



## THE EFFECT OF EMOTIONAL FREEDOM TECHNIQUE (EFT) TRAINING ON PERCEIVED STRESS AMONG COMMUNITIES AT RISK OF LEPTOSPIROSIS AFFECTED BY TIDAL FLOODING

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### ABSTRACT

Tidal flooding (banjir rob) in the northern coastal areas of Java causes not only physical damage but also psychological distress, including heightened levels of perceived stress. High perceived stress can weaken psychological resilience in disaster-affected communities. This study aims to examine the effect of EFT training on perceived stress among residents of Sayung District, Demak Regency, who are affected by tidal flooding and at high risk for leptospirosis. One promising intervention to address this issue is the Emotional Freedom Technique (EFT), which combines acupoint tapping with verbal affirmations. This study is a quasi-experimental design with one-group pretest-posttest approach. A total of 82 participants from Bedono Village, Sayung Subdistrict, participated in a single-session EFT training. Perceived stress levels were measured using the Perceived Stress Scale (PSS) before and after the intervention. Data were analyzed using paired sample t-tests. There was a significant decrease in PSS scores after the EFT training, from a mean of 57.09 to 43.20 p 0.000 (p < 0.05). These results indicate that EFT was effective in reducing perceived stress among participants affected by tidal flooding. EFT training significantly reduced perceived stress levels in a community impacted by tidal flooding. This technique can be adopted as a community-based psychosocial intervention to help mitigate the psychological effects of natural disasters.

Keywords: emotional freedom technique; perceived stress; tidal flooding; psychosocial intervention

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### INTRODUCTION

Tidal flooding (banjir rob) is a hydrometeorological disaster caused by rising sea levels inundating coastal areas. It has become a major issue in the northern coastal regions of Java, including Demak Regency (Egaputra et al., 2022; Pratikno & Handayani, 2014; Syafitri & Rochani, 2022). This disaster not only deteriorates environmental conditions but also increases the risk of infectious diseases such as leptospirosis, which is transmitted through water contaminated with rat urine (Londe et al., 2016; Mohd Radi et al., 2018; Zam et al., 2019). Despite the physical and environmental impacts, the psychological consequences of tidal flooding are often overlooked. Communities living in prolonged inundation and uncertainty are vulnerable to psychological stress, particularly perceived stress, which refers to an individual's appraisal of threats and their perceived ability to cope (Guo et al., 2023; Lopez-Garrido, 2023; Norris et al., 2002). Long-term, unmanaged stress can suppress the immune system and exacerbate health risks (Knight et al., 2021; Rusmariana, 2020).

Perceived stress reflects the extent to which individuals perceive their lives as uncontrollable, unpredictable, and overwhelming. In the context of disasters, stress levels can significantly

increase(Rueger et al., 2016). One intervention approach that has gained attention is Emotional Freedom Technique (EFT), a self-help method involving tapping specific acupressure points while reciting affirmations. Previous studies have shown that EFT can reduce cortisol levels and enhance emotional well-being(Church et al., 2012).This study aims to examine the effect of EFT training on perceived stress among residents of Sayung District, Demak Regency, who are affected by tidal flooding and at high risk for leptospirosis.

**METHOD**

This study employed a quasi-experimental design using a one-group pretest-posttest model. A total of 82 participants from Bedono Village, Sayung District, were selected through purposive sampling. The instrument used was the Perceived Stress Scale (PSS-10) developed by Cohen (1983) The PSS-10 is a standardized instrument that has been widely validated and utilized across various populations and cultural settings since its development by Cohen. In addition to its international use, the scale has also been tested for validity and reliability in several studies conducted in Indonesia, demonstrating consistent psychometric properties. Since the objective of this study was not to develop or validate a new measurement tool but rather to evaluate the effectiveness of an intervention, additional validity and reliability testing was deemed unnecessary. Moreover, the use of an established instrument allows for efficient data collection and comparability with previous research findings. As this study employed a standardized questionnaire for PSS, no validity or reliability testing was conducted. PSS Scale consisting of 10 items rated on a 5-point Likert scale (0–4). Total scores range from 0 to 40, with higher scores indicating higher levels of stress.The intervention involved an EFT training session that included: an explanation of the EFT concept, demonstration of tapping points, affirmation practice, and guided simulation. Pre- and post-intervention assessments were conducted within the same session. Data were analyzed using paired t-tests to determine the difference in PSS scores before and after the intervention.

**RESULT**

The average perceived stress score before the EFT training was 57.09, which decreased to 43.20 after the intervention, showing a mean difference of 13.89 points. The paired *t*-test revealed a statistically significant difference between pretest and posttest scores ( $p < 0.05$ ), indicating that EFT was effective in reducing perceived stress levels.

Table 1.  
Respondent Characteristics

Characteristic	f	%
Age		
20–39 years	22	26,9
40–59 years	51	62,2
60-79 years	9	10,9
Gender		
Male	29	35,4
Female	53	64,6
Education Level		
Primary School Graduate	16	19,5
Junior High School Graduate	17	20,7
Senior High School Graduate	27	32,9
Diploma/University	22	26,8
Occupation		
Housewives/Unemployed	35	42,7
Traders/Entrepreneurs	19	23,2
Private Employees	19	23,2
Civil Servants/Military/Police	9	10,9
Length of Stay in Flood-Prone Area		
Less than 10 years	19	23,2
More than 10 years	63	76,8

Table 2.  
Perceived Stress Scores Before and After Training

	Rata-rata	f	%
Pre-intervention Score	57.09	82	100
Post-intervention Score	43.20	82	100

Table 3.  
Paired *t*-Test of Perceived Stress Scores

	Mean	t	p
Pretest vs. Posttest PSS	13.89	11.42	0.000

## DISCUSSION

### The Effect of EFT on Perceived Stress

Emotional Freedom Technique (EFT) is a self-help method based on acupressure techniques combined with verbal affirmations to address emotional distress (Church et al., 2012). It targets the brain's limbic system, which regulates emotions, and stimulates the parasympathetic nervous system to induce relaxation. By tapping specific meridian points while expressing self-acceptance and reframing stressors, EFT reduces physiological stress responses and enhances self-regulation (Rueger et al., 2016). The reduction in perceived stress scores reflects decreased threat appraisal related to the post-flood environment and leptospirosis risks. These findings are consistent with previous research showing that EFT can significantly reduce cortisol levels and improve emotional states (Ab Rahman et al., 2018; Church et al., 2012; Sukeri et al., 2020).

### Psychosocial Context of the Affected Community

The residents of Sayung District, particularly Bedono Village, have experienced recurrent tidal floods over extended periods. Such chronic exposure contributes to prolonged stress, which affects both physical and psychological well-being. Previous studies have shown that individuals exposed to repeated disasters without adequate psychosocial support are at increased risk for mental health issues such as perceived helplessness, post-traumatic stress, and depression (Krieger & Higgins, 2002; Norris et al., 2002; Pratikno & Handayani, 2014). EFT, being participatory and easily practiced individually, offers a practical coping tool. It not only mitigates acute stress but also fosters a sense of self-control, which is a key factor in psychological resilience (Church et al., 2012; Gradus, 2017; Stanke et al., 2012).

### EFT as a Community-Based Intervention

EFT has several advantages: it is easy to teach, does not require special equipment, and can be performed individually or in groups. In this study, a single session of EFT training led to significant improvements, suggesting its potential as a psychosocial intervention that can be integrated into community-based health programs. Moreover, it is a low-cost and highly acceptable intervention due to its non-invasive and non-judgmental approach. A study by Stapleton et al. (2013) also found EFT effective in enhancing general well-being, particularly in disaster and trauma contexts.

### Limitations and Implications

Despite the significant findings, this study has limitations. First, the pretest-posttest design without a control group does not fully eliminate alternative explanations such as regression to the mean or time effects. Second, the intervention was conducted only once, so its long-term efficacy remains unknown. Nevertheless, these results provide preliminary evidence supporting the use of EFT as part of community-based psychosocial interventions in disaster-prone areas. Practical implications include training health workers, volunteers, and field officers to facilitate EFT sessions as a form of community empowerment.

## **CONCLUSION**

EFT training significantly reduced perceived stress levels among residents affected by tidal flooding and at risk of leptospirosis in Sayung District. This intervention can be applied as a community-based psychosocial strategy in disaster-prone regions.

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