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Potentiality of Mindfulness on Mood of Ordinary People after Disasters

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Abstract

The aim of this study was to investigate potentiality of mindfulness on the moods of ordinary people after disasters. The study design was a before-after trial study. Participants were 60 ordinary Japanese people who were at places where there was a disaster, like the great East Japan earthquake and typhoon disaster. They received a mindfulness program in one session, which consisted of mindfulness practices. They completed the Japanese UWIST Mood Adjective Checklist (JUMACLE), which consisted of Tense Arousal (TA) and Energetic Arousal (EA) before and after the mindfulness program, and described their opinions of impression of mindfulness by free description. The results showed that the TA score significantly decreased from 19.6 ± 5.0 to 14.8 ± 4.2 ($p<0.001$) and the EA score significantly increased from 28.1 ± 5.4 to 29.9 ± 5.0 ($p<0.001$). Opinions of impression shows both physical and mental influences, which were almost positive impressions. These results suggest that mindfulness have potentiality to alleviate tension and anxiety and increase energy and vigor psychologically. Mindfulness has potentiality to maintain health for people after disasters.

INTRODUCTION

Disasters affect physical and psychological aspects of humans. In Japan, the Great East Japan Earthquake occurred in2011 and many people died, lost their houses, were injured psychologically, and suffered from this disaster. Moreover, in 2011, the Typhoon 12 hit a town in West Japan, and many people were injured and took on a lot of damage from the typhoon [1]. Although it has been four years since the disaster, there are many issues and psychological problems. In a previous study, different types of exposure during the disasters were associated with physical symptoms 14 months later both for survivors with and without sever physical injury [2], and it means that mental or psychological problems may cause physical symptoms. Then some kinds of psychological support were seemed to be needed.

Mindfulness is one type of mental and psychological care. Kabat-Zin [3] developed the Mindfulness-Based Stress Reduction (MBSR) program, which is based on the principle of mindfulness, defined as moment-to-moment, present-centered, purposive non-judgmental awareness. Mindfulness practices decrease anxiety, depression, and stress, and increase compassion [4]. Hofmann, Sawyer, Witt, et al. [5], showed the effects of Mindfulness-Based Therapy on anxiety and depression through meta-analysis. From these studies, mindfulness may be effective on negative emotions like depression or anxiety; however, there are few studies on the psychological positive aspects of mindfulness.

There are studies which show mindfulness is affective as a trauma care. Berceli & Napoli [6] proposed a Mindfulness-BasedTrauma-Prevention Program for social work professionals because social workers are often confronted with serious situations. Also, Eriksen & Ditrich [7] showed the potential of mindfulness practice for disaster researchers. Solnit [8] says that mindfulness practice and mediation can be regarded as a form of disaster preparedness. Goodman & Calderon [9] demonstrated a case study of mindfulness in trauma counseling and showed the utility of mindfulness. These studies suggest the efficacy of mindfulness of mental aspects of people who experience traumatic events. However, there are few empirical studies which investigate potentiality of mindfulness on the mood of people who experience natural disasters. Thus particularly focusing on mood, we measured both positive and negative aspects, and we examined impression of mindfulness.

Purpose

This study examined potentiality of mindfulness on mood, consisting of tension and anxiety, energy, and vigor of people who lived in places where natural disasters occurred such as tsunami or typhoon, and examined their impressions.

METHOD

Study Design: The research design was a before-after trial study.

Setting: The study was conducted in two regions in Japan from 2013 to 2014. One region was located in East Japan where the Great East Japan Earthquake occurred in 2011 and the other region was located in Western Japan where Typhoon 12hit. In both regions, there were both kinds of people who lived in from long ago and moved from their own houses to other houses. When the present research was conducted, two years passed and their lives were almost recovered. However, some of them could not live as richly as they previously lived.

Participants: Participants were 60 local people (Male: seven, Female: 53). The mean age was 50.0 years old.

Measurements: To measure mood, we used the Japanese UWIST Mood Adjective Checklist (JUMACLE) [10]. It consisted of tension arousal (TA), which includes tension or anxiety and energetic arousal (EA), including activity or vigor. It consisted of 20 items (10 TA, 10 EA). Participants measured each item from one to four on the Likert scale. High scores represented high tension arousal or energetic arousal. Reliability and validity of the JUMACLE was approved. The JUMACLE was standardized.

Mindfulness program: One of the researchers was a certified yoga specialist and had much experience as an instructor. The mindfulness program consisted of "deep breath," "mindfulness using one slow movement" and a "body scan". The instructor lead to invite participants to be aware of mind and body without judgment, while staying in the moment, viewing thoughts as passing mental events, turning off autopilot, and approaching instead of avoiding what came up [11].

Procedure

The research was conducted in one of the public mental health programs in each community center. The researchers and staffs introduced the study and provided information about the program and the research. Any person could participate in this program freely by watching an advertisement. Before the program, an envelope including questionnaires were distributed to all participants. Questionnaires were consisted of the JUMACLE and free description. Before the program, they completed the JUMACLE as a pretest. Physicians attended this session in order to cope with participants.

Then, the instructor began the mindfulness program for about 60 minutes in the same session. After the program, the participants completed the JUMACLE as a posttest. Moreover, they freely wrote opinions of impressions toward mindfulness program by free description. They who had intention to participate this research voluntarily submitted the envelope with the JUMACLE in the collection box. As an ethical consideration, this research was approved from the ethics board in the college.

Data analysis

Scores for the JUMACLE pre- and post-intervention were compared by Pearson's t-test. All reported p vales are 2-tailed and $p < 0.05$ was taken to indicate a significance level in all analysis. Opinions of impression toward the mindfulness program were summarized by collecting similar comments. Since there were not that many samples, we did not use categorization as a qualitative analysis.

RESULTS

The TA score significantly decreased from 19.6 ± 5.0 to 14.8 ± 4.2 ($p<0.00$). That is, tension and anxiety significantly decreased. The EA score significantly increased from 28.1 ± 5.4 to 29.9 ± 5.0 ($p<0.00$). Then, energy and vigor significantly increased (Table 1).

Table 2 shows the summary of the impression of the mindfulness program. Main opinions of impression were, "Feeling calmer," "Feeling physically light and warm," "Being able to straighten their bodies," "Feeling comfortable in the atmosphere," "Appearance of appreciation for themselves," and "Feeling tired."

DISCUSSION

The TA score significantly decreased and participants' tension or anxiety decreased. Participants may be calm themselves through mindfulness. This change is supported by the comment of "***feeling calmer***." Since the capacity to be aware of one's current experience leads to emotional well-being [12], participants experienced emotional well-being and the TA might decrease. The effects of mindfulness on tension or anxiety support previous studies [5,13].

Table 1: Results of the t-test on the mean scores.

Before	After	*p* value
TA 19.6 EA 28.1	14.8 29.9	p<0.01 p<0.01

Table 2: Summaries of the opinion of free descriptions about impressions for of the mindfulness program.

Summaries Summary attribute	Description of impressions Impression description	Numbers of descrip-tion (%)
1. Feeling calmer	• My feelings were calmer when I breathed deeply. • My conscious focused on my breath when closing my eyes. • I could be relaxed. • My stomach worked well, though I felt bad.	7 (30.5)
2. Feeling physically light and warm	• I feel that my body was light, though it was heavy. • My whole body was warm, after my hands were warm.	3 (13)
3. Being able to straighten their bodies	• I felt well after straightening my back. • I found that my back was tense. • Stuffy nose was clear. • I felt well, though I am not good at practicing.	30.5 (7)
4. Feeling comfortable in the atmosphere	• The toll of the bell was heartfelt. • I felt happy watching the children's smiles. • The toll of the bell let me be safe.	3 (13.0)
5. Appearance of appreciation for themselves	• Tears were coming out, appreciating my body. • I felt that toughing my body was important.	2 (8.7)
6. Feeling tired	• I was tired after the program.	1 (4.3)
Total		23 (100)

Moreover the EA score significantly increased after the mindfulness. Their comments such as "***feeling physically light and warm***" and "***being able to straighten their body***" show that they could move their bodies and straighten their muscles and experienced positive emotions. These suitable amount of physical exercise might lead positive emotion and the EA increased. It also is supported by Matsumoto, Takushima & Hakoda [14] that sports promoted increase of EA.

As for the comment of "***appearance of appreciation for themselves***." This factor supports previous studies in which MBSR (Mindfulness-Based Stress Reduction) ratings have enhanced self-compassion in health care professionals [15] and therapist trainees [16]. That is, mindfulness promoted "***appreciation for themselves***" or "***self-compassion***." The reason why this promotion was caused by factors in mindfulness may related to "non-judging" and "non-reacting" [17,18]. This kind of self-compassion or self-appreciation factors may be useful to accept stress and confront it in future. It is similar to Harvey [19], who says that, it is mindfulness that the suffering of others and oneself can be understood, abandoned, experienced, and cultivated wholesomely. It may suggest that mindfulness lead people to accept stress of disasters. Also, as a reason of efficacy of mindfulness, mindfulness created safe spaces and time to reflect either alone or with a trusted person in a calming place [6], it might palliate participants' suffering, and affected on mood in this study. In my opinion, mindfulness lead to focus participants' attention on the present time, not to past and future, they can live in the present time not to worry about past and future.

Lastly, regarding limitations of the present study, the number of participants was small. To confirm these results, we need to increase the number of participants in future studies. Moreover, to measure the effects of mindfulness, a longitudinal study may be needed. In the present study, participants had intention to attend this session voluntarily and they might be at some healthy level. However, people who suffering from the disaster can't attend this kind of session. In future, it may be need to examine the efficacy of mindfulness on people with post trauma stress syndrome.

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