World Academy of Science, Engineering and Technology
International Journal of Psychological and Behavioral Sciences
Vol:16, No:06, 2022

Effects and Mechanisms of an Online Short-Term Audio-Based Mindfulness Intervention on Wellbeing in Community Settings and How Stress and Negative Affect Influence the Therapy Effects: Parallel Process Latent Growth Curve Modeling of a Randomized Control

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Abstract : The prolonged pandemic has posed alarming public health challenges to various parts of the world, and face-to-face mental health treatment is largely discounted for the control of virus transmission, online psychological services and self-help mental health kits have become essential. Online self-help mindfulness-based interventions have proved their effects on fostering mental health for different populations over the globe. This paper was to test the effectiveness of an online short-term audio-based mindfulness (SAM) program in enhancing wellbeing, dispositional mindfulness, and reducing stress and negative affect in community settings in China, and to explore possible mechanisms of how dispositional mindfulness, stress, and negative affect influenced the intervention effects on wellbeing. Community-dwelling adults were recruited via online social networking sites (e.g., QQ, WeChat, and Weibo). Participants (n=100) were randomized into the mindfulness group (n=50) and a waitlist control group (n=50). In the mindfulness group, participants were advised to spend 10–20 minutes listening to the audio content, including mindful-form practices (e.g., eating, sitting, walking, or breathing). Then practice daily mindfulness exercises for 3 weeks (a total of 21 sessions), whereas those in the control group received the same intervention after data collection in the mindfulness group. Participants in the mindfulness group needed to fill in the World Health Organization Five Well-Being Index (WHO), Positive and Negative Affect Schedule (PANAS), Perceived Stress Scale (PSS), and Freiburg Mindfulness Inventory (FMI) four times: at baseline (T0) and at 1 (T1), 2 (T2), and 3 (T3) weeks while those in the waitlist control group only needed to fill in the same scales at pre- and post-interventions. Repeated-measure analysis of variance, paired sample t-test, and independent sample t-test was used to analyze the variable outcomes of the two groups. The parallel process latent growth curve modeling analysis was used to explore the longitudinal moderated mediation effects. The dependent variable was WHO slope from T0 to T3, the independent variable was Group (1=SAM, 2=Control), the mediator was FMI slope from T0 to T3, and the moderator was T0NA and T0PSS separately. The different levels of moderator effects on WHO slope was explored, including low T0NA or T0PSS (Mean-SD), medium T0NA or T0PSS (Mean), and high T0NA or T0PSS (Mean+SD). The results found that SAM significantly improved and predicted higher levels of WHO slope and FMI slope, as well as significantly reduced NA and PSS. FMI slope positively predict WHO slope. FMI slope partially mediated the relationship between SAM and WHO slope. Baseline NA and PSS as the moderators were found to be significant between SAM and WHO slope and between SAM and FMI slope, respectively. The conclusion was that SAM was effective in promoting levels of mental wellbeing, positive affect, and dispositional mindfulness as well as reducing negative affect and stress in community settings in China. SAM improved wellbeing faster through the faster enhancement of dispositional mindfulness. Participants with medium-to-high negative affect and stress buffered the therapy effects of SAM on wellbeing improvement speed.

Keywords : mindfulness, negative affect, stress, wellbeing, randomized control trial
Conference Title : ICPM 2022 : International Conference on Psychotherapy and Mindfulness
Conference Location : New York, United States
Conference Dates : June 02-03, 2022