



MINDFULNESS, PERCEIVED STRESS, AND DIFFICULTY IN EMOTIONAL REGULATION AMONG DOCTORS IN A TERTIARY CARE CENTRE IN SOUTH INDIA – AN OBSERVATIONAL PILOT STUDY.

Psychiatry

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ABSTRACT

Doctors are a highly stressed population globally. Mindfulness as a state or trait has been associated with reduced stress and better emotion regulation. **Materials And Methods:** This pilot study was done among doctors in a tertiary care teaching institute in South India to find the association of mindfulness with perceived stress and difficulty in emotion regulation. 36 doctors who consented were assessed using Five Facet Mindfulness Questionnaire – Short Form, Perceived Stress Scale - 4 and Difficulties in Emotion Regulation Scale – 36. Spearman's rank correlation was used to assess the relationship between the variables. **Results:** Mindfulness did not show any significant correlation with perceived stress. Mindfulness had a significant negative correlation with difficulty in emotion regulation. the study also showed that perceived stress had significant positive correlations with subscales of difficulty in emotion regulation. **Discussion:** Being a pilot study on 36 subjects, meaningful conclusions cannot be derived for generalization of the findings. Future studies with larger and uniform study samples may yield definite results. However being a cross-sectional observational study, it is feasible to be conducted on large populations.

KEYWORDS

doctors, mindfulness, stress, emotion.

INTRODUCTION

The modern medical workplace is a complex environment which poses cognitive, affective, and behavioral challenges to medical professionals. Medical profession is associated with high levels of stress(1). Long working hours, sleep deprivation, and treatment challenges dealing with various illness and death are some reasons for stress(2). The prevalence of burnout resulting from chronic and persistent stress has been found to be as high as 75% in new medical graduates(3). An optimal level of stress is essential for building biological shields for normal life processes(4). Extreme levels of stress can impair functioning of doctors and healthcare professionals(5). Studies have reported emotion regulation difficulty as a major healthcare problem in healthcare professionals(6).

Mindfulness is the basic human ability to intentionally focus attention and be aware of moment experiences(7,8). Mindfulness is commonly defined as awareness that emerges by way of paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience, moment by moment(7,8). Studies have shown that there is a negative relationship between perceived stress and mindfulness(9). Mindfulness not only reduces stress but is also associated with better ability to regulate emotions(10,11).

Mindfulness based interventions have been shown to produce several positive effects (such as reduced distress levels, enhanced mindfulness, decrease in anxiety, or greater resiliency) In healthcare providers(12,13). These interventions focus on purposely paying attention being in the present and being non judgmental(12–15).

There is limited research on trade mindfulness or dispositional mindfulness (10,11) and its effects on stress and emotion regulation in doctors, especially in our region. This is the background for the present study. Based on previous research we hypothesize that mindfulness practice in doctors is associated with low levels of stress and emotion regulation. The objectives of the present study were to identify the association between mindfulness, perceived stress, and emotion regulation among doctors in a tertiary care center.

MATERIALS AND METHODS

This cross-sectional observational study was done at a tertiary health care centre in south Kerala. The study population included a sample of doctors of the institution. The study was approved by the institutional ethics committee. Being a pilot study, a consecutive sample of 50 subjects were approached for participation in the study. 14 doctors refused to participate in the study for various reasons. The major

reason mentioned was the lack of time to fill out the forms provided. 36 subjects aged 25-54 years who satisfied the study criteria were enrolled after getting informed consent. Data were collected in a semi-structured proforma designed for the study. The tools used were the following:

The FFMQ-15 (Five Facet Mindfulness Questionnaire - 15 item version)(16,17) is a concise and efficient measure used to assess mindfulness across five key facets: Observing, Describing, Acting with Awareness, Nonjudging of Inner Experience, and Nonreactivity to Inner Experience. This shorter version is derived from the original 39-item FFMQ, providing a practical alternative for both clinical and research settings where time constraints may limit the use of longer assessments. The five facet scales of FFMQ were found to demonstrate adequate to good internal consistency with alpha coefficients ranging from 0.75 to 0.91. FFMQ-15 has been shown to maintain robust psychometric properties, demonstrating strong reliability and validity comparable to the full version. It effectively captures the multidimensional nature of mindfulness, making it a valuable tool for both practitioners and researchers seeking to evaluate mindfulness interventions or study the role of mindfulness in psychological well-being.

The Perceived Stress Scale 10 (PSS-10)(18) is a widely used self-report instrument designed to measure the degree to which individuals perceive situations in their lives as stressful. It consists of 10 items that assess the frequency of perceived stress-related experiences over the past month, focusing on feelings and thoughts related to unpredictability, uncontrollability, and overload. The PSS-10 has demonstrated strong psychometric properties, including reliability and validity across various populations and settings. Its brevity makes it particularly useful in both clinical practice and research contexts where time-efficient assessments are necessary. The scale has been translated into multiple languages and has been validated in diverse cultural contexts, enhancing its utility for cross-cultural studies. The PSS-4 scale has a clear advantage in terms of the time required to complete and ease of use, and is available for online assessments (19). PSS-4 has good reliability of $\alpha=0.82$ (20). It has 4 items each with scores ranging from 0-4. The lowest score is 0 and the highest is 16.

The 36 item Difficulties in Emotion Regulation scale (DERS-36) is one of the most used scales to assess individuals' typical levels of emotion dysregulation. Six domains are included: Non-acceptance of negative emotions, inability to engage in goal directed behaviours when distressed, difficulties controlling impulsive behaviours when

distressed, limited access to emotion regulation strategies and lack of emotional clarity. Each item is scored on a Likert scale ranging from 1 (almost never) to 5 (almost always). As such, total scores on the DERS can range from 36 to 180(21).

RESULTS

A total of 36 doctors participated in the study. 17 (47%) were males and 19 (53%) were females. Mean age of the male participants was 28.2 (SD=2.56; Range = 24-35) and female participants was 30.5 (SD=6.66; Range=24-51).

Spearman's rank correlation was computed to assess the relationship between mindfulness and perceived stress. It was found that mindfulness had no significant correlation with perceived stress (Pearson's $r = 0.144$; $p < .402$). Mindfulness had a significant negative correlation with difficulty in emotion regulation (Pearson's $r = 0.557$; $p < 0.000$). the study also showed that perceived stress had significant positive correlation with the subscales of difficulty in emotion regulation such as nonacceptance of emotional responses (Pearson's $r = 0.583$; $p < 0.000$), difficulty engaging in goal directed behaviour (Pearson's $r = 0.709$; $p = 0.000$), impulse control difficulties (Pearson's $r = 0.570$; $p < 0.000$), the last of the subscales, lack of emotional clarity didn't have significant correlation with the perceived stress score (Pearson's $r = 0.337$; $p = 0.045$).

The total score of the FFMQ which is a measure of the mindfulness level Of the individual showed a negative correlation with difficulty in emotion regulation. Significant negative correlation was seen with subscales of difficulty with emotion regulation such as known acceptance of emotional responses, difficulty engaging in goal directed behavior, impulse control difficulties, limited access to emotion regulations strategies and a lack of emotional clarity (Pearson's $r = 0.535$; $p = 0.001$) (Table 1)

Table 1: Correlation between Mindfulness Scores, Perceived Stress Scale Scores and Difficulty in Emotion Regulation Scale Scores

		Total PSS Score	Total DERS Score	Total FFMQ Score
PSS Total	Pearson's r			
	p-value			
DERS Total	Pearson's r	0.555		
	p-value	<0.001		
FFMQ Total	Pearson's r	-0.541	-0.633	
	p-value	<0.001	<0.001	

DISCUSSION

The present cross sectional observational study attempted to assess the relationship of mindfulness with perceived stress and emotion regulation among doctors.

A moderate negative correlation was found between mean mindfulness levels and mean perceived stress scores (Pearson's $r = 0.541$; $p < 0.001$). this indicates that higher levels of mindfulness are associated with lower rates of stress. Several studies have reported strong to moderate negative correlation between mindfulness levels and perceived stress. A study of the relation between perceived stress and Mindfulness in 450 healthcare professionals including 27 doctors showed a moderate negative correlation (Pearson's $r = 0.540$; $p < 0.001$) between mindfulness and perceived stress similar to our study. In their study mindfulness was assessed using the Mindful Attention Awareness Scale (MAAS) while our study assessed mindfulness using ffmq-15 (9).

In a study on medical students, it was proposed that trade mindfulness has beneficial role in mitigating negative consequences of trade anxiety in medical students during periods of high stress. They measured mindfulness using five face such mindfulness questionnaire of 39 items and perceived stress using PSS-10(22).

Several studies have explored the impact of mindfulness training and mindfulness practices on stress(14,15). A randomized controlled trial involving a 5 week of Mindfulness Based Self-care (MBSC) intervention in healthcare professionals showed that the MBSC group had clinically significant reduction in stress measured by PSS-10 score(14). Mindfulness scores were measured using MAAS. Significant improvement in stress indices have been reported following 6 months of a mindfulness based training in 497 healthcare

professionals including doctors(15).

Emotion regulation describes the capacity to self-modulate emotions to achieve desirable emotional outcomes. A moderate negative correlation was observed in our study between mean mindfulness scores and mean scores of difficulty in emotion regulation (Pearson's $r = -.633$; $p < 0.001$). this association has been shown in several studies conducted in the past (15,23,24).

Statistically significant improvement in emotion regulation indices measured by DERS scores have been reported following 6 months mindfulness based training in health care professionals(15). A randomized controlled trial conducted on 62 physicians using an 8 week mindfulness training revealed significant improvement in positive emotions in the mindfulness group compared to controls at 8 weeks and 10 months(23). Another mindfulness based education program in primary care physicians showed that improvements in mindfulness were correlated with improvements in total mood disturbance (Pearson's $r = 0.39$; $p < 0.001$). mindfulness scores also correlated with emotional stability (Pearson's $r = 0.25$; $p < 0.001$)

A multicentric observational study concluded that clinicians with high mindfulness scores, assessed by MAAS, displayed more positive emotional tone with patients(25). Our study has also shown a moderate positive correlation (correlation coefficient 0.6) between mean perceived stress scores and difficulty in emotion regulation scores indicating that stress is associated with poor emotion regulation and vice versa. This finding has been observed in several studies(26).

Adobe book studio's first and emotion regulation in 203 healthcare professionals employed at a hospital in the Republic of Croatia database collected using two validated questionnaires column questionnaire on workplace research for hospital professionals and emotional regulation and control questionnaire (ERC). The level of experienced to stress was significantly higher if the ability of emotion regulation and control was low (Spearman's $Rho = 0.308$; $p < 0.001$)(27).

Emotion degradation strategies and stress levels Evaluated in 155 Dominican physicians using Emotion Response Questionnaire and PSS-10 showed that both stress levels and emotion dysregulation were positively correlated similar to our study(28).

In spite of being a pilot study on a limited sample of 36 subjects, association between mindfulness, emotion regulation and perceived stress is observed in our study. However, the sample says he's too small to make meaningful conclusions. Longitudinal studies in largest sample could give conclusive results this study is feasible to be conducted on a larger scale since it is a cross sectional study and assesses only the level of mindfulness.

CONCLUSION

The present study attempted to assess the level of mindfulness, perceived stress and difficulty in emotion regulation among doctors in a tertiary care centre in South India. It was found that mindfulness has no correlation with perceived stress. Mindfulness level was found to have significant negative correlation with difficulty in emotion regulation. Perceived stress was found to have positive correlation with difficulty in emotion regulation.

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