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"A Hippo Out of Water": A Qualitative Inquiry of How Cancer Survivors' Experienced In-Person and Remote-Delivered Mind-Body Therapies

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Abstract

Background: Mind-body therapies (MBTs) are an effective treatment option for people living with and surviving from cancer to help manage unwanted physical and psychological symptoms and side-effects related to treatment and the illness itself. Many of these structured MBTs, such as Mindfulness Based Cancer Recovery (MBCR) and tai chi/qigong (TCQ) programs are common; however, COVID-19 caused most research intervention trials and clinical programs to halt completely, or rapidly adapt an online modality. The Mindfulness and Tai Chi for Cancer Health (MATCH) study, a large-scale study that compared MBCR to a structured TCQ program for treating psychological and physical health outcomes for cancer survivors, adapted to an online, Zoom delivered, program at the outset of COVID-19.
Objectives: Study objectives were to explore the experiences of MATCH study participants who took the MBCR or TCQ program completely in-person, those who took the program completely online (over zoom), and participants who had to shift from in-person to online delivery midway through their series of TCQ classes.
Methods: Semi-structured interviews were conducted with 13 participants following participation in either the MBCR or TCQ program of the MATCH study.
Results: We derived four themes from the data: 1) attending to personal needs, 2) functional, interpersonal, and COVID19-related challenges, 3) unique engagement styles based on mode of delivery, and 4) ease of transitioning to remote delivery. We found that thematic outcomes were variable and largely based on individual preference, such as valuing more autonomy online, or appreciating the interpersonal connection of being in-person. Our results further indicated that the process of shifting from in-person to online within a short time-period was a relatively seamless transition that had minimal impact on participant experience.
Conclusions: Insights from this study highlight the benefits of digital mind-body therapies for cancer survivors that extend beyond the acute effects of COVID19.

Keywords

mind-body therapies, mindfulness, mindfulness based cancer recovery, tai chi, cancer, remote-delivery, COVID-19

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Background

Cancer is a complex chronic disease that has lasting effects on patients and survivors.[1] Many of these long-term effects are psychological (e.g., anxiety, depression, general distress), while others are physiological in nature (e.g., pain, nausea, fatigue).[2] Survivors of cancer are often faced with these enduring symptoms following treatment; however, many of these symptoms can be managed effectively through empirically supported clinical interventions. Specifically, mind-body therapies (MBTs), such as mindfulness and tai chi qigong (TCQ), have been studied and implemented in clinical practice to help patients and survivors of cancer manage unwanted, illness-related psychological and physical symptoms.[3] Reviews of the current literature show that outcomes from MBTs, such as mood and sleep quality, produce clinically significant, large effects,[3-5] therefore supporting their value as a clinical service for the cancer population. While some of these interventions are offered online or digitally, most MBT therapies are conducted in-person, and there is currently uncertainty as to whether in-person or online modalities are better suited for certain populations or specific MBTs.

Structured, empirically supported, MBT programs, such as the nine-week Mindfulness-Based Cancer Recovery (MBCR)[6] program, were designed to overcome challenges of unstructured interventions, and provide lasting positive psychosocial benefits for people living with and survivors of cancer. MBCR, an adaptation of Mindfulness-Based Stress Reduction (MBSR),[7] is a scientifically grounded, globally recognized, in-person, group-based training program that teaches participants to utilize mindfulness meditation practice, gentle yoga, and a compassionate, nonjudgmental recognition of stressful thoughts related to their cancer journey. Similarly, the scientifically supported, 11-week TCQ program, is an in-person, group-based intervention that utilizes slow, gentle movement, regulated breathing, and intentional awareness to reduce biopsychosocial outcomes related to cancer. The TCQ intervention was informed by the structure and content of several mind-body interventions developed and studied at Harvard University.[8-11]

To compare the effectiveness of these two well-supported MBTs, Carlson and colleagues (2017)[12] designed the Mindfulness and Tai Chi for Cancer Health (MATCH) study, a large, multi-centre, waitlist-controlled, preference-based randomized comparative effectiveness trial, to compare a range of cancer-related biological, psychological, and social outcomes for survivors of cancer. Over 600 people participated in the MATCH study, which was held at two large tertiary psychosocial oncology care centres in Calgary, AB, and Toronto, ON, Canada. The programs were originally designed to be in-person, group-based in orientation; however, the early impacts of COVID-19, which resulted in swift lockdown measures, compelled the study team to adapt the interventions to online delivery. The TCQ program, which was in session seven of 11 at the time, was shifted to an online, Zoom based delivery in a week's time. The final cohort of MBCR and TCQ participants completed the entirety of each program online during the spring/summer of 2020.

The implications of COVID-19 caused unprecedented distress and disruption to daily living activities.[13] For those living with or survivors of cancer, the associated distress has been more pronounced, as fears of infection, financial difficulties, social isolation, and reduced access to clinical services had been collectively experienced.[14] Access to psychosocial services, such as MBTs for managing cancer-related psychosocial outcomes, were among this list, leaving many people vulnerable to experiencing higher rates of distress and other adverse outcomes related to their cancer and COVID-19. Fortunately, this presented an opportunity for researchers to adapt procedural methodology, such as with the MATCH study, to provide these same MBTs with online delivery. Online delivered MBTs and other structured interventions have been designed and can be effective.[12] However, few studies have evaluated the delivery of online mindfulness based and TCQ interventions, and no study to our knowledge has explored the experiences of cancer survivors who have partaken in online delivered MBCR and TCQ structured programs during a global pandemic. Furthermore, COVID-19 granted our research team a unique opportunity to explore the perceptions of those participants who shifted from in-person to online delivery of a structured MBT program during the intervention itself.

The aim of this qualitative study was to explore the experiences of MATCH study participants in Calgary, AB., enrolled in MBCR or TCQ who participated in-person, through online delivery, and those who shifted from in-person to online mid-intervention during the COVID-19 pandemic. We further sought to determine how these unique experiences were impacted by COVID-19-related distress and to identify aspects of each delivery type that facilitated or hindered positive outcomes following the interventions. These insights should support further digital adaptations of MBTs even beyond the acute impacts of COVID-19, given the continuing utilization of technology and need for more accessible support resources in oncology.

Methods

Using a convenience sampling approach, the present study included participants from the MATCH study cohort who initially met the following eligibility criteria, and had completed in-person and/or online MBCR or TCQ sessions: 1) 18 + years; 2) diagnosed with any type of cancer (stage I-III) excluding brain; 3) completed primary treatment (i.e., surgery, chemotherapy, radiation therapy) at least 4 months previously; 4) significant distress (4 or greater) on the Distress Thermometer;[15] sufficient functional capacity (as determined by the Physical Activity Readiness Questionnaire);[16] and 6)

ability to speak and write English. Participants were contacted by telephone to explain the study and invite them to participate.

Data Collection

Written consent was sought and digitally recorded. A semi-structured, in-depth telephone interview with the first author (AM), was then conducted at a time that was mutually agreed upon. The interviews were approximately 60 m in length and included questions addressing barriers and facilitators as well as benefits and disadvantages of taking part in online and/or in-person MBCR or TCQ. Probing questions were also included in each guide and asked when necessary (See Appendix A, B, C). The interviews were conducted within several months of when each participant had completed the program. The authors sought to recruit relatively equal numbers of participants from each mode of delivery. All interviews were digitally recorded and transcribed verbatim to preserve their authenticity. Field notes were also kept that captured key contextual factors associated with the interviews (e.g., emotional reactions, silence). This study received ethics approval from the Health Research Ethics Board of Alberta (HREBA). Participants consented to the study prior to beginning the interviews. Consent to be recorded had been signed by all participants who enrolled in the program online.

Data Analysis

Data analysis was an ongoing, iterative process that began after the transcription of the first interview and occurred simultaneously with the data collection phase of the study. Inductive thematic analysis of all qualitative data was conducted.[17] Two of the investigative team members (AM and MB) independently read the interview transcripts and field notes to develop a preliminary coding scheme and descriptions of each code. All data was analyzed using the qualitative software, NVIVO. Constant comparison of new and existing data ensured consistency, relevance, and comprehensiveness of emerging codes and themes. Several strategies were applied to ensure rigour in the study[18] to increase credibility, team members with expertise in qualitative inquiry monitored the qualitative data and its analysis. Confirmability was addressed by using the participants' own words throughout the process of data analysis, interpretation, and description. Finally, transferability was addressed through a detailed description of the research process.

Theoretical Model: Social Constructivism

In attempting to capture the constructed and unique experiences of those who participated in these different intervention modalities, we employed a social constructivist lens to our study design and the interpretation of our findings.[19] Social Constructivism, a theory closely compatible with grounded theory methodology, lends support to the notion of anti-realism, suggesting that all knowledge and experiences (i.e., reality) are socially constructed and not individually created. This is achieved through the ongoing process of environmental interaction and individual appraisal, suggesting that reality is both a shared and individual phenomenon. The theory further posits that no singular (completely shared) concept of reality exists, but rather that there are infinite interpretations, unique to each person, that are constructed through this reciprocal process. Therefore, in relation to cancer survivors' participation in MBT programs, social constructivism posits that their shared experiences would differ despite the standardization of each program. To this end, experiences would together be socially constructed yet interpreted differently by each participant. We implemented this theoretical model in the design of the interview guide, as well as in the interpretation of the study results, to capture our participants' unique experiences with the various MBT programs and modalities, acknowledging the likelihood that key similarities and differences would arise. This theoretical model guided how the authors (AM & MB) examined this data, whereby the coding scheme and overall thematic structure was informed with an emphasis on how individual experiences were influenced by various social factors and the collective contributions of all members in each of the MBT groups.

Results

Participants

Thirteen cancer survivors participated in the study, of whom 75% were female (n = 11). The mean age of the participants was 70.6 years (SD = 8.1, range = 53 - 76). A majority (69%, n = 9) were well-educated, having either college, university, or post-graduate training, and were married (69%, n = 9). Regarding cancer diagnosis, breast (46%, n = 6) and prostate (27%, n = 3) were most frequently reported. All participants had been out-of-treatment for at least four months prior to enrolling in the program. Further demographic information is described in Table 1. Of the 13 participants, four had participated in the online-TCQ program, two participated in the online-MBCR program, two participated in the in-person MBCR program, and 5 participated in the hybrid (in-person and online) TCQ program.

Themes

Four major themes were derived from the data: 1) attending to personal needs, 2) functional, interpersonal, and COVID19-related challenges, 3) unique engagement styles based on mode of delivery, and 4) ease of transitioning to remote delivery. Additional sub-themes, benefits for coping with COVID-19 related distress, and preferred mode of delivery (online or in-person), were also derived from theme four and

are presented in Table 2. A summary of all themes and subthemes are presented in Table 2.

Theme 1. Attending to Personal Needs. A primary theme that emerged captured participants personal motivation and reason for enrolling in either MBCR or TCQ, prior to COVID-19. A commonly voiced reason to participate was the hope of reducing stress related to cancer. Several participants noted that it was important for them to learn to calm their mind and body using meditation and breathing exercises. Others were more interested in the physical aspects, specifically those in the TCQ program, which was often mentioned by those who did not find seated meditation an appealing option. Gaining a sense of community and social support was also mentioned, as some participants desired to connect with others who had 'walked in their shoes', which was thought to also enhance internal reflection on their condition. Finally, some participants simply wanted to join for the sake of supporting cancer-related research.

> *"It was more of looking for a place or a program or a way to reflect internally. Everything has been so external, doctors and surgeries and people telling me things and working through all this stuff that I was looking for a moment to breathe and to reflect inward and to maybe work through some of what was in there. Like an outlet to work through some of that stuff. That's what I was looking for"* Female, 53 years.

> *And so that was the big motivator is to meet people that were doing – going through what I was doing, and trying Tai Chi, and like I said, now I really like it, I would like to, once COVID is a thing of the past, go and take some more classes.* Female, 67 years.

> *I think it made me think about it more. I mean, when I really get stressed out, I can get kind of get on top of it. I never really been into yoga and this sort of thing too much. So yeah, it did make me realize that it can do a lot of good for getting rid of stress for sure.* Female, 72 years.

Perceived Benefits. The perceived benefits taken from the MBCR and TCQ programs reflected many of the initial reasons participants joined. Many found that their ability to navigate stress related to their cancer and life situations were strengthened through the intervention. Learned aspects within the interventions themselves, such as the gentle movements of TCQ, or the mindful breathing of MBCR, were skills that some participants had committed to incorporating into their own lives, which to them brought a deeper value to their experience.

> *"I'm probably trying to practice a little bit more of mindfulness on a daily basis, because my husband is on oxygen 24/7 for COPD. And we've been staying, I mean, social life is nil, so that's a little bit harder. I've probably been able to use it more on a daily basis than any other time.* Female, 71 years.

> *"Even the Tai Chi, I found slow, but at the same time, the reason I was doing it was to be calmer and more relaxed. But the reason I chose Tai Chi over the meditation was just because there was some movement involved".*

Benefits for Coping with COVID-19-related Distress

A less foreseen benefit was the learned coping skills for navigating COVID-19-related distress. Several participants noted that the breathing techniques, mindful awareness, and light exercise were all helpful skills that they could use to manage stress and fears during the initial lockdowns. For others, it was the sense of community and social interaction that helped to combat feelings of isolation and loneliness during a time where socialization with others, especially for those more vulnerable to infection, was limited. While neither program was designed specifically for COVID-19-related distress, many found the skills learned helpful in managing the acute and unprecedented stressors that arose at the outset of the pandemic.

Theme 2. Differences in Functional, Interpersonal, and COVID19-Related Challenges

Online. Although there were many benefits to participating in either program, there were several challenges that the participants faced in both programs that were unique to in-person or online delivery. Some participants in the online programs found that the ease and flow of conversation was limited using Zoom. They commonly found that people were talking over one-another, and the degree of social exchange was limited to those who were more outgoing.

> *"I think one of the barriers, and we're a year in COVID, and this is probably just lessons learnt for all of us... We use [Microsoft] Teams but Zoom I'm assuming has the same functionality. In Microsoft Teams, you put up a virtual hand when you want to speak, and then the moderator can facilitate and make sure people who want to speak do instead of talking over one another which is difficult in the beginning. So, I would say that was a bit of a barrier".* Female, 53 years.

A collectively shared challenge was Internet connection. Most participants noted that poor Internet connection would interfere with the flow of the session at times; this was experienced both with TCQ participants who were watching the instructor teach the movements, as well as for MBCR participants during open discussion.

> *"Yeah. Sometimes like I said there were glitches in the freezing of Zoom or whatever, but for the most part, it was fine. I'm not sure that — I still think I liked the in-person better"* Female, 67 years.

Some participants found the functionality of the online platform difficult for engaging in the sessions. Since TCQ was a movement-based program, some found it challenging

to follow the instructor and were concerned with the lack of direct feedback they received on their technique.

> *"Well, I mean the feedback was really difficult once we went to Zoom"* Male, 65 years.

> *"Sometimes [instructor] would disconnect and she would just freeze. With me, I just had to learn sometimes to mute and unmute".* Female, 71 years.

In-person. For those who participated in the in-person programs before COVID-19 lockdowns were implemented, a commonly reported challenge was commuting and parking for sessions each week. Some found that it was challenging to arrange their schedules around other commitments and travelling to and from the classes consumed valuable time.

> *"Well, the parking was a little sketchy for me. I found like I had to park somewhere that I wasn't going to get towed or something"* Female, 62 years.

> *"I would always like worry about parking. It's always been a problem".* Male, 65 years.

In contrast to those who thought online-delivery hindered communication, some participants of the in-person classes found that interaction amongst the group was minimal. Other participants were concerned about how others were perceiving them and may have felt intimidated by the group setting. The environment was also distracting for some, especially those in the MCBR group, who felt that the foreign space made it difficult for them to concentrate on aspects of the practices.

> *"I mean, that's just being around a group of people not knowing each other to start with. I mean for people that take very much to themselves. Some people can't talk very open. I have to say I kept just to myself and what's going on in my life".* Female, 71 years.

> *"I would go in person because I like the community of it. But the community doesn't mean, we are talking to one another".* Female, 52 years.

> *"The people weren't as friendly as I thought they would be, but that's probably because they're all going through their own journey with cancer, a lot of them still had cancer and were going through treatments and stuff".* Female 65 years.

Exposure to COVID-19 was also a frequent concern during this time. Less was known about the pandemic and its severity, and this was before vaccines were available; however, the uncertainty and fear of infection was experienced by most who participated in-person in the months leading up to the first lockdown mandates in Canada. This was more significant seeing that the participant sample was vulnerable due to age and disease-related factors. During this time there were no mandated masking measures, although hand-sanitization was a requirement. Hence, COVID-19 became a common topic of discussion and point of anxiety for many in-person MBCR and TCQ participants during the sessions, even before the lockdown in March of 2020.

> *"There was – when COVID started it was more of a challenge too. People felt uncomfortable, I think, in the classes and if somebody coughed, it was like, wow"* Female, 62 years.

> *"Yeah, because people would talk about it [COVID]. People were walking and they'd walk near me, like one lady said, I have cancer, like, get away from me, like, six feet, right".* Female, 52 years.

Theme 3. Unique Engagement Styles Based on Mode of Delivery

Online. Despite the mentioned barriers to participating in the online classes, there were many unique aspects that participants found enhanced their experience using online delivery. Specifically, the flexibility and convenience of logging on and participating in their own personal space, without the added hassle of commuting to the classes, was highly valued. Some participants appreciated that they could use their own materials, while others felt that having their own space eliminated feelings of embarrassment and hypervigilance while participating. Other participants in the TCQ classes were able to utilize the online platform to watch and learn from fellow class members.

> *"And being in my own house. Being in my own house with my own stuff with my own water. If I wanted a tea halfway through, I just took off my camera and went and got a tea".* Female, 53 years.

> *"It was good because like if you want to do, you could do it, and there was other people and you could see video of them doing it".* Female, 67 years.

The sense of anonymity was appreciated by some who may have felt uncomfortable practicing in front of others and for those who were less vocal during discussion. Interestingly, communication and sharing were believed to be better suited online by some, which they attributed to the structured social exchange that was facilitated online.

> *"They struggled a couple times setting it up. But I didn't mind at all because, I mean, like I say a hippo out of water. I prefer doing the movements when nobody can see… the comments I think flowed more freely when you were talking online, and I don't know what that is"* Female, 65 years.

> *"If somebody was expecting a group type of situation but was a little shyer, the anonymity might be nice for them in a group in an online session"* Female, 71 years.

The use of an online platform also enabled the research team to record each session and provide those recordings to

the participants to refer to during the week using a secure digital link. This was received positively, and the recordings were found to be helpful, especially for those in the TCQ classes. All participants consented to being recorded and there were no ethical concerns or breaches of privacy throughout or following the study.

> *"We had the recordings so we could do it other days and watch it in case, like, okay, am I doing this right? And I could go back to the video. And yes, I could correct myself whereas if you just take the class, you're there. And when you go home, you're like, okay, am I doing this right? I don't know, I got to wait till I go back to the next class"* Female, 67 years.

In-person. Feelings of camaraderie and a community atmosphere were valued by many who participated in-person, which they believed would not have been the case in an online class. This was noted more by those who were seeking out social support when entering the programs as they valued being able to share their experience with those who could closely empathize. These individuals also reported experiencing a sense of calmness from the group setting and were interested in building relationships with fellow members of the class.

> *"I guess with me, like, I said would be, I had hoped to meet other people that were going through cancer. And I mean, I get through the Zoom, but actually, that was a big thing to actually go to a class and meet people that were going through the same thing as I was"* Female, 67 years.

> "*Socializing and meeting other people, which you don't do online, well, you kind of sort of do, I guess, but it's not the same as shaking somebody's hand or giving somebody a hug or whatever"* Male, 76 years.

The in-person classes seemed to further support better feedback and tailored instructions from the instructors as well. Some participants believed that they were also able to focus better when they were in-person, as there were more distractions at home that took them away from engaging fully in the sessions.

> *"There can be distractions too when you're at home. So, then you're just hoping that time hurries up and goes by. But when you're at the [cancer centre], you're there and you're committed and you're with other people that are doing it with you".* Female, 66 years.

> *"Well, the exercises were really good, and at least when we were in-person she [instructor] would tell us if there was something that we were doing like a bit wrong, you know".* Male, 76 years.

Theme 4. The Ease of Transitioning to Remote-Delivered Programming. For those who experienced shifting from in-person to online class delivery, feelings of hesitation were common, with one participant stating that she "did not see the point in participating online" but was pleasantly surprised with her experience and happy that she did. In fact, the majority reported that this transition was seamless and that their overall experience was unchanged after shifting online, although it was noted by many that there was less connectivity amongst the online group. When asked about their motivation to continue, most mentioned that they wanted to finish what they started, while others were relieved that they would not be risking exposure to COVID-19 and were happy to continue. This willingness was present more for those who seemed to experience higher anxiety relating to COVID-19, which was reduced when the class shifted online.

> *"Well, I remember thinking that what was the point in continuing the class. You had all these stressors knowing that the virus is out there and I don't know. I just remember thinking is there any point in continuing the class, but I'm glad I did continue with the Zoom and it went relatively smoothly"* Female, 65 years.

> *Once I commit, I'm going to stick with it. You want to see it through. Otherwise, you feel bad that you didn't stick it out and give it your best, right.* Female, 67 years.

> *"No, I wasn't hesitant to try the online thing. That was fine except I did wonder how beneficial it would be considering that COVID was going on and nobody knew what that was all about and that was a stressor in itself".* Female, 62 years.

There was one participant, however who valued the in-person classes over online, which they attributed to feeling 'zoom-fatigued' after months spent using the platform in various aspects of their life.

> *"There is something about in person that is way better than – just an example, right now, the church and stuff, they're done on Zoom. I'm tired of Zoom, that's the same thing there. It's just – it's not the same as in person, it just is not, no. That's what I feel"* Male, 76.

Discussion

This study aimed to qualitatively explore the experiences of cancer survivors who had participated in structured MBCR and TCQ programs during the COVID-19 pandemic. We discovered that the beliefs held by our participants regarding mode of delivery were unique, often finding that participants had contradictory views, despite having experienced the same class (eg, in-person-only, online, hybrid). Our findings not surprisingly suggest that individual experiences are subjective despite program standardization, which contributes to the social constructivist model that guided this study and the notion that lived experiences are actively constructed, rather than predisposed. Overall, this study provides new evidence in support of digital mind-body therapies for people living with or survivors of cancer while highlighting important considerations for the design and implementation of such programs.

Attending to Personal Needs

The study participants had personal motives for joining either the MBCR or TCQ program, such as reducing distress or gaining a sense of community. Many participants found that the skills they developed through MBCR or TCQ (eg, controlled breathing, meditation, controlled movement), became adaptive tools during the COVID-19 pandemic. Our findings reflect other research in this area. A recent study that analyzed attendance and self-reported outcomes of Zoom-delivered mind-body group therapy sessions for cancer patients found that levels of anxiety and stress were significantly reduced following the sessions.[20] Moreover, the authors reported that 95% of participants were 'extremely satisfied' with the online program itself, which reflects similar responses from participants in our study who attended online classes. In another randomized controlled trial that evaluated an online-delivered mindfulness program for patients with melanoma (N = 69), the authors found that cancer-related fears were significantly reduced following the intervention compared to control.[21] Our findings contribute a qualitative perspective that further supports the therapeutic benefits of MBTs, using online or in-person delivery.

Functional, Interpersonal, and COVID19-Related Challenges

Despite the perceived benefits of each program, there were several noteworthy barriers and challenges that were unique to each mode of delivery. In the online classes, poor Internet connection was cited by many. Internet connection and access is a commonly cited challenge for online delivered interventions.[22] Access to the Internet remains limited for those with financial constraints or those living in rural areas; in fact, these factors are often the most relevant reported barriers to using online interventions.[23,24] For others, the use of the platform itself was challenging, as issues such as talking over one another and having difficulty seeing the instructor's movements in the TCQ class, were mentioned.

For the in-person classes, commuting and parking were cited challenges. Transportation is a significant barrier to health care access and continues to limit those with mobility issues due to old age, illness, and financial difficulties,[25] which highlights need for other accommodations, such as online delivered programs. Others found the in-person classes to be distracting, especially when practicing MBCR, while others felt intimidated by the group setting.

Unique Engagement Styles Based on Mode of Delivery

There were several key aspects that supported the use of online and in-person programs. Online participants appreciated having their own personal space and felt more comfortable joining in the classes from their home. This was paired with a heightened sense of anonymity for some who felt more comfortable sharing or completing tai chi movements without a fear of judgement from others. Other studies have concluded similar findings. A qualitative study of online group-psychotherapy for adults with early psychosis (N = 21) found that participants felt more comfortable sharing their vulnerable experiences with the group anonymously.[25] Although participants' cameras and mics were turned on for most of the classes, which simulated in-person interaction, it is possible that removing the physical face to face element alleviated feelings of anxiety and intimidation that may have otherwise been present in a group-setting. However, since evidence also suggests that anxiety and self-awareness can slightly increase when using video calling platforms,[26] it is possible that participants simply felt more comfortable engaging socially in a familiar space (e.g., their home). The ability to record sessions was also novel to both interventions. Participants could access recordings of each session, which they could use to enhance their practices throughout the week.

In line with motivations for joining the programs, the in-person classes facilitated a strong sense of community and connection amongst participants, which was said to be less prevalent online. Community support is an important aspect for people living with or recovering from cancer, whose experiences are unique and less understood by those who have not endured their own cancer journey.[27,28] Additionally, participants felt they were able to access better feedback from their instructor and from others in the class, which supported better learning.

Together, these findings indicate that while there are benefits and challenges to each mode of delivery, in some cases, they are likely to be valued differently by participants. This speaks to the notion that there is not a 'one size fits all' in designing MBTs, but rather that interpretations may be subjective based on both individual and higher-level processes.[19] Accounting for this subjectivity in the study design stage (e.g., hybrid delivery models, scheduling) and during implementation, may benefit outcomes for a broader range of participants. However, this data also indicates certain consistencies amongst these modalities, which highlights unique benefits and shortcoming that are worth consideration. Given that both in-person and online delivered programming was well-received by our participants, future MBT programming and research pertaining to the clinical implementation of MBT programs would likely benefit from considering the use of hybrid-delivered (in-person and online) modality.

The Ease of Transitioning to Remote-Delivered Programming

The early stages of the pandemic caused much intervention research to delay or conclude altogether. While most interventions initiated the delivery of new programs using an

online modality,[26,27] the experience for our participants was unique because the shift occurred during the intervention program and within a unprecedently short timeframe (one-week). Despite hesitation, nearly all but one participant reported that they found the transition and delivery of the online intervention seamless. Our findings suggest that adapting study methodology to support the continuation of an intervention can be accomplished successfully and likely outweighs the cost of discontinuation.

In a time where caution regarding infection from COVID-19 and other viral illness persists, there are likely to be other instances like this, especially for studies whose primary participant sample are more vulnerable due to illness or age-related factors. Currently (March 2023), group psychosocial interventions in Calgary, AB., are still delivered using an online format, due to risk of infection from COVID-19 and other recent outbreaks, such as RSV, the common flu, and other infections, which remain a significant concern for the cancer community. Morton and colleagues (2021)[29] note that behavioural interventions intended for in-person delivery can be transformed online successfully if considerations are taken to ensure the validity of the intervention. Clinical practice guidelines for online treatment and consultation from the Society for Integrative Oncology (SIO), recommend that online delivered treatments would be best supported when certain challenges, such as resistance to telemedicine, ethical concerns on confidentiality, technical concerns, amongst others, are adequately addressed.[30] As such, there is good evidence to support the use of online delivered interventions when developed and conducted in-line with current best practice. In addition to a strong consideration of the ethical and logistical factors in conducting online or hybrid-delivered MBT programming, we recommend that administrators also consider the unique human-based factors (e.g., personality characteristics, knowledge, or skills in using video-conferencing technology, resource availability such as Wi-Fi connections and materials), as this will enhance the overall experience for a larger scale of participants.

Conclusions

This qualitative study provided novel insight to the experiences of participants who took part in an MBT specific to cancer recovery during the early stages of the COVID-19 pandemic. Our findings highlight various limitations and facilitators for each mode of delivery that were collectively shared, while also showing that these same themes were subjective in some cases, which may speak to the need for more thoughtful consideration in how future interventions are designed and delivered. A social constructivist perspective proposes that how an MBT is experienced will differ slightly based on the participants, their unique appraisals, and by how they collectively engage with the intervention itself. Hence, accounting for these unique differences poses a challenge but would be best achieved by broadly considering the needs of survivors and those living with cancer. MBT delivery can be a highly personal experience; however, we see that MBT programs are beneficial for a wide array of individuals when delivered in various modalities, which speaks to how functional, applicable, and impactful these programs can be for participants. It is promising to see that digitally delivered MBT programs are effective on an experiential level for cancer patients and survivors, which has been less clear in relevant literature up to this point. In an era of rapid technological advancement and a need for more accessible psychosocial support in oncology, evidence in support of these and similar adapted mindful-movement interventions are highly valuable. Furthermore, given the possibility of future potential viral pandemics, such as or similar to COVID-19, this study provides useful information regarding the adaptation of in-person MBT programs.[31,32]

Limitations

There were several limitations to this study. First, our sample was limited to the Calgary location as we were unable to recruit participants from the second study location in Toronto. Hence, other themes may have arisen that were unique to participants in Toronto. Second, the overall sample in the MATCH study was not very diverse in terms of socioeconomic status, ethnicity, and other demographic characteristics. Finally, the sample size for this qualitative study was small as the study team was limited to recruiting from two participant cohorts from the Calgary location. However, given that this study was exploratory in nature with the possibility of stimulating future follow-up investigations on the subject matter, this sample size is acceptable.

Future Directions

Future research may seek to further explore the nuances in online and in-person delivered MBTs for cancer and other illness, including the possibility of hybrid-delivered programs that would better support the individual needs and preferences of those participating in MBT research. Feasibility and validation research on the use of various delivery modalities would likely benefit the design of similar interventions studies and clinical services in the future. Moreover, investigating comparative measurable outcomes (e.g., physical and mood related outcomes) of online and in-person MBTs would offer better insight on efficacy.

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Supplemental Material

Supplemental material for this article is available online.

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