002).

Although many clients of occupational therapy services may benefit from telehealth, literature regarding the use of this delivery format in our field is limited and primarily descriptive in orientation (Clark, Dawson, Scheideman-Miller, & Post, 2002; Dreyer, Dreyer, Shaw, & Wittman, 2001; Guilfoyle et al., 2003; Liu, 2000; Miyazaki & Liu, 2002; Ong, 2003). Research on telehealth suggests that this tool holds

much promise for a range of assessment, educational, counseling, and health monitoring activities (Liss et al., 2002). For occupational therapists who work with people with multiple sclerosis (MS), telehealth holds many interesting possibilities given the educational and health promoting orientation of many of the interventions used with this population (e.g., energy conservation, cognitive remediation, compensatory techniques). What is unknown at this point is how people with MS view telehealth interventions, whether occupational therapists feel the delivery format is effective and appropriate, and how both groups perceive the strengths and limitations of this method of intervention delivery. The specific purpose of this paper is to share the findings of this evaluation and reflect on the potential implications for on-going use of telehealth intervention formats in occupational therapy practice

Literature review

Telehealth is an umbrella term that encompasses a wide range of methods of delivering health-related services, including but not exclusive to, computer-based distance education programs, videoconferencing, group teleconferencing, and one-to-one telephone calls (Lehoux et al., 2000). Telehealth was originally developed to increase access to health services for people living in rural and remote regions. More recently its utility has been acknowledged in more urban areas where public transportation is poor or problematic for people with disabilities (Emery et al., 2003; Mermelstein & Holland, 1991; Riemer-Reiss, 2000). Although telehealth is used for a full range of specialized and technical care, it is most commonly used for services such as health monitoring, health promotion education, and supportive counseling (Evans, Smith, Werkhoven, Fox, & Pritzl, 1986; Piatt, Weinberger, & McPhee, 2000). In addition, telehealth applications have been used by health care professionals seeking consultation or direction from specialists who are separated from them by distance (Lehoux et al., 2000).

In the early to mid-1990's, the primary concern regarding telehealth related to efficacy, and concerns about lack of published evidence demonstrating clear benefits. Concerns were also raised with respect to fear of malpractice lawsuits, confidentiality issues when transmitting patient information, and strong social beliefs that face-to-face contact is necessary for forming a strong therapeutic relationship (Perednia & Allen, 1995). These concerns still stand to a large extent today, although there is a wide range of empirical evidence now available to counter them.

Studies that have examined the effectiveness of educational and/or counseling interventions have found that telehealth delivery can be just as successful as delivery by more traditional face-to-face methods. For example, research has demonstrated the effectiveness of telehealth interventions in mental health (Evans & Jaureguy, 1981; Hilty, Marks, Urness,

Yellowlees, & Nesbitt, 2004), smoking cessation (Orleans et al., 1991; Zhu et al., 1996), chronic pain management (Appel, Bleiberg, & Noiseux, 2002), peer-support for cancer patients (Rudy, Rosenfeld, Galassi, Parker, & Schanberg, 2001), and vocational counseling (Riemer-Reiss, 2000). In addition, several studies addressing issues related to health-monitoring (e.g., hypertension treatment adherence, myocardial infarction recovery, diabetes management) have shown positive effects when using automated telephone technology (Liss et al., 2002). Overall, studies that have examined telehealth delivery outcomes have found that these interventions are at least as effective as traditional face-to-face treatments (Liss et al., 2002).

From a provider's perspective, telehealth may improve cost-effectiveness, reduce time and travel required to reach homebound clients, and provide care to people who would otherwise have not received services (Buckwalter, Davis, Wakefield, Kienzle, & Murray, 2002; Hatzakis, Haselkorn, Williams, Tuner, & Nichol, 2003). From the perspective of the service recipient, telehealth may promote access to information, resources, and people outside of their immediate vicinity. Studies that included participant satisfaction measures in their telehealth evaluations have found that individuals receiving telehealth services are just as satisfied as individuals receiving face-to-face service delivery (Appel et al., 2002; Brown et al., 1999). In addition, telehealth participants viewed the services they received as effective, and some expressed preferences for this mode of delivery (Appel et al., 2002; Brown et al., 1999). Other participants have expressed satisfaction with the convenience and comfort of receiving services at home (Hufford, Glueckauf, & Webb, 1999). Nevertheless, challenges of telehealth from the recipients' perspective have included technical difficulties, apprehensiveness because of the nontraditional nature of the service delivery method, and the inability to have the health care provider demonstrate certain activities or tasks (Hufford et al., 1999; Lehoux et al., 2000).

The flexibility and success of telehealth with other populations has led to a growing interest in using this tool to provide medical and well-being services to people with MS (Egner, Phillips, Vora, & Wiggers, 2003; Hatzakis et al., 2003). Although few published telehealth examples exist with the MS population, there is wide recognition that the symptoms and activity limitations experienced by these individuals support the use of these alternative service delivery formats (Hatzakis et al., 2003). Recently, a small pilot study was conducted to test the effectiveness of a 6-week energy conservation education program delivered by an occupational therapist to people with MS via group telephone teleconference. The study was conducted in a major metropolitan center in the United States. Outcomes of interest were fatigue severity, fatigue impact, health-related quality of life, and incorporation of energy conserving strategies in everyday life. Findings showed significant impact on the course on both fatigue

severity and fatigue impact (Finlayson, 2005). The current study builds on this work by reporting the findings from the program evaluation that was conducted following the completion of the pilot study. The key questions addressed through the evaluation were:

1. From the participants' perspectives, what are the strengths and limitations of delivering the energy conservation education program by teleconference?
2. What are the issues and challenges faced by occupational therapists delivering energy conservation education to people with MS by group teleconference?
3. What modifications could be made to improve the experience of the teleconference delivery format for participants, occupational therapists, or both?

Methods

A pragmatic qualitative program evaluation (Patton, 2001) was used for this project, and was conducted following a pilot study of an energy conservation education program for people with MS delivered by telehealth format (Finlayson, 2005). Pragmatic evaluations focus on "useful evaluation, practical problem-solving... [and] can help answer concrete questions, support development, and improve programs" (Patton, 2001, p.145). Patton also explains that the use of qualitative methods in this type of evaluation can occur "without working explicitly with a particular theoretical, paradigmatic, or philosophical perspective" (p.145). Instead, the focus is on uncovering meaningful answers to practical questions.

Sample

A total of 31 individuals contributed data to this evaluation - 28 people with MS and three occupational therapists. All of them were involved either as participants or course facilitators of the original quasi-experimental study investigating the effectiveness of energy conservation education delivered by telephone teleconference (Finlayson, 2005).

The people with MS were initially recruited for the quasi-experiment through direct mailings to individuals who had requested information about energy conservation education from the principal investigator, or through newsletter articles included in the MS Connections magazine distributed by the local chapter of the National Multiple Sclerosis Society. To be eligible to participate, volunteers had to meet the following criteria: a self-reported diagnosis of MS, 18 years of age or older, functional English literacy (i.e., able to read course materials and carry on telephone conversations in English), a Fatigue Severity Scale score of 4 or greater (i.e., fatigue was severe enough to be limiting daily activities) (Krupp, Alvarez, LaRocca, & Scheinberg, 1988), and a passing score on the short version of the Blessed Orientation Memory Concentration test (Katzman et al., 1983). This final criterion was used to identify and screen out individuals with cognitive impairments great enough to negatively influence

their ability to learn and practice the energy conservation principles taught during the course. A total of 29 individuals were admitted to the study, and all provided informed consent for their involvement consistent with the approval obtained from the human subjects protection committee at the researchers' university. Twenty-eight of these individuals also participated in this program evaluation.

The majority of participants were women (n=24), and almost all (n=26) had education beyond high school. Participants were, on average, 47 years of age (sd=9.6, range 22-64), and had been experiencing symptoms of MS for an average of 14 years (sd=6.7, range 4-29). Mean years since diagnosis was 9.8 years (sd=5.1, range 3-24). Seventeen reported having relapsing remitting MS, six reported some form of progressive MS, and five were uncertain as to the type that they had. Eight participants were still working, while 15 were unable to work due to disability. The remaining participants either chose not to work (n=2), were unable to find work (n=1), or were retired (n=2).

Only four participants were receiving other rehabilitation services at the time of the program, but 14 were using medication to manage fatigue (e.g., Symmetrel, Amantadine, etc). All but four participants were using one of the MS disease modifying therapies (e.g., Betaseron, Copaxone, Avonex). Across all of the participants, 21 or 72% attended all six sessions of the intervention (described below). Two individuals attended two sessions only. The remaining individuals attended some of the sessions (2 attended 4 sessions; 4 attended 5 sessions), and then received 1-to-1 summary sessions with the facilitator to obtain the missed content.

The three female occupational therapists who worked on this study facilitated the energy conservation education courses after receiving 8 hours of training on the content and delivery method. Two of the therapists facilitated two courses each while the third therapist facilitated one course. The therapists ranged in age from 26 to 40 years of age. One of the therapists had been practicing for two years at the time of the study. The remaining two therapists had both been practicing for over 15 years. All of the therapists were paid members of the research team.

Intervention

Five groups were evaluated. Two intervention groups were offered in the fall of 2003, and three groups were offered in the spring of 2004. Group size ranged from four to seven participants, with an average of six. The intervention was modified for teleconference delivery from the program "Managing Fatigue" by Packer, Brink, and Sauriol (1995). For a detailed description of the modifications and the specific content of each session of the intervention used in the current study, please refer to Finlayson (2005).

In brief, the intervention involved a 70-minute telephone teleconference call among the group members and

one of the occupational therapists once per week for six weeks. Sessions involved the delivery of educational content, group discussion and sharing, and review of materials provided in a resource binder distributed to group members prior to the teleconferences. Across the sessions, the following topics were addressed: the nature of MS fatigue, the importance of rest, communication with others about fatigue, body mechanics and environmental modification, activity analysis, setting priorities, and setting goals.

Data collection

The outcomes of interest for the intervention for the people with MS included fatigue severity, fatigue impact, self-efficacy for managing fatigue, use of energy conservation strategies and health-related quality of life. Findings related to these outcomes have been reported elsewhere (Finlayson, 2005).

Upon conclusion of the intervention, participants were sent a cover letter and a form in the mail requesting them to provide feedback on the strengths and limitations of the teleconference energy conservation course. Two open-ended questions were posed for the participants to consider:

- 1) What did you like about the teleconference energy conservation course?
- 2) What did you not like or find challenging about the teleconference energy conservation course?

If written responses were not received within three weeks of the mailing, the research assistant called the participants and obtained their responses over the telephone. The research assistant was a second year occupational therapy student in an entry-level master's program who received specific training from the principal investigator to collect these data. The research assistant had not been involved in the delivery of the intervention.

Of the 28 participants who provided their personal evaluations of the strengths and limitations of the teleconference program, five returned their responses to the questions by e-mail, six returned responses via regular mail, and 18 responses were obtained by telephone. The one person who did not contribute data for the evaluation could not be reached after multiple attempts by phone and mail. Due to the possibility of differences in responses between the different response methods, two members of the research team compared the content and detail of the responses obtained. Although the e-mail responses tended to be longer and include more detail, no content differences were found across the response methods.

Data from the occupational therapists were collected through individual session notes that were recorded after the completion of each of the individual energy conservation course sessions. Therapists used a standard SOAP chart note format to record their impressions of the session (subjective), what was covered in the sessions and any difficulties with the

material or technology (objective), their evaluations of the session and its success (assessment), and any issues to be addressed before the next session, for example, technical issues (plan). All therapist notes were sent electronically to the principal investigator. In addition, at the end of the course, all of the therapists met to debrief, discuss the experience of facilitating a teleconference course, and discuss the strengths and limitations of the program and its format. A major objective of the meeting was to make suggestions for future program revisions. Minutes of this meeting were recorded by a research assistant.

Analysis

As already noted, the goal of pragmatic qualitative program evaluation is to obtain useful information to support program development and improvement. The data collected from the participants and the occupational therapists addressed the strengths and limitations of the teleconference format, and offered direction for program modification. Therefore, the analysis of the text data was both issue-focused and thematic in nature (Weiss, 1994). This approach is consistent with pragmatic qualitative program evaluation and focuses on obtaining meaningful answers "without having to be attached to or derived from a theoretical tradition" (Patton, 2001, p.145).

Participants' responses to the two questions were word processed in preparation for analysis by the research assistant, while the data from the occupational therapists were sent electronically to the principal investigator and therefore already available in text format. All data were collated and then read multiple times by both the principal investigator and the research assistant to develop familiarity with the participants' and occupational therapists' ideas about the strengths and limitations of the teleconference format. The responses were read carefully to identify unique ideas (i.e., "starter text") (Auerbach & Silverstein, 2003). Each unique idea was labeled, and then the entire set of responses was reviewed carefully for additional responses that had similar wording or reflected a similar concept to that identified in the "starter text". Labels were applied when these similar concepts were identified. This procedure was continued until all the ideas in the text were labeled with one or more of the label terms, or as its own distinct "orphan" idea (Auerbach & Silverstein, 2003).

Through the participants' data, 20 unique ideas about the teleconference strengths and 14 unique limitations were identified. Through the occupational therapists' data, six unique strengths and six unique limitations were identified. Upon careful review of all of these ideas, broader categories or themes were identified and used to summarize the major points raised by the participants.

Results

Participants and occupational therapists identified a wide range of factors that they liked or found challenging about the teleconference energy conservation education program. While there was important overlap between the groups, differences were also found. Overall, participants had more comments (both positive and negative) about the teleconference course than the therapists, and were also more likely to be positive. Five of the participants were unable to identify a single limitation of the course. Therapists were as likely to make positive as negative comments about the format. Overall, the tone of the therapist comments was problem-solving in orientation in that remarks were often followed by ideas on how to improve the program and/or lessen the challenges that they experienced.

Across the two groups, comments were grouped into a total of eight categories - five strengths and three limitations. Two of the categories of limitations were identified by both participants and therapists - *Logistics* and *Time*. The remaining limitation of the program was labeled *Diverse Needs*, and was identified only by the participants. For the strengths categories, some parallels were observed between the groups, but differences in the nuances of the comments did not support using the same labels. Strengths of the energy conservation program included: *Social Support and Normalization* (participant data) and *Power of Peers* (therapist data), *Quality and Usefulness of the Resources* (participant data) and *Value of Repetition* (therapist data), and *Comfort and Confidence with the Format* (participant data). The therapists did not identify any strengths that paralleled this last category identified in the participant data.

Strengths of the teleconference course

Social Support and Normalization (participant data)

Key strengths of the teleconference course for participants included the opportunities it provided them to connect with other people with MS, to learn from the experiences of others, and to share their own stories and be listened to while they shared. In total, 21 of the participants made at least one comment related to this theme. Participants talked about looking forward to the weekly calls, and having the chance to share their experiences trying out the energy conservation strategies. Participants commented:

Participating gave me something to look forward to.

It made me feel a part of something.

Perhaps most importantly, the program helped participants realize that they were not alone in dealing with the challenges of MS fatigue:

It was mentally and emotionally satisfying to hear that other people were having the same types of problems.

It [teleconference group] helped decrease feelings of isolation.

I liked learning that the way I feel is typical.

Participants' comments reflected that they received significant social support through the group sessions and through the comments and perspectives of both other members and the occupational therapist. Overall, the support that they received through the program helped them feel better about themselves, and to question their own symptoms less. Participants began to see the challenges of living with fatigue as a 'normal' part of having MS. As one participant explained, "It put a name on a lot of things that I might have taken as character flaws." Other participants noted:

[I learned] that MS fatigue is real. I like that there was a process to deal with what I felt and that I wasn't the only one going through it.

I learned that you do not need to feel negative about yourself, it [resting] is just something that you have to do. It is not that you are lazy.

Power of Peers (therapist data)

Consistent with the social support theme in the participant data, one of the most consistent comments made by the occupational therapists in their session notes reflected the value and power of the interactions that occurred between the participants of the groups. Therapists' notes reflected the power of peer interactions and how participant experiences were validated through discussions. Interaction and sharing were seen as positive and powerful, supportive of the teaching efforts of the therapist, and as increasing across subsequent sessions:

The group already seems to be developing some cohesiveness as exhibited through participant communication and sharing of contact information. (Group 3, Session 1).

The participants seem to be working well together. They call one another by name and are supportive and encouraging overall. (Group 3, Session 2).

Group is continuing to demonstrate a sense of cohesiveness and support, and seems to be developing a network for sharing resources. (Group 3, Session 4).

In addition, the therapists' notes and the minutes from the debriefing meeting indicated a level of surprise in the ability of the group to become cohesive and supportive despite the fact that participants never met each other face-to-face.

Quality and usefulness of the resources (participant data)

Another area of strength of the teleconference course that 24 participants discussed related to the overall quality and usefulness of the resources that were provided. In particular, they commented on the relevance of the course materials to their daily lives, the utility of the resource binder, the value of receiving the program binder, and the quality of the instruc-

tion provided by the occupational therapist. In relation to the course binder itself, participants commented that:

I enjoyed having all of the materials in a binder in one place.

I liked the wealth of information that you all had laid out and given to us in advance.

[I liked] having a binder to follow during the course and to use as a reference in the future.

Participants also found that the course instructors were a significant strength of the program. They appreciated the abilities of their instructors to listen, redirect tangents, and keep the conversation on topic. Participants made comments that reflected that building rapport through teleconference is possible:

[Instructor] was a great leader, listened well, let the group talk when we needed to.

The occupational therapist was friendly and personable.

[Instructor] helped put things into perspective.

Of particular importance were participants' comments about the overall utility of the materials included in the course itself. Positive comments related to the course content were numerous, and reflected that the program helped them think about their fatigue in new ways and make real changes in their lives and the way they managed their fatigue. It is noteworthy that a number of participants gave specific examples of how they have used the course materials as their way of illustrating what they liked about the course:

It made me think about things I normally would not. For instance, what I want to do rather than what I have to do.

It broke things down into simple basic changes that you can do - that I didn't think about prior to the course.

I purchased a three tier shelving unit so household things are reachable.

I moved my medicine to a drawer in my dresser to make it more accessible [so now] I do not have to go get it and return it to the kitchen.

Value of Repetition (therapist data)

While the participants' comments about the materials and the instruction tended to address issues of utility and quality, the therapists' comments reflected how the course materials facilitated teaching and learning. All of the therapists commented on how the course binder and weekly homework activities facilitated participant self-study between sessions, reinforced teaching content, and allowed participants to review content if they missed a session or felt the need to review materials:

I completed a brief review of the material with N. because she missed a session due to a recent hospitalization. She had worked on her homework and had reviewed the material ahead of time. She reported that she is considering how to rearrange the work space in

her kitchen to make it easier to work there.

In addition, the binders were identified by the therapists as a great resource during the actual teaching sessions because they included photographs and examples to which participants could be directed. Nevertheless, two of the therapists felt that additional materials could be added to enhance the value and content repetition that the binders provided:

I recommend adding more pictures about body mechanics and activity stations ... and including small ergonomic catalogues for all participants.

Comfort and confidence with the format (participant data)

The final area of strength that was identified in 20 participants' comments related to the teleconference format of the course itself. Participants enjoyed the relaxed nature of the program, and the fact that they could participate from the comfort of their own homes:

It was really nice doing the course and being at home. It was more soothing. There was no extra stress of going to a place that I didn't know too well. It was easier on me.

In particular, participants liked the discussion and sharing aspects of the course format, the opportunities that this format provided to learn from others, and the use of homework between sessions to reinforce ideas that were discussed.

It gave me a chance to listen to other people's ideas. [It is] good to exchange ideas with other people.

We helped each other solve problems besides getting information from the actual course. It was kind of like a support group - coming up with ways to solve these common problems.

I liked the homework. The questions made you think and plan.

Completing the homework helped me communicate things to my husband because he had to help me with it.

In comparison, none of the therapists commented on the comfort and confidence with the format. Instead, the format was viewed by each of therapists as very challenging and as significantly testing their abilities to be therapeutic and effective. These issues are explained in more detail in the discussion on limitations, below.

Limitations of the teleconference course

Although the participants and the therapists identified a range of positive factors with the teleconference delivery, they also identified limitations of the program. Time and logistical limitations were the most commonly identified issues across both of the groups. In addition, participants commented on the lack of ability to individualize the content to meet the diverse needs of the members of the group. This issue was not raised by the occupational therapists using this type of language. Instead, therapists commented on the chal-

allenges of trying to contextualize the content of the sessions without being able to see participants and their situations. One of the interesting findings in the participant data is that some of the strengths of the program (e.g., doing homework) were also discussed as limitations.

Time (participant and therapist data)

Thirteen participants and all of the therapists made at least one comment related to the lack of time during the teleconference sessions. Lack of time emerged in a number of ways, and was discussed differently between the two groups. Nevertheless, the overarching message was the same: it was difficult to find a balance between allowing participants to talk and get to know each other and making sure that the content was covered. In addition, participants talked about the lack of time between sessions to try the materials being taught, and the length of the course overall. Ultimately, comments reflected that participants needed more time to think about and try the materials, and to cover content in more depth. Yet, at the same time, many participants acknowledged that they could not have tolerated longer sessions. For example, one participant commented that:

The course was too short. We didn't get a chance to go into depth for many things because we ran out of time. The homework took too long to review. This was good but then we ran out of time. The sessions should not be longer because I don't know if I can participate more than an hour.

Other participants suggested that the individual sessions remain the same length, but the overall course be lengthened to accommodate the need for more time:

It didn't seem like we had enough time. Maybe could expand the course from 6 weeks to 8 weeks. We had to rush through the equipment session which could be split into two sessions. I would prefer more weeks not longer than an hour and a half.

Lack of time to try to implement the ideas discussed during the sessions was also an issue raised by participants:

It's hard to evaluate one's efforts on modifying a workspace or to contact an individual about your need of rest in a week's period.

In addition to content-related time limits, some participants also felt that they did not have enough time in the sessions to get to know each other. This was an inconsistent finding though, as some participants felt that the social conversations that did occur during the sessions were a "waste of time."

Like the participant comments, those from the therapists also addressed the time needed for application of the content, although they focused on the session itself. None of the therapists questioned the time available between sessions for participants to try to apply the materials. Therapists struggled with finding a balance between giving participants time to

share stories, discussing strategies and building group cohesion and ensuring that the content of the program was adequately covered: "A lot of material to cover in this session, with minimal opportunity to allow for discussion which might assist with personal application of concepts." Overall, therapist comments about time were much more limited in breadth and detail compared to those provided by the participants. In addition, therapist comments tended to be narrower in their conceptualization of the meaning of time within the context of the course as a whole.

Logistics (participant and therapist data)

Under the theme of logistics, 15 participants and all of the therapists identified issues related to technical problems, and the problems associated with the lack of ability to send and receive visual cues. In addition, participants noted the physical challenges of actually doing the homework and keeping up with the materials. In relation to the technical problems, participants identified limitations as follows:

There were a lot of problems with the speakerphones.

Inability to hear other participants clearly or even at all.

Trying to listen was difficult. The volume was not as loud as it could have been.

All of the therapists also raised issues related to the volume on the telephones, but they also commented on other technical problems such as feedback and the amplification of background noises. Although the participants also commented on these limitations, the therapists' comments tended to reflect their frustration about their inability to remedy the problems at the time they occurred, and without external aid: "I don't know why we were getting the high pitched sound on the line. I need to follow-up with [conference call company] to get suggestions in case it happens again."

In addition to the auditory issues on the teleconference call, visual issues were raised by both the participants and the therapists. For the participants, not being able to see the instructor was difficult, particularly for the session related to body mechanics (posture, lifting, carrying). One participant explained:

I would have liked a workshop where the instructor would show you how to properly lift and stand. Even with the pictures [in the binder] it is hard to know how to move properly.

The lack of visual cues was a major limitation identified by the therapists. They commented on their lack of ability to use visual demonstrations, obtain visual feedback to facilitate interactions with participants, and to gather information that might supplement their teaching. All of the therapists commented on how the lack of visual input challenged their skills in many different ways. Like the participants, the session on body mechanics was particularly difficult for the therapists: The content of this session is quite technically oriented. I

found this to be challenging to teach over the phone without being able to use demonstrations." In addition, therapists commented on how the lack of visual cues made it difficult to determine to what extent participants understood the program content: "I really do not have a strong sense that participants understood the more technically oriented content (i.e., body mechanics and ergonomics)."

The therapists also noted how the lack of visual interaction with the participants challenged their ability to manage group dynamics because it was not possible to use visual cues to redirect individuals who were dominating the discussion or getting off track. They had to depend on taking notes to keep track of people and discussions in the group, and noted that this was a lot different from their experiences running face-to-face groups. The consensus of the therapists at the debriefing meeting was that the lack of visual cues really challenged their group facilitation skills, and was significantly more difficult overall. Finally, all of the therapists felt that the teleconference format and the lack of a visual connection with the participants limited their understanding of the participants and their contexts, and that this information restriction made it more difficult at times to come up with additional examples to facilitate teaching.

In addition to the auditory and visual issues, the participants also raised logistical concerns about the course homework and its completion. Although participants liked the homework and how it reinforced the session materials, the actual doing of the homework was challenging, particularly for those participants who lived alone and/or had physical difficulties related to writing and reading. Although therapists acknowledged this issue in their comments, they did not discuss it as a limitation of the teleconference format.

Diverse Needs (participant data)

The final theme related to the limitations of the teleconference program reflected the diverse needs of the individuals in the groups, and was reflected in the comments of 10 participants. Comments made it clear that participants had differing expectations of what information would and should be covered, how much socialization should be part of the sessions, and how individualized the contents could be. Overall, it was clear that a major limitation of the course from the participants' perspective was a lack of homogeneity among the individual members of the groups and the differences in needs that became apparent when groups were too diverse:

Please have the same type of people together on the calls. For example, married with spouses, living with a parent, single living alone. It is hard to follow when the MS person has everything done for them. There are MS people who have to do everything themselves. There should be two different groups.

Some of it was not applicable to me, but it was okay

because I realize that everyone is at different points. Maybe you should try to assess the limitations that people have because of their MS and then categorize people as far as their stage of MS so that people in similar stages could be grouped together. Make the people in the groups more similar, for example, those who can ambulate without assistance and those who can't.

Similarly, participants who had experienced MS for a long period of time noted that many of the techniques that were discussed in the sessions were familiar to them because they had figured them out on their own, or they had taken the time in between sessions to review the materials. They felt that the sessions didn't always meet their needs because of the extent of their experience with the disease, or their desire for the session itself to go a step beyond the contents of the course binder.

Discussion

Documenting the outcomes of occupational therapy is critical to the maintenance and growth of the profession, and the ability to provide practitioners a solid evidence base for their work with the clients that they serve (Kielhofner, Hammel, Finlayson, Helfrich, & Taylor, 2004). The outcomes of occupational therapy are numerous, and have been identified as including enhanced occupational performance, client satisfaction, improved role competence, adaptation, health and wellness, prevention, and quality of life (American Occupational Therapy Association [AOTA], 2002). Pragmatic qualitative program evaluation provides additional insights into the outcomes of occupational therapy interventions by identifying areas of strength and limitation and issues for program development and refinement. By gathering data from both program participants and occupational therapist facilitators, this study builds on existing knowledge and identifies issues for future research.

Previous literature has recognized the potential of telehealth for use in occupational therapy (Clark et al., 2002; Dreyer et al., 2001; Guilfoyle et al., 2003; Liu, 2000; Miyazaki & Liu, 2002; Ong, 2003) and in the care of people with multiple sclerosis (Hatzakis et al., 2003; Egner et al., 2003). Nevertheless, little has been documented about delivering occupational therapy services to people with MS using this format. This study, in conjunction with other work (Finlayson, 2005), provides insight into the value of this mode of intervention delivery for people with MS, as well as clear directions for the on-going development of this particular energy conservation program. Much of the feedback provided by the clients and the occupational therapist facilitators documented in this paper is likely to also be valuable in the development and refinement of similarly delivered occupational therapy interventions.

Overwhelmingly, participants liked the teleconference format and found that they benefited from the materials and interaction that involvement in the program offered.

Participants expressed feeling less isolated in their symptom experience, and came to realize that they were not the only ones who were struggling with fatigue. The therapists also recognized this group dynamic and its value. Previous research employing group-based telehealth formats have found similar positive social support experiences among program participants (Brown et al., 1999; Evans et al., 1986). Yet, participants identified that the need for social support varied dramatically across individuals. While some group members wanted more time for social interaction and sharing, others felt that time spent in this way was not useful and took away time they would have rather spent discussing content. This variability reinforces the need to consider the composition of teleconference groups carefully, just as one would consider the composition of face-to-face groups (Posthuma, 2002). Making this refinement may help therapists who are using this format deal more effectively with the group dynamics issues that arose because of the lack of visual cues that were available to them during the conduct of the sessions.

Other feedback from the participants indicates that, overall, the format of the teleconference is acceptable and provided them with opportunities to learn to new skills to manage their fatigue. In comparison, the occupational therapists' responses to the teleconference format could be better described as cautiously optimistic. This finding is consistent with other research that has followed-up participants of telehealth interventions to determine if participants actually used the materials that they were provided (Evans & Jaureguy, 1981; Zhu et al., 1996). Nevertheless, comments also point clearly to the areas where improvements in the organization and content of the course could be made. Specifically, it is apparent that more customized content is needed for people at different stages of the disease in order to reflect and build on their existing knowledge and experience managing their symptoms. Addressing specific issues and examples of managing fatigue that may be unique to particular types of living situations, availability of social supports, and current and future physical abilities would be valuable. Given this, future studies using this type of intervention delivery would benefit from more sophisticated screening and allocation of participants to groups. Based on the comments of the therapists, adding a face-to-face screening or other meeting between the individual participants and the therapist either before or at some point during the program, may also address the need for greater customization.

Another limitation identified by both the participants and the therapists related to problems with the technology. Specifically, individuals from both groups stated that they had difficulty hearing some of the discussions, and also were challenged by the lack of visual demonstrations of some concepts. These types of issues have been addressed in other telehealth research (Hufford et al., 1999; Lehoux et al., 2000). Because of limited financial resources, we were unable to

address these issues in the current study, but future occupational therapy telehealth studies need to be attentive to technology limitations and ensure that the budget can accommodate the needs of the project. In addition, exploration of alternative ways to convey complex concepts need to be explored (e.g., including DVD clips as part of the resource materials).

Issues related to time use and organization will also need to be addressed in future programs of this nature. It is often difficult to ascertain how long an intervention session should be, and over what period of time the intervention should last. Clearly, participants in this program felt that they needed more time to fully benefit from the program, and to explore specific issues and examples of how to apply the content in their daily lives. Therapists struggled to balance the need to build group cohesion and rapport, and cover the program content. Future studies may explicitly compare different delivery formats and the use of time within individual sessions. In addition, it would be valuable to examine whether more sessions spaced out in a different way would positively influence both objective and subjective outcomes.

In comparison to other telehealth evaluation studies, this one is unique because of its inclusion of both participant and therapist perspectives. The comments of the therapists in this project indicate that telehealth has potential, but does require a modified set of therapeutic skills. The findings raise questions about what therapists need to know to deliver telehealth interventions, and the best strategies for preparing them for this delivery format. This issue is ripe for future inquiry, particularly given the continued and growing development of telehealth interventions in rehabilitation practice.

Conclusion

Use of telehealth technologies continues to grow and become more sophisticated. Many occupational therapy interventions have the potential to be delivered using these technologies, provided that they are carefully considered and well planned. The evaluation presented in this paper found that the teleconference-delivered energy conservation education program was generally well-received despite some logistical difficulties. The program enabled participants to connect with each other, access information relevant to their daily lives, and overcome transportation issues despite the challenges expressed by the therapists delivering it. This evaluation demonstrates the importance of obtaining feedback from both participants and occupational therapists involved in telehealth interventions. Findings from this study can be used to inform future programs, and continue to develop practice and research in growing area.

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