

**EMOTIONAL FREEDOM TECHNIQUE FOR  
REDUCING DEPRESSION AND IMPROVING  
QUALITY OF LIFE AMONG STROKE  
PATIENTS IN PAKISTAN: A RANDOMIZED  
CONTROLLED TRIAL**

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**ASIA e UNIVERSITY  
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EMOTIONAL FREEDOM TECHNIQUE FOR REDUCING DEPRESSION  
AND IMPROVING QUALITY OF LIFE AMONG STROKE PATIENTS IN  
PAKISTAN: A RANDOMIZED CONTROLLED TRIAL

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## ABSTRACT

Stroke is a significant cause of disability, often leading to psychological distress and impacting the lives of patients and their caregivers, particularly in regions like Pakistan, where traditional rehabilitation primarily focuses on physical recovery, neglecting mental health and psychological rehabilitation. Emotional Freedom Technique (EFT) is an evidence-based practice that is an innovative psychological intervention. This study investigated the feasibility and efficacy of the Emotional Freedom Technique in alleviating depression and enhancing the quality of life (QOL) among stroke patients and assessed the caregiver burden (CGB) in Pakistan. The deductive approach is employed, as EFT is an independent variable. The dependent variables were decreased depression, increased quality of life, decreased Subjective distress units, and reduced caregiver burden. The severity of stroke is a moderator, and mediator variables are coping mechanisms, emotional stability, and comorbidities. In a randomized controlled trial, 100 ischemic stroke patients were enrolled from Pakistan, they were explicitly located in Islamabad and Rawalpindi; five rehab hospitals were short-listed, two from Islamabad and three from Rawalpindi. Patients were allocated equally to EFT intervention, and standard care (Physical rehabilitation) was conducted in control groups. MMSE-U was used to cater to the inclusive criteria. Depression and quality of life were assessed using the Beck Depression Inventory-II (BDI-II-U) and World Health Organization Quality of Life (WHOQOL-U) scale at baseline and post-intervention and follow-up with single blinding. Statistical analyses included paired t-tests, independent t-tests and repeated measure ANOVA to evaluate within-group and between-group differences. In Post-intervention, the EFT group exhibited significant reductions in depression, BDI-II-U scores ( $p < 0.01$ ), and notable improvements in quality of life (WHOQOL-U) scores ( $p < 0.01$ ) compared to the control group, indicating EFT's effectiveness in reducing depression levels and enhancing the quality of life in stroke patients and also decreased the caregiver burden as measured by the BSFC-10 items scale. Integrating EFT into stroke rehabilitation in Pakistan and LMIC could offer an effective strategy for addressing the psychological needs of stroke patients, emphasizing a holistic approach to recovery. Future research should explore the long-term benefits of EFT and its applicability in diverse healthcare settings.

**Keywords:** Stroke, rehabilitation, Pakistan, LMIC, emotional freedom technique, post stroke depression, quality of life, caregiver burden, mental health

## **APPROVAL**

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the degree of Doctor of Philosophy

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.....  
Professor Dr Siow Heng Loke  
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Chairman, Examination Committee  
11 July 2024

## DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

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**Signature of Candidate:**

**Date: 11 July 2024**



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## LIST OF ABBREVIATION

ADL	Activities of daily life
AeU	Asia e University
APA	American Psychological Association
ATP	Acupoint tapping protocol
ACEP	Association of Comprehensive Energy Psychology
AHSA	American Heart /Stroke Association
BDI	Beck Depression Inventory
BAI	Beck Anxiety Inventory
BSFC-S	Burden scale for family care giver
BPS	Bio psychosocial
CBT	Cognitive Behavioural Therapy
CGB	Care giver Burden
CCT	Client-Centred Therapy
CGI	Clinical Global Impression
CSCT	Combined Somatic and Cognitive Therapies
CVA	Cerebrovascular Accident
CSI	Care giver strain Index
DALYs	Disability-adjusted life-years lost
DBT	Dialectical Behavioural therapy

DI	Degree of impairment
DEP	Depression
DSM	Diagnostic statistical manual
DV	Dependent Variables
DASS	Depression Anxiety Stress Scale
EBSR	Evidence-Based Review of Stroke Rehabilitation
EEG	Electro-encephalography
EMG	Electro-myography
EFT	Emotional Freedom Techniques
EMDR	Eye Movement Desensitization and reprocessing
EP	Energy Psychology
ESD	Education on Stroke & Depression
EBP	Evidence based Practice
FES	First ever stroke
FMRI	Functional magnetic resonance imaging
GAD	Generalized Anxiety Disorder
GBD	Global Burden Disease
GABA	Gamma-Amino Butyric Acid
GBDSS	Global Burden of Disease Stroke Statistics
HI	Haemorrhagic Stroke

HAS	Health Services Academy
HAT	Heart Assisted Therapy
HPA	Hypo-thalamus-pituitary-adrenal
HRSD	Hamilton Rating Scale for Depression
HDS	Heart disease and stroke
HRQOL	Health related Quality of Life
HIC	High income countries
HAQ	Health access and Quality
HAMD	Hamilton Depression Rating Scale
ICH	Intra Cerebral haemorrhage
IV	Independent Variables
IS	Ischemic stroke
IHME	Institute of Health Metrics and Evaluation
LDH	Lumber disc herniation
LMIC	lower income and lower middle income countries
LMS	Licensed Mental Health Practitioner
LHW	Lay Health workers
MMSE	Mini mental state examination
MDD	Major Depressive Disorders
MTSD	Maryland State and Trait Depression Scale

MRS	Modified Ranking Scale
MRI	Magnetic resonance images
NICE	National Institute for Health and Care Excellence
NLP	Neurolinguistics programming
NIHSS	National Institute of health stroke scale
NINDS	National Institute of Neurological disorders and stroke
NIH	National Institute of Health
NAC	National Alliance for Caregivers
NCHS	National Centre for Health Statistics
NRCTS	Non randomized control trail
OCBS	Oberst Caregiving Burden Scale
OCD	Obsessive Compulsion Disorder
OP	Acupuncture points
PD	Parkinson disease
PET	Positron-Emission Tomography
PHQ-9	Patient Health Questionnaire
PMR	Progressive Muscular relaxation
PSD	Post Stroke Depression
PSA	Post stroke Anxiety
PTSD	Post traumatic stress disorder

QOL	Quality of Life
RCT	Randomized Control Trials
SAH	Sub-arachnoid haemorrhage
SEFT	Self Emotional Freedom Technique
STM	Short Term Memory
SPECT	Single-photon emission computerized tomography
SPSS	Statistical Package for the Social Sciences software
SUDS	Subjective Unit of Distress Scale
STAI	State Trait Anxiety Inventory
SSRIS	Selective Serotonin Reuptake Inhibition
TAU	Treatment as usual
TBT	Trauma Buster Therapy
TCM	Traditional Chinese medicine
TFT	Thought Field Therapy
TQOLSS	Theory of Quality of life of stroke patients
TSADQ	The Stroke Aphasia Depression Questionnaire
UK	United Kingdom
US	United State
VAMS	Visual analogue mood scales
WHO	World Health Organization