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COMMENTARY

Mindfulness-Based Interventions for Adolescents: Time to Consider Telehealth

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Introduction

INTEREST IN MINDFULNESS-BASED interventions (MBIs) has been growing exponentially within the sectors of health care, business, and education. Taking roots from ancient Eastern spiritual traditions, MBIs are now well established as an approach to enhance well-being and quality of life among adolescents and adults.[1] Yet, the rapid increase in popularity of MBIs has led to challenges to meet the growing need for adequately trained providers to deliver these interventions, especially outside large urban centers. Children and adolescents are particularly receptive to MBIs.[2] As rates of anxiety and depression steadily increase among children and adolescents, MBIs offer a promising therapeutic avenue to prevent and treat several of the most common mental health concerns in this age group.[3] MBIs can also improve adolescents' ability to cope with chronic illness and chronic pain.[4] The delivery of structured MBIs facilitated in real time through telehealth can broaden access for youth who live outside of urban centers and who otherwise may not have access to MBIs.

Online delivery also comes with several unique challenges and a pressing question: is it possible to reach some or all of the benefits associated with in-person MBIs (often considered the "gold standard") using available technology? In this commentary, this question is addressed, through a discussion of the authors' own experience as pediatric mindfulness providers delivering mindfulness interventions through telehealth using evidence-informed programs tailored specifically for groups of adolescents, such as the Mindful Awareness and Resilience Skills for Adolescents (MARS-A) program. MARS-A is an adaptation of 8-week Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy interventions for adults and has been described elsewhere.[5]

Delivering MBIs Online

Although research about the applications and health benefits of MBIs in youth is rapidly emerging,[4,6] evidence on the feasibility and effectiveness of delivering facilitated MBIs online, in real-time, remains limited (note that this differs from MBIs that adolescents can watch or download online, which do not have the benefits of live facilitation and group interactions). In a study conducted in a small sample of adolescents with a wide range of chronic medical illnesses, similar levels of feasibility, acceptability, and reports of benefit between youth who had received an 8-week MBI facilitated in-person, versus online through telehealth were found. In this study, participants were randomly allocated to the in-person or online group and completion rates were seven of nine participants, or 78%, in both groups.[7] In a separate study comparing a moderated in-person MBI versus an online MBI for adolescents with inflammatory bowel disease, retention was far superior in the online (67% enrolled) than in the in-person version (41% enrolled) with similar benefits reported in both groups.[8,9] In both studies, participants received the intervention from their own home and could see the facilitator as well as all the other participants on their screen. Self-guided and facilitator-guided individual or group-based online MBIs have been the object of a small number of adult studies, yielding promising results, with larger effect sizes noted for guided interventions.[10,11]

This experience facilitating online MBIs has revealed that relatively minimal changes are needed to adapt in-person

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TABLE 1. SUGGESTIONS FOR ONLINE ADAPTATIONS OF IN-PERSON MINDFULNESS-BASED INTERVENTIONS

	In-person	*Online adaptations and rationale*
Optimal group size range	10–15	8–10: smaller groups allow more frequent interactions between participants and facilitators
Location	Quiet space in a hospital, school, or community space offering minimal distractions and interruptions	Quiet space that is either in the home or outside and is conducive to quiet meditation. Comes with the additional challenges and responsibility of insuring that the space is private and quiet. Potential benefit of increasing generalizability to everyday life
Session duration and format	90 min, includes a 5-min snack/health break	90 min, may include an optional 5-min break during which youth can leave camera view
Instructors	Two instructors present in person	Two instructors present through webcam, may be in same or separate location(s): Presence of two instructors in the same space allows more flexibility and addressing any technical issues that may emerge without disturbing the flow of the session Presence of two instructions in different rooms allows facilitators to be closer to their webcam and be more visible to participants who may be using a smaller screen
Equipment or supplies needed	Snacks	Desktop computer, laptop, tablet, or smartphone with a webcam and a reliable wired (preferred when available), wireless, or roaming function for Internet access: a larger screen is preferred to allow better visibility of other participants
Expenses (beyond facilitation)	Parking and transportation costs	Usually none: most youth would have access to the electronic equipment/technology required
Privacy and distractions	Ask that participants refrain from using mobile devices and taking pictures or recordings during sessions	Need to ensure that youth stay in view of camera and that there are no other people in the room (including parents or siblings), or if other people must be in the room, the use of headphones (ideally noise cancelling) should be encouraged Encourage turning off any other mobile devices, chat, or messaging programs that may take away from the experience
Other logistical aspects specific to online facilitation	N/A	Make sure participants cannot join without the host/facilitator Make sure participants cannot message each other on the program (chat) unless monitored or instructed by a facilitator Ask participants to use ''gallery view'' (or equivalent) settings to allow all participants to view facilitators and other group members simultaneously Ask participant not to include last names in login Have participants mute their microphone when not speaking, to reduce background noise

N/A, not applicable.

programs so they can be delivered online. These adaptations tend to be focused on the logistics of setting up the learning space, which is something a facilitator also needs to consider and manage for in-person groups, with slight differences in what needs to be explicitly discussed in terms of privacy and confidentiality (see Table 1 for complete list). In this experience, slightly smaller groups (optimal range: 8–10 participants, compared with 10–15 participants for in-person groups) are preferable for online facilitation, contingent on what is known about group dynamics.

Facilitator Experience

Our backgrounds in medicine, psychology, education, public health, and mindfulness have allowed us to reflect in

different ways on the experience of delivering MBIs online. Although there was some initial skepticism (including from one of the coauthors) about the possibility of embodying mindfulness through an online platform, the authors have been surprised by how positive the experience has been. In fact, it was noticed very quickly that it was not only possible, but also quite natural, to develop the sense of support and community that is integral to the experience of an in-person MBI. An important reflection has been that participants in the online groups reported a different, yet valuable, experience of social connectedness with their peers. The observation as facilitators, which was mirrored by the qualitative analyses of participants' accounts from in-person and online groups,[12] revealed that online delivery of MBIs shifts the focus of social connectedness toward feeling a sense of community and

support from their peers, rather than an emphasis on trying to make new friends. In fact, participants in the online group mentioned that they had felt connected with the group as a whole, whereas participants in the in-person group reported that they had enjoyed the social aspect of the program and meeting other adolescents who were facing similar challenges (a more detailed discussion can be found elsewhere).[12] It was also noted that since participants attend sessions in the comfort of their own home, and make a conscious effort to identify a quiet, private, and restful space to practice mindfulness, they directly use and naturally generalize the practices learned to their everyday lives outside of the group sessions.

Online facilitation also comes with a unique set of challenges. While digital interfaces allow the possibility of visualizing all participants at once, nonverbal communication and picking up social cues can feel more limited (this may be felt by participants and facilitators). Poor audio quality can also be an issue if more than one person speaks at once. It was found that these challenges can be managed effectively by eliciting participation through different means, such as using ''thumbs up'' signs, which all participants can do at once without causing audio issues. This and other active gestures allow to maintain ongoing engagement and contact with all participants. Potential technology issues are another challenge that can distract the facilitator (especially if facilitating alone) and make it more difficult to entertain an atmosphere of calm, introspection, and open sharing conducive to the practice and learning of mindfulness skills. It was found that even more so than in the context of in-person facilitation, having two facilitators to help with potential distractions and technological issues offers facilitators peace of mind and an opportunity to ensure a higher level of depth in practice and inquiry. Specifically, the capacity to maintain eye contact through a digital interface can be enhanced by the presence of two facilitators.

In speaking with adolescents who have experienced online MBIs moderated in real time, it was found that participants quickly became comfortable with, or were already familiar to, the online platform the authors used. Participants also reported that participating in MBIs from the comfort of their home is convenient, pleasant, and more personable, as being surrounded by familiar objects can be helpful in encouraging self-expression. Considering that the majority of adolescents now create and maintain friendships through social media and that more than half of 14–17-year-olds in North America report playing online video games, often in social forums, it may be that the level of comfort with online MBIs is a reflection of how current day adolescents interact with their peers.[13]

Future Directions

The online delivery of MBIs facilitated in real time is bound to become easier in the years to come. The authors recognize that certain obstacles still exist, and that experiencing sound or connectivity issues during sessions can have an impact on the experience. However, newer technologies such as virtual reality may soon help make online MBIs even more engaging and accessible than they are now.

There is a clear need for more research, including larger scale studies to determine the role that online MBIs can play as a first- or second-line treatment modality for youth with different mental and physical health conditions.[14] Another question that remains unanswered is whether online MBIs

moderated in real time can be optimized with the use of other adjunct modalities such as mobile mindfulness apps. It is also unknown whether new or modified practices such as mindful social media browsing or mindful online communication could take a more central role in future online MBI programs.

Although mindfulness training is experienced in a different way through an electronic platform, fundamental principles key to the delivery of in-person MBIs can be honored. Mindfulness remains a highly experiential approach, and for participants, just like providers, quality and benefits of MBIs, whether delivered in-person or online, will be optimized with the cultivation of a committed personal mindfulness practice.

Increasing the offer of online MBIs requires training and developing new skill sets and sensitivities for facilitators who are only familiar with in-person settings. However, this training can easily be delivered through telehealth, offering a first-person experience for facilitators in training that can be translated and later shared with participants. Our experience suggests that online delivery of MBIs has a high potential to expand the accessibility of MBIs, moving the field of mindfulness forward: the time has come to consider it as a promising alternative for delivery of MBIs.

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