

Research In Focus: A Weekly Digest of New Research from the NIDILRR Community

A New Online Program May Help People with TBI Build Emotion Regulation Skills

A traumatic brain injury (TBI) is lasting brain damage from an external force, such as a fall or a car accident. People with TBI may have challenges with emotion regulation (ER), the process of recognizing and controlling their feelings or their reactions to feelings. Previous research has shown that a structured group therapy program can help people with TBI develop and practice ER skills in real-life situations. However, some people with TBI may not be able to get to a clinic to receive group therapy, or they may not be able to afford it. Internet-based therapy programs may offer a convenient alternative for these individuals to receive the therapy they need. In a recent NIDILRR-funded study, researchers tested an Internet-based program to teach ER skills to people with TBI through group videoconferencing. The researchers wanted to find out whether people who participated in the program experienced less difficulties with ER after the program than before, and whether they experienced improvements in mood or quality of life. They also wanted to find out what the participants thought of the online program format.

Researchers at the [New York Traumatic Brain Injury Model System Center](#) enrolled 91 adults with TBI in a study. The participants came from 33 U.S. states and 5 countries. They had experienced their TBI at least six months prior to starting the program, with a group average of five years of living with TBI. All of the participants reported multiple challenges with ER.

All of the participants were enrolled in the experimental program, called Online EmReg, which was adapted from a face-to-face group therapy program. Online EmReg consists of 24 one-hour videoconference sessions, held twice a week for 12 weeks. A small group of 4-5 participants attend each session, which is led by a trained facilitator. The participants and facilitator use the GotoMeeting platform to communicate and share information. During the first 8 sessions, the participants learn about the basics of ER, how ER can be impacted by TBI, and some specific strategies or tools for managing their emotions. The participants also set specific goals for improvements during the program, such as learning to feel calmer under pressure or being more patient with themselves and others. During the final 16 program sessions, the participants practice their skills in individual and group exercises.

To find out how the program impacted ER, the researchers gave online questionnaires to the participants 4 weeks before the program started, immediately after the program ended, and again 12 weeks after the program ended. Each questionnaire included a 36-question scale called the Difficulties with Emotion Regulation Scale (DERS), where the participants reported how often they encounter various challenges with ER, such as losing control of impulses or having trouble identifying their feelings,

on a scale from 1 (almost never) to 5 (almost always). The participants also completed additional scales rating their current positive and negative emotions, overall satisfaction with their lives, and the extent to which they experienced challenges with other mental activities such as problem-solving, planning, and decision-making. To find out what the participants thought of the program, the participants answered questions regarding their satisfaction with the program and the extent to which they felt they achieved their goals for the program. Each participant was also interviewed by phone after the program ended to obtain more detailed feedback.

The researchers found that the participants reported less frequent challenges with ER after the program started than before. Their total scores on the DERS decreased by an average of 10% between the beginning and end of the program, and these scores decreased by another 4% during the 12 weeks after the program ended, for a total decrease of 14% by the end of the follow-up period. The participants also reported an 18% decrease in negative emotions, a 17% improvement in overall satisfaction with their lives, and a 65% improvement in planning and decision-making scores, and an 11% improvement in problem-solving scores between the beginning and end of the program. The participants' overall satisfaction with their lives increased by another 14% during the 12 weeks after the end of the program, for a total increase of 31%.

The researchers also found that most of the participants were satisfied with the program and found it helpful. When asked to rate their improvement in ER skills during the program, 49% of the participants reported a large improvement, another 41% reported a moderate improvement, and only 10% reported little or no improvement. During the interviews after the program had ended, nearly all of the participants said that they felt the program was relevant to their goals. The participants said that the program was a good learning experience, that they enjoyed the connections with others, and that it was convenient to participate from their homes.

The authors noted that, because there was no comparison group for this study, it is unclear whether or not the improvements were a direct result of the program or if the participants' skills simply improved over time. In the future, randomized experiments may be useful in establishing the impact of the Online EmReg program compared with usual care for people with TBI. They also noted that the participants in this study had access to the high-speed Internet and equipment necessary to use videoconferencing, which may not be available to people with lower incomes or those who live in rural areas. These individuals might face more challenges to participating in this type of program.

The authors noted that Internet-based programs such as Online EmReg may benefit diverse groups of people with TBI, particularly those who live far away from a medical center or who may not be able to travel for regular appointments. The program can also be implemented at low cost since videoconferencing platforms such as GoToMeeting may be free for participants to use. In this study, the participants were

very satisfied with the Online EmReg program, and reported improvements in ER as well as more general life satisfaction and well-being. These improvements were maintained over time after the program was over, suggesting that the participants may have continued to practice and apply their newfound skills in their everyday lives. These findings may show a promise for researchers and rehabilitation professionals to consider developing similar programs for people with TBI to practice coping skills and exchange support with one another.

To Learn More

The authors continue to study the impact of Online EmReg with a new NIDILRR-funded randomized controlled trial as part of the 2017-2022 New York TBI Model System Center. To learn more about the current study and how to participate, contact the Brain Injury Research Center at birc@mountsinai.org

The Model Systems Knowledge Translation Center (MKSTC) has many information resources for people living with TBI, including:

- TBI InfoComics on understanding TBI and emotional changes after TBI <http://www.msktc.org/tbi/infocomics>
- Factsheets on emotional problems after TBI <http://www.msktc.org/tbi/factsheets/Emotional-Problems-After-Traumatic-Brain-Injury>

Tessa Hart, PhD, director of the NIDILRR-funded Moss TBI Model System Center, discussed recent research in ER and TBI in a blog post at Moss Rehabilitation Hospital <http://mrri.org/regulating-emotion-after-traumatic-brain-injury/>

People living with TBI and their families can find a wealth of information and support resources, including local groups and organizations, from the Brain Injury Association of America <http://www.biausa.org> and from Brainline.org <http://www.brainline.org>

To Learn More About this Study

Tsaousides, T., Spielman, L., Kajankova, M., Guetta, G., Gordon, W., and Dams-O'Connor, K. (2017) [Improving emotional regulation following Web-based group intervention for individuals with traumatic brain injury](#). *Journal of Head Trauma Rehabilitation*, 32(5) 354-365. This article is available from the NARIC collection under accession number J77071.

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