# Nursing Section

# Effectiveness of Add-on Emotional Freedom Technique on Reduction of Depression: A Quasi-experimental Study

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# ABSTRACT

**Introduction:** Depression is a common psychological disorder prevalent in all age groups irrespective of gender, religion, ethnicity and geographical area. Emotional Freedom Technique (EFT) is a brief treatment and consists of cognitive therapy, acupoint stimulation on selected meridians of the body. The EFT is a selfhelp therapeutic tool to reduce the distress level. However, existing literature may not be sufficient to demonstrate effectiveness of adding adjuvant therapy, EFT will enhance the outcome among depressive patients along with conventional treatment.

**Aim:** To determine effectiveness of add-on EFT on treating depression among patients with depression and to find out the effect of predictive variables on depression level.

**Materials and Methods:** It was a quasi-experimental study with pre-test and post-test design, involving a control group, conducted among patients admitted in open ward for observation and treatment in Hospital for Mental Health, Vadodara, Gujarat, India, with in this study, 100 samples were selected by convenience sampling technique and data collection was done from March 2019 to July 2019. The Beck Depression Inventory was administered on first day to all the patients. In one group EFT was administered for 40 minutes for three consecutive days along with routine treatment.

The other group {Treatment as usual (TAU) group} received only conventional treatment. Depression level was evaluated on third day after intervention by an independent assessor among both the groups. Data were analysed using frequency distribution, Wilcoxon test and Mann-Whitney test.

**Results:** A total of 100 subjects were included in study. Mean age (years) of EFT group was  $44\pm12$  and  $42\pm13$  among TAU group. In EFT group 24 (48%) were males and 26 (52%) were females; while it was 26 (52%) males and 24 (48%) females in TAU group. Mean depression score was  $30.82\pm2$  before intervention and after intervention it was found  $27.20\pm4$  among TAU group. Mean depression score was  $30.96\pm3$  before intervention and after intervention it came down to  $24\pm4$  in EFT group. On univariate logistic regression analysis, significant association was found with age less than 29 years {Odds Ratios (OR) 2.68; 95% Confidence Interval (CI) =0.398-18.1}, primary education (OR 6.759; 95% CI=1.106- 41.296), secondary education (OR 2.95: 95% CI=0.56-15.66).

**Conclusion:** Study concludes that adding EFT as an adjuvant therapy along with conventional treatment antidepressant and psychotherapy will enhance the outcome of depression level among patients with depression.

Keywords: Acupressure, Energy psychology, Meridians, Psychotherapy, Tapping depression

# **INTRODUCTION**

Depression is a common mental health issue; moreover, it is life threatening if not treated [1]. It includes symptoms that affect feelings, thinking, handling daily activities like sleeping, eating, performing tasks [2]. Depression may develop under unique contexts such as persistent depressive disorder which lasts for two years [3]. Seasonal affective disorder which occurs during winter season due to less sunlight is manifested by social withdrawal, weight gain and increased sleeping [4].

Depression could lead to significant health issue if it is persistently present over prolonged period of time. World Health Organisation (WHO) estimates that worldwide approximately 264 million people and 56 million in India of all age groups suffer from depression [5,6]. National Mental Health Survey 2016, conducted by National Institute of Mental Health and Neurosciences (NIMHANS) and other agencies, estimated that 1.24% of adults in Gujarat were depressed [7]. The National Crime Records Bureau data on depression and suicide shows that in 2014, Gujarat had a suicide rate of 11.6 and 11.7 in 2015 [8]. Due to depression 9.06% of women commited suicide in Gujarat [9].

Anti depressant drugs can treat moderate to severe depression and can be administered with caution for patients [10]. Several studies reveal that it takes approximately 1-2 weeks to get the desired effect of antidepressants [11-13]. However, it was observed that

adding adjuvant therapies like exercise [14,15], enhancing nutrition [16], herbal supplements [17,18], shiatsu, relaxation techniques, yoga [19], meditation [20] or Taichi etc., boost the outcome of treatment.

Out of several adjuvant therapies, EFT developed by Gary Craig in 1990s, was also found effective in treating psychological distress [21]. It is one of the alternative regimes and a revolutionary treatment that heals emotional pain, physical distress and diseases with non invasive procedure which uses the tip of the fingers to stimulate energy points on the body. It is also termed as tapping or psychological acupressure. This therapy believes that any disruption in body's energy flow results in negative emotions, by tapping on specific meridians with positive affirmation; energy flow will be re-channelised, relieving the psychological distress [22]. Evidence reveals that EFT is effective in treating speaking anxiety [23], Post Traumatic Stress Disorder (PTSD) [24], pregnancy-related discomforts [25], natural birthing [26], postpartum guidance also enhance immune function [27].

The EFT is least practiced by the nurses which might be due to unawareness or scepticism of results [28]. Also, available literature may not be sufficient to justify the efficacy of EFT in treating depression. Hence, this study aimed to evaluate the effectiveness of add-on EFT to treat depression along with conventional treatment.

## **MATERIALS AND METHODS**

This study quasi-experimental study was conducted among patients admitted in open ward for observation and treatment in Hospital for Mental Health, Vadodara, Gujarat, India. Data was collected from March 2019 to July 2019. Trial is registered under CTRI: CTRI/ 2019/03/018216. Ethical clearance was obtained from Institutional Ethics Committee with protocol number RPCP/IECHR /PhD/2018-2019/R-02.

**Sample size calculation:** Sample size was calculated using formula  $N=2(\sigma/\Delta)^2 \{Z_{\alpha}+Z_{1-\beta}\}^2$  where  $\sigma$  Standard deviation of outcome measure,  $\Delta$  is critical difference,  $Z_{\alpha}$  is level of significance (constant),  $Z_{1-\beta}$  is power of group. As per the formula total samples required was 90 considering 10% attrition rate, total 100 samples were selected by convenience sampling technique. The study participants were divided into EFT group and TAU (Treatment as usual) group, each containing 50 participants.

**Inclusion criteria:** Participants between the age group 18-65 years, who were diagnosed with depression by psychiatrist for the first time, who scored 21-40 on Beck Depression Inventory (BDI), undergoing antidepressant and consented to participate were included [29].

**Exclusion criteria:** Participant with extreme depression (who scored above 40 on Beck depression inventory), who were not responsive, with other associated symptoms like schizophrenia, violent behaviour, non co-operative were excluded from the study.

#### **Study Procedure**

In this study, two separate wards are identified to admit patients in EFT groups and TAU group. Independent assessors assessed depression level in both the groups on first day and third day with Beck depression inventory. It consists of 21 items - scores ranging from 1-10 indicate normal, scores from 11 to 16 indicate mild mood disturbance, 17 to 20 is considered as borderline clinical depression, scores from 21 to 30 indicate moderate depression, scores between 31 to 40 indicates severe depression level and scores above 40 indicate extreme depression [29].

Separate room was identified in Outpatient Department (OPD) to administer EFT. Each patient in EFT group received 40 minutes session of EFT for three consecutive days along with conventional treatment antidepressants and psychotherapy; EFT [30] involves identifying the problem, for what he/she was depressed, what was upsetting/who was upsetting her/him, how it really make him feel, which part of the body was upset, any sensation experienced and kind of sensation experiences. Then the problem was asked to be rated subjectively by the patient on the scale of rating 0-10, where 10 indicates really upset and 0 indicates not at all upset. Patient was asked to tap seven times on top of the head, beginning of evebrow (above the nose and at the evebrow beginning), side of eye (bony prominence of later cantus of the eye ball), under eye (bony prominence under eye), under nose (between upper lip and bottom of nose), chin (mid of the lower lip and chin), collarbone (midpoint where first rib, breastbone and collar bone meets), under arm (10 cm above armpit), on the lateral side and next to base of the nail of thumb, index finger, middle finger, little finger and Karate chop (Base of the little finger, on lateral side of hand).

The participants were asked to tap above meridians along with positive affirmations like, even though I am depressed because I lost my loved one/unemployment/exam failure/broke up/divorced/etc., and it makes me sad and depressed and its 9 out of 10 (on subjective unit of distress scale), I deeply and completely accept myself. After completing each round on all 12 meridians for 40 minutes, patient is advised to sip water to flush out toxins. In TAU group, participants were administered with conventional treatment antidepressants and psychotherapy.

# STATISTICAL ANALYSIS

Statistical Package for Social Sciences (SPSS for Windows, version 20.0) was used to analyse the obtained data. Descriptive statistics were used to define the continuous variables. Wilcoxon Test and Mann-Whitney test were used to describe the effectiveness of intervention within the group and between the groups. Logistic regression was applied to find out association between demographic variable and depression level. The p-value less than 0.05 was considered statistical significance.

# RESULTS

The [Table/Fig-1] portrays that mean age group of EFT was  $44\pm12$  years and TAU group was  $42\pm13$  years with p-value=0.042. Majority of the participants in both groups had secondary education and belonged to nuclear family.

	EFT group n=50	TAU group n=50			
Demographic variable	Number (%)	Number (%)	p-value		
Mean age (year)	44±12	42±13	0.4260		
Gender					
a. Male	24 (48%)	26 (52%)	0.6892		
b. Female	26 (52%)	24 (48%)			
Religion					
a. Hindu	40 (80%)	37 (74%)			
b. Islam	10 (20%)	13 (26%)	0.4759		
Education status					
a. Primary	10 (20%)	20 (40%)			
b. Secondary	23 (46%)	22 (44%)	0.0005		
c. Higher secondary	10 (20%)	04 (08%)	0.0805		
d. Undergraduate and above	07(14%)	04 (08%)			
Monthly Family income (in ru	ipees)				
a. 5000-10000	20 (40%)	21 (42%)	0.8684		
b. 10001-15000	09 (18%)	06 (12%)			
c. 15001-20000	08 (16%)	09 (18%)			
d. >20000	13 (26%)	14 (28%)			
Type of family					
a. Nuclear	34 (68%)	43 (86%)			
	16 (32%)	07 (14%)	0.0325		

The [Table/Fig-2] portrays that majority {33(66%)} in EFT group and {28 (56%)} in TAU group were diagnosed with severe depression. After intervention majority {38 (76%)} in EFT group and {41 (82%)} in TAU group experienced moderate depression.

		EFT Group	TAU Group	
Variable	Level of depression	n (%)	n (%)	
Pre-test	Moderate depression (21-30)	17 (34)	22 (44)	
Pre-test	Severe depression (31-40)	33 (66)	28 (56)	
Post test	Mild disturbance in mood (11-16)	2 (4)	1 (2)	
	Clinical depression borderline (17-20)	8 (16)	0 (0)	
	Moderate level of depression (21-30)	38 (76)	41 (82)	
	Severe level of depression (31-40)	2 (4)	8 (16)	
[Table/Fig-2]: Level of depression before and after intervention between EFT and TAU group.				

The [Table/Fig-3] portrays that after intervention, the depression scores of both EFT and TAU groups significantly decreased, and the depression scores of the EFT group were evidently lower than those of the TAU group (p-value <0.001). Significant difference was found between the two groups in the therapeutic effect (p-value <0.001).

Group	Pre-test BDI score	Post-test BDI score	Intergroup p-value	Intragroup p-value	
EFT	30.96	24	<0.001	<0.001	
TAU	30.82	27.20	<0.001		
<b>[Table/Fig-3]:</b> Findings related to effectiveness of Emotional Freedom Technique (EFT). BDI: Beck depression inventory; p-value less than 0.05 were considered statistical significance					

[Table/Fig-4] depicts education status (primary education), monthly family income (10001-15000), type of family had demonstrated statistically significant association (p-value <0.05) and predicts odds of depression. Individuals who had less education had eight times higher odds of being depressed compared to individuals with higher levels of education. Individuals who had higher monthly family income (10001-15000) had 84% lower odds of depression and those living with a joint family had 80% lower odds of depression.

			CI 95%		
Variables	Odds ratio	p-value	Lower	Upper	
1. Age					
a. < 29 Years	2.685	0.310	0.398	18.11	
b. 30-39 Years	1.307	0.707	0.323	5.293	
c. 40-49 Years	1.226	0.755	0.342	4.392	
d. >50 Years		Reference	category		
2. Gender					
a. Male	1.432	0.451	0.563	3.644	
b. Female	Reference category				
3. Religion					
a. Hindu	0.678	0.510	0.213	2.157	
b. Islam	Reference category				
4. Educational status					
a. Primary	6.759	0.039	1.106	41.296	
b. Secondary	2.952	0.203	0.557	15.655	
c. Higher secondary	0.385	0.327	0.057	2.596	
d. UG and above	Reference category				
5. Monthly family incor	ne				
a. 5000-10000	0.402	0.237	0.089	1.821	
b. 10001-15000	0.160	0.029	0.031	0.826	
c. 15001-20000	0.329	0.170	0.067	1.609	
d. >20000	Reference category				
6. Type of family					
a. Joint	0.200	0.007	0.062	0.647	
b. Nuclear	Reference category				
<b>[Table/Fig-4]:</b> Findings related to the effect of predictive variable on level of depression. p-value less than 0.05 was considered statistical significant					

Age, gender and religion also demonstrated moderate association with level of depression. Lower age i.e., less than 29 years had 2.6 times and being male 1.4 times increased the odds of depression. Persons identified with Hindu religion had 33% decreased odds of depression. However, the relationship was not statistically significant.

### DISCUSSION

Conventional treatment for depression are antidepressants which include the typical and atypical antidepressant drugs [31]. However, the results of several meta-analyses have raised concerns regarding the efficacy and acceptability of commonly used antidepressants [32,33]. On the other hand, extensive use of antidepressants reported several side effects, such as constipation, insomnia, dryness of mouth, headache, giddiness, somnolence, sexual dysfunction, inability to drive, and unhappiness [34,35]. Additionally, few studies reveals, increased risk of hepatic impairment resulting in diabetes among patients undergoing antidepressants therapy [36,37]. As a result many non pharmacological interventions, such as cognitive behavioural therapy [38], alternative system of medicine [39] received greater scope to treat depression.

Recent evidence emphasise that medications for the treatment of depression are fortified with various alternative system of medicine [40,41], also significant increase was observed in the use of complementary therapy to treat depression.

Indra V also emphasises to blend the complementary therapies and alternative medicine to provide holistic care in nursing [42]. As of now, many literature portrays application of yoga, meditation, spiritual healing, reiki therapy, massage therapy, pet therapy, play therapy etc., however a unique technique, which re-channelise the energy disruption and removes the blockage in energy system known as EFT was least practiced by the nurses as per literature review this might be due to unawareness or skepticism of results.

The present study found that EFT combined with antidepressants has a better therapeutic effect in the treatment of depression rather than only antidepressant drugs. These results were comparable to study conducted by Church D et al., in which EFT showed statistically significant result in reducing the levels of anxiety, depression and the severity of overall symptoms [43]. Similar results were observed in an observational study conducted by Church D et al., in which severity of symptoms had decreased significantly by 40% whereas that of anxiety, depression and PTDS had decreased by 46%, 49% and 50%, respectively in veterans after six EFT sessions [44]. Also, similar results were reported in the study in which 16 abused adolescents aged between twelve to seventeen years at residential treatment refuge in Trujillo, Peru were randomised into two groups. In pre-test Impact of Event Scale (IES) and subjective unit of distress were applied to measure the level of PTSD. Later treatment groups received a single one hour EFT session and two groups were reassessed after one month. The results revealed that statistically significant results were obtained in EFT group [45].

In this study, EFT was administered for three days, each session lasted for 40-45 minutes. The results are consistent with previous research conducted by Vural P et al., in which EFT was administered for 46 minutes for three days among students with exam anxiety, and a significant reduction was observed in the anxiety level [46]. Another study conducted by Church D et al., to assess efficacy of EFT in improving psychological distress and PTSD in veterans with psychological trauma reveal significant decrease in the level of psychological distress and symptom levels of PTSD after the 6 hours EFT sessions along with standardised care [47].

In comparison with TAU group, statistically significant decrease in depression level was observed in EFT group as evidenced by postintervention depression score level. Similar results were observed in a RCT conducted by Church D et al., in which 30 college students showed significantly less depression after being administered 90 minutes EFT session [48].

Current study evidence the significance of EFT in treating depression. However, EFT cannot be administered solely to cure depression, hence it can be used as an adjuvent therapy along with conventional treatment to treat depression. It was difficult to administer EFT for the patient with extreme depression (scoring above 40 on BDI) as they wont follow the instructions of tapping. Even though EFT involves simple tapping techniques, nurses need to undergo training to administer EFT. Nurses should be aware of tapping points, and phrases to be used while administering EFT.

#### Limitation(s)

The study was conducted at a single setting and age group of participants varied from 18-65 years. Application of pressure to tap on meridians may vary individually, however no studies were available to emphasise amount of pressure required to get the expected outcome. Follow-ups were not conducted to determine the effect of EFT over a period of time. Samples were selected by convenience sampling technique.

# CONCLUSION(S)

This study concluded that EFT group has significant changes in depression level compared to treatment as usual, also it is found that EFT intervention can be administered for three days for 40-45 minutes to observe clinically significant changes in depression level. EFT involves simple tapping techniques which can be practiced any time anywhere as per the convenience of people. Phrases need to be set appropriately before tapping, it was recommended to undergo training from certified trainer before applying it on patients. Further studies can be conducted on larger sample size with follow-ups to generalise the results.

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