

Abstract

The present randomized control trial examined the effectiveness of daily mindful breathing practices as well as the effect and underlying mechanism of upward spiral of mindfulness. 23 participants were randomly assigned to either mindful breathing group ($n = 11$) or waitlist control group ($n = 12$). Both groups were required to complete a set of ecological momentary assessments at 9 am, 1 pm, 5pm and 9 pm for 8 days to assess their prospective state mindfulness and emotion. They were also asked to wear an actigraphy and a heart rate sensor waist belt during the experiment to measure their heart rate variability. Participants in mindful breathing group also practiced mindful breathing through listening to a 10-minute audio every day. All participants were asked to complete a questionnaire which assessed their mindfulness, depression, anxiety, stress, affect and sleep quality at the beginning and the end of the study. Our results showed that our 7-day intervention did not have significant effects on our outcome measures. Besides, we could not demonstrate the roles of positive affect and stress the mechanism of upward spiral suggested by previous model. Instead, our findings suggested the mechanism of upward spiral involved negative affect. The longitudinal effect of upward spiral reported from previous studies could not be shown in our study. Therefore, future studies with larger sample sizes and more effective interventions are warranted.

Keywords: mindfulness, mindful breathing, upward spiral, ecological momentary assessment, actigraphy