

# A FEASIBILITY STUDY: EMOTIONAL FREEDOM TECHNIQUES FOR DEPRESSION IN AUSTRALIAN ADULTS

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## ABSTRACT

The purpose of this study was to investigate the feasibility of using Clinical Emotional Freedom Techniques (EFT) to treat Major Depressive Disorder in an adult population by way of a therapeutic group setting. Adults were assigned to EFT group treatment for a period of eight weeks. Diagnostic assessment was completed immediately pre and post treatment using the Mini International Neuropsychiatric Interview. In addition to this, self-report assessments measuring symptomatic evidence of depression were completed by the participants before the treatment, after the treatment and at three month follow-up. Comparisons with a community group were made at pre and post intervention and three month follow-up. The results indicated a change in diagnosis in each of the participants, with data indicating an overall improvement for the treatment group for depressive symptoms. Study implications and limitations are discussed.

**Keywords:** Depression, Adults, Emotional Freedom Techniques, EFT, Cognitive Behavioural Therapy, CBT

## 1. INTRODUCTION

Approximately 20% of Australians between the ages of 16-85 experience mental illness in each twelve month period (ABS, 2009). Anxiety, depression and substance use are the most frequently reported disorders and often co-occur, due to anxiety possibly leading to depression, or substances being used to self-medicate. In each 12 month period, of the 20% of Australians with mental illness, 8.5% have a minimum of two disorders (ABS, 2009). Moreover, while it has been reported that approximately 45% will develop mental illness in their lifetime (ABS, 2009), treatment is accessed by less than half of those who experience mental illness (CA, 2010; AIHW, 2007).

Depression is reportedly experienced by one in seven Australians (ABS, 2009). Depression carries the third highest impact of disease (WHO, 2008) including Australia (AIHW, 2007), measured by several factors such as financial burden to the economy and death. Depression has also been reported as the highest source of disability in Australia that does not lead to death (AIHW, 2007). According to the WHO (2008), it is

estimated that depression will be ranked as the highest health concern globally by the year 2030.

Depression has been found to have a high likelihood of recurring throughout the lifetime once previously experienced. According to Bolland and Keller (2002), a single depressive episode will recur within a 12 month period in 22% of the population. If three or more episodes of depression have been experienced, a 90% chance of recurrence has been reported (Bolland and Keller, 2002). In addition to this, when depressive episodes recur, the likelihood of suicide becomes higher (Bolland and Keller, 2002).

### 1.1. The Diagnostic Features of Major Depressive Disorder

The Diagnostic and Statistical Manual of Mental Disorders, Fifth edition (DSM-5; APA, 2013) outlines several diagnostic features an individual must meet to be diagnosed with Major Depressive Disorder. The main features of Major Depressive Disorder include a depressed mood experienced almost every day, diminished pleasure and difficulty sleeping. In addition

to this, feelings of worthlessness and difficulty concentrating are frequently experienced. For the individual to meet diagnosis for Major Depressive Disorder, they must have experienced five or more symptoms over a two week period, as listed in the DSM 5 (APA, 2013). These symptoms must have caused distress or impairment in the individuals' life and are not due to substance use or any other medical issue (APA, 2013).

Typical treatments for depression include pharmacological, which has become the most popular form of treatment (Beardslee *et al.*, 2003), psychotherapy, counselling and specific interventions such as Cognitive Behavioural Therapy (CBT; WHO, 2004). CBT is considered a gold standard treatment option and is a structured style of therapy requiring direction from the clinician. It typically addresses dysfunctional emotions, maladaptive behaviours and cognitive processes through behaviour modification and problem solving. CBT is thought to be effective for the treatment of a variety of conditions, including mood, anxiety, personality, eating, substance abuse, tic and psychotic disorders. However, research has found that the skill of the therapist is directly related to the outcomes of CBT (Strunk *et al.*, 2010) and at times clients report they have felt under pressure to give particular answers when receiving CBT, or that the therapy was not flexible enough to match client needs (Barnes *et al.*, 2013). While meta-analyses find CBT more effective than psychodynamic therapy and equal to other therapies in treating anxiety and depression (Cuijpers *et al.*, 2008; Tolin, 2010), psychodynamic therapy may provide better long-term outcomes (Shedler, 2010). Regular attendance to therapy sessions may also prove difficult, as researchers have found that consistent attendance by depressed individuals can be limited (Barnes *et al.*, 2003). Reasons for non-attendance have been cited as difficulty dealing with emotional issues and confusion regarding the therapeutic process (Barnes *et al.*, 2003). Therapies such as CBT require a commitment from participants to attend so that client receives adequate treatment. According to Forde *et al.* (2005), between five and eight treatment sessions has been found to be the optimal number when treating depression. Therefore if clients do not attend regularly, treatment will be ineffective.

The use of alternative treatments by depressed individuals is increasing, with research finding 54% used some form of complementary or alternative therapy to treat depression in the United States (Kessler *et al.*, 2001). In addition to this, 66.7% of those receiving

standard treatment for depression, also used alternative therapies (Kessler *et al.*, 2001). However, only 19% of these with severe depression sought out an alternative therapy provider (Kessler *et al.*, 2001), indicating a preference of for self-administration.

Emotional Freedom Techniques (Clinical EFT) is an approach that uses a tapping technique to heal emotional discomfort (Gallo, 2004). Clinical EFT has been found to be a fast and simple therapy technique, which can be self-administered, or taught by a therapist (Wells *et al.*, 2003). It has been found to be effective for many psychological disorders such as phobias (Jones *et al.*, 2011; Salas *et al.*, 2011; Sezgin and Özcan, 2009; Wells *et al.*, 2003), anxiety (Rowe, 2005), Posttraumatic Stress Disorder (PTSD) (Church, 2008a) and stress (Church, 2008b).

Emotional freedom techniques. Emotional Freedom Techniques (EFT or Clinical EFT) is based on Chinese medicine and the theory of acupuncture, using the energy meridians of the body (Feinstein, 2008). EFT includes elements of cognitive therapy (Beck *et al.*, 1979), exposure (Wolpe, 1969), mindfulness and systematic desensitization (Wolpe, 1958). The process of EFT is completed by becoming aware of a problem, using a setup statement to focus the mind on the issue and tapping on eight specific acupressure points of the body, while verbally stating the issue being addressed. The issue is spoken as a short phrase while tapping. Individuals are initially asked to rate their distress on a subjective units of distress scale from zero to 10 (where zero is no distress and 10 equals the most distress) and after completing a round of each of the tapping points, to re-rate their level of distress. They are then encouraged to continue the rounds until their emotion has reduced.

The procedure of EFT begins by the individual stating a difficulty they are experiencing, followed by an opposing, but positive affirming statement. For example, an individual may state "Even though I am overweight, I deeply and completely love and accept myself". Researchers have found that when positive and negative thoughts are combined, the individual experiences a decrease of the negative experience (Kazdin and Wilcoxon, 1976). This combination of positive affirmation and negative thoughts is typically used in Systematic Desensitization, a behaviour modification therapy (Kazdin and Wilcoxon, 1976).

The practise of Clinical EFT appears to have physiological effects, with one randomised trial measuring cortisol levels related to depression and anxiety, before and after one of three treatment modalities: Clinical EFT, psychotherapy, or relaxation (Church *et al.*, 2012). The findings were that the being

activated by fear, brain frequencies were found to normalise after treatment (Church *et al.*, 2012).

Brain frequencies have also been found to be affected by Clinical EFT, where after being activated by fear, brain frequencies were found to normalise after treatment with Clinical EFT (Diepold and Goldstein, 2008). Researchers also found when participants were asked to recall a traumatic memory, these frequencies remained in the normal range (Diepold and Goldstein, 2008). The amygdala has been found to be unaffected by stress after immediate use of Clinical EFT (Feinstein, 2008) and the ratio of serotonin and dopamine has been found to balance after an individual has been treated with Clinical EFT (Feinstein *et al.*, 2005).

Neutral plasticity has been noted as a contributing factor to the effects of Clinical EFT (Mollon, 2007). According to Nader *et al.* (2000), when an individual recalls an emotion inducing image, the memory becomes fluid and further information may be added to the memory. Mollon (2007) states that this is the opposite of avoidance, where memories are shunned and new information cannot be added. When tapping occurs during memory recall, it appears to allow the emotional reaction to be reset, due to this opening of the memory processes.

Clinical EFT has been found to be effective for treating anxiety. In a study that took place over a 14 year period Andrade and Feinstein (2004) measured 5000 individuals, from 11 clinics in South America, being treated for anxiety. The design was double blind and randomised. Two groups were allocated for the study, the control group and the experimental group. The control group was treated with both Cognitive Behavioural Therapy (CBT) and medication, while the experimental group was treated with Clinical EFT. The findings were that 90% of the symptoms experienced by the Clinical EFT treatment group were reduced and 76% of the group were reported to no longer experience symptoms of anxiety. The group receiving CBT was found to have a 63% reduction in symptoms, with 51% of the group found to no longer experience symptoms. Although both the CBT plus medication and the Clinical EFT treatments were effective, the Clinical EFT group required only three sessions to achieve these results, whereas the CBT and Medication group required 15 sessions. At twelve month follow-up, the CBT group members were found to be more likely to experience relapse than the Clinical EFT group.

Clinical EFT has been found to be effective when treating food cravings in a randomised clinical study (Stapleton *et al.*, 2011). Ninety-six overweight or obese individuals completed a four week treatment program,

with participants being measured pre and post the program and also at 6- and 12- month follow-up. Findings indicated a significant improvement in food cravings, the subjective power of food and craving restraint when compared to waitlist controls ( $p < 0.05$ ) (Stapleton *et al.*, 2011). In addition to this, the improvement in food cravings was maintained at 6- and 12- month follow-up, with a craving restraint appearing to have increased effects after time and average weight loss at 12-months was 5.5 kg (11 pounds) (Stapleton *et al.*, 2011).

## 1.2. Clinical EFT and Depression

Two Randomised Controlled Trials (RCT) found Clinical EFT to be an effective treatment when treating symptoms of depression. After completing an eight week online Clinical EFT course, 36 fibromyalgia patients receiving treatment for PTSD were found to have a significant reduction of depressive symptoms (Brattberg, 2008). The second RCT focussed on 59 war veterans who were experiencing clinical levels of depression (Church *et al.*, 2013). After six sessions of Clinical EFT, there was a significant change in their depressive levels which decreased to a subclinical level. These improvements were also maintained at three and six month follow-up (Church *et al.*, 2013).

A randomised control trial was completed comparing Eye Movement Desensitisation and Reprocessing (EMDR) with EFT in 46 participants (Karatzias *et al.*, 2011). Both of these interventions were found to effectively treat PTSD after four sessions, leading to a full reduction of symptoms (Karatzias *et al.*, 2011). When specifically reviewing the symptoms of depression, both therapies were found to be equally successful, utilising the same amount of time to improve symptoms (Karatzias *et al.*, 2011).

EFT has been found to be effective when treating students with depression. A randomised control trial was conducted on 238 college students with depression, who each participated in four 90 min group sessions of EFT (Church *et al.*, 2012). When compared to a non-treatment control group, the EFT group had significantly less depressive symptoms than the control group (Church *et al.*, 2012). Limitations to this study include; the EFT sessions were not administered by a trained professional, a small number of sessions were utilised and no formal diagnosis was made of the participants (Church *et al.*, 2012). It was proposed that a larger number of treatment sessions, administered by a trained Clinical EFT professional may provide further effects (Church *et al.*, 2012).

Clinical EFT has also been found to be an effective treatment when self-administered. A study of 216 health care professionals using Clinical EFT to treat Major Depressive Disorder and anxiety used computer based interventions where the participant was required to follow directions, rather than being taught by a Clinical EFT professional in person (Church and Brooks, 2010). This study found that post treatment, a significant decrease in pains, cravings, emotional instability and traumatic memories was reported ( $p < 0.001$ ) (Church and Brooks, 2010).

Large group intervention has also been found to be effective with 102 participants in a three day EFT workshop being measured at the beginning and end of the workshop, as well as at one month and six month follow-up (Rowe, 2005). A significant decrease in symptoms such as anxiety, depression, phobias, somatization, hostility, paranoia and interpersonal sensitivity occurred, as measured by a self-reported symptom checklist (Rowe, 2005). These changes were maintained at three and six month follow-up (Rowe, 2005).

While Clinical EFT has been found to be an effective treatment modality for many disorders (Brattberg, 2008; Church 2008c; Stapleton *et al.*, 2011), its limitations include small sample sizes, lack of professional instruction and lack of formal diagnosis (Church *et al.*, 2012). The benefits of using Clinical EFT include the simplicity of administration (Church and Brooks, 2010) and the reduced financial costs due to the reduced number of treatment sessions required (Wells *et al.*, 2003). Once taught the tapping points and procedure of administration, Clinical EFT can be self-administered. Previous studies have found self-administration of Clinical EFT to be a successful form of therapy (Brattberg, 2008), with effects noted after minimal sessions such as a single session when treating phobias (Wells *et al.*, 2003), or four sessions for successful treatment of PTSD (Church, 2010). Thus, Clinical EFT is a simple therapy, which may be administered at anytime. As depression is a growing concern amongst the population and current therapy is not universally effective, this may be an alternative therapy for those who are unmotivated, fatigued and experiencing financial hardship.

The significance of this study is its exploration of the use of Clinical EFT in the clinical setting for the first time with adults suffering Major Depressive Disorder. Clinical EFT has been shown to be effective in the treatment of stress (Church, 2008b), anxiety (Rowe, 2005), phobias (Jones *et al.*, 2011; Wells *et al.*, 2003) and PTSD (Church, 2010). While symptoms of

depression have been found to improve when other psychological conditions have been treated with EFT (Brattberg, 2008; Church *et al.*, 2011), no study has measured the effect of EFT solely on Major Depressive Disorder in an adult population, using a diagnostic tool as evidence for treatment effects. The current study aimed to develop an eight week Clinical EFT program and test its effectiveness in treating adults with diagnosed Major Depressive Disorder. Each of the 120 minute Clinical EFT treatment sessions would be conducted by a trained Clinical EFT professional. A formal DSM-IV (APA, 1994) diagnosis of Major Depressive Disorder would be assessed prior to the commencement of treatment and reassessed at the conclusion of treatment. Self-reported symptomatic levels of depression and any comorbid conditions would be measured at the commencement of treatment and again at the conclusion of treatment and three month follow-up.

It was hypothesised that Clinical EFT would prove to be a successful treatment modality in this feasibility study for reducing Major Depressive Disorder in an adult sample, as measured by the Mini International Neuropsychiatric Interview (MINI; Sheehan *et al.*, 1998), Beck Depression Inventory II (BDI-II; Beck *et al.*, 1961) and the Depression, Anxiety and Stress Scale 21 (DASS 21; Lovibond *et al.*, 1993). It was also hypothesised that Clinical EFT would have sustained benefits at the 3-month follow-up period.

## 2. MATERIALS AND METHODS

### 2.1. Participants

Eleven adults were recruited using Face book pages, university notice boards, word of mouth and community classified pages in both local newspapers and on the internet. The criteria to participate in the trial included being over 18 years of age and having a diagnosis or probable diagnosis of Major Depressive Disorder. Volunteer participants were required to contact the researcher and an appointment was made to complete the MINI (Sheehan *et al.*, 1998). The MINI was used to confirm diagnosis of Major Depressive Disorder. Participants' were given the option to either meet with the researcher to complete the MINI at the University where the study was held, or complete the MINI over the telephone. Each adult was emailed contact details of alternative services, such as Lifeline, to be used if they became distressed by completing the MINI, or if they did not meet criteria for Major Depressive Disorder.

After completing the MINI, it was found that ten of the eleven participants met criteria for Major Depressive Disorder (additional diagnoses can be viewed in **Table 5**). The additional participant did not meet diagnostic criteria for either Major Depressive Disorder, or an alternate disorder, however, was accepted into the treatment group due to self-reported depressive symptoms. Once the participants had met diagnostic criteria for Major Depressive Disorder, they completed an online questionnaire package including demographic questions such as age range, gender, education level, number of people in household, current education level, as well as the Beck Depression Inventory II (BDI-II; Beck *et al.*, 1996) and the Depression, Anxiety and Stress Scale 21 (DASS 21; Lovibond *et al.*, 1993).

The final depressed sample consisted of two males and nine females who participated voluntarily after providing informed consent (see **Table 1**). Of the males, one was in the 25-29 year old age range and one was in the over 55 age range. Of the female participants, three were in the 18-24 year old age range, one was in the 30-35 year old age range, two were in the 40-45 year old age range, one was in the 46-49 year old age range and two were in the 50 and over age range.

A comparison community sample of non-depressed adults was recruited through Facebook pages, university noticeboards and community classified pages in both local newspapers and on the internet. The community sample consisted of 34 individuals, seven males and 27 females each of whom participated voluntarily after providing informed consent (**Table 2**). Of the males, one was in the 30-35 year old age range, one was in the 40-45 year old age range and five were in the 50+ age range. Of the female participants, two were in the 18-24 year old age range, one was in the 25-29 year old age range, three were in the 30-45 year old age range, two were in the 36-39 year old age range, eight were in the 40-45 year old age range, three were in the 46-49 year old age range and eight were in the 50 and over age range.

## 2.2. Intervention and Materials

This study was reviewed for human subject protection by the Bond University Research Ethics Committee (BUHREC). Protocol Number: RO1518 and was registered with The Australian New Zealand Clinical Trials Registry (ANZCTR).

The Clinical EFT instruction was provided by a certified professional EFT practitioner who acted as group facilitator and a student researcher acted as a support facilitator. The group intervention took place at the Bond University Psychology Clinic.

The Clinical EFT program was developed by the supervising and student researcher and two certified EFT therapists, was based on standard Clinical EFT protocols as outlined in the EFT manual (Craig, 2010) and was then peer reviewed. In addition, this program was modelled on a previous EFT food craving program developed by the supervising researcher (Stapleton *et al.*, 2011). The program included a treatment fidelity plan, requiring completion of an intervention checklist after each treatment group by the treatment professional and the co-facilitator.

The EFT program was designed to increase participants' understanding of Major Depressive Disorder, as well as provide instruction regarding thoughts and their effects on feelings, the benefits of increased activity levels, psycho-education regarding EFT and its associated tapping points, how to construct appropriate EFT statements and to experience the effects of using EFT.

The process of Clinical EFT involves thinking of a distressing event, emotion, or memory, ratings its intensity, initiating a setup statement, then completing the tapping process on a sequence of 7 specific points on the upper body (Brattberg, 2008). The setup phrase focuses on the difficulty being experienced and is spoken aloud, adding a voiced statement of acceptance. For example, if anxiety is experienced, a setup phrase could be "Even though I have this anxiety, I deeply and completely accept myself." The setup phrase is stated while tapping either the "karate chop" point below the little finger of either hand, or a specific area on the chest below the collar bone, termed the sore spot in EFT protocols (Craig, 2010). After repeating the setup phrase three times, the tapping process is followed, using a shortened version of the setup phrase. In the example above a phrase such as "All this anxiety" would be appropriate and would be voiced while each point is tapped approximately seven times each. Acupressure points 1 to 7 (Craig and Fowlie, 1995) were taught to each participant to use when self-administering EFT. These points are the inner eyebrow, the side of the eye, under the eye, under the nose, the chin, the collar bone and under the arm. See diagram in Appendix A.



**Table 1.** Age range and sex distribution of depressed sample

Age	18-24	25-29	30-35	36-39	40-45	46-49	50+
Male	0	1	0	0	0	0	1
Female	3	1	0	0	2	1	2

**Table 2.** Age range and sex distribution of community sample

Age	18-24	25-29	30-35	36-39	40-45	46-49	50+
Male	0	0	1	0	1	0	5
Female	2	1	3	2	8	3	8

Two main types of instructional materials were used during the intervention; instructional material administered in the form of PowerPoint slides and client handouts developed by the lead author were handed out at the beginning of each session. The session topics for the EFT intervention consisted of the following:

- Week 1: Psychoeducation regarding treatment
- Week 2: Behaviours that help manage depression
- Week 3: The Thinking-Feeling connection
- Week 4: Cognitive Restructuring
- Week 5: Core Beliefs
- Week 6: Stress and Relaxation
- Week 7: Goal Getting
- Week 8: Self Management

Social validity data was gathered in each group on a weekly basis, by way of participants completing self-report measures regarding the effectiveness of treatment. Participants were able to remain anonymous in order to obtain the most accurate feedback. The participants were asked to nominate on a Likert scale from 1 to 6, with 1 indicating not useful at all and 6 indicating very useful, how useful the treatment information and skills learnt were to their symptoms of depression. Participants were then asked to nominate how easy the treatment information was to understand, with 1 indicating very difficult and 6 indicating very easy. Participants were also asked to indicate how confident they felt in using the information and skills covered, with 0 indicating not confident at all and 6 indicating confident. Finally, participants were asked if they would recommend using these new skills to others, with 1 indicating not recommended and 10 indicating highly recommended.

Participants were also asked to provide a rating regarding the facilitator, with 1 indicating not at all and 5 indicating very much. Participants were asked how approachable the facilitator was, how well the facilitator explained skills and ideas, how well questions and concerns were addressed, how appropriate handout materials were and how much the

program met their needs. They were also invited to make comments at the end of the form.

The current study was a pilot study using a small sample of 11 participants, being compared to a non-clinical community sample.

### 2.3. Measures

The Mini International Neuropsychiatric Interview (MINI; Sheehan *et al.*, 1998) is a short structured clinical interview, based on the Structured Clinical Interview for DSM IV (SCID; First *et al.*, 1997) which enables researchers to make diagnoses of psychiatric disorders according to DSM-IV or ICD-10. Taking approximately 15 min to complete, the MINI has been found to have good validity and reliability (Sheehan *et al.*, 1998). Sheehan *et al.* (1997) indicated the MINI has been found to have a high correlation with the Structured Clinical Interview for DSM Axis I Disorders, as well as having both strong sensitivity (0.96) and specificity (0.96).

The Beck Depression Inventory II (BDI; Beck *et al.*, 1996) was used to assess symptom severity in clients with probable Major Depressive Disorder. Each item contained a statement which the client then rates in relation to themselves, with higher total ratings indicating higher levels of depression. Total scores less than 10 are considered to reflect no or minimal depression, while scores ranging between 10 and 18 are considered to reflect mild depression. Moderate depression is indicated by scores between 19 and 29, while severe depression is indicated by scores greater than 29. The BDI II has convergent validity with observer-rated measures diagnosing depression (Marton *et al.*, 1989). Internal consistency of the BDI-II has been shown to be consistently high, with measures of Cronbach's alpha ranging from .88-.95 (Beck *et al.*, 1996).

The Depression, Anxiety, Stress Scale 21 (DASS 21; Lovibond and Lovibond, 1995) is a self-report questionnaire consisting of 21 items, which provides a measure of depression, anxiety and stress (Atkin and Cetin, 2007). The DASS 21 has been found to have

good internal consistency, with interscale correlations being Depression-Anxiety (0.45-0.71), 0.50 or below in all English-speaking samples, Anxiety-Stress (0.65-0.73) and Major Depressive Disorder-Stress (0.57-0.79) (Antony *et al.*, 1998; Brown *et al.*, 1997; Clara *et al.*, 2001). Convergent validity has also been found to be good for both clinical and non clinical samples (Brown *et al.*, 1997).

## 2.4. Participant Flow

Twenty individuals expressed interest in the program. Of these individuals, 13 agreed to be assessed (**Fig. 1**). Two participants did not attend assessment, however, each of the 11 participants who were assessed, participated in the treatment program. Of those members, 2 males and 3 females did not return after 2 weeks due to several factors. Two withdrew due to illness, 2 had a lack of confidence in the program and 1 participant did not return due to death in the family and resultant grief (**Fig. 1**). Of the remaining members ( $n = 6$ ), each completed the final assessments and 3-month follow-up. The withdrawn participants did not appear to differ from completers by visual inspection of pre-treatment scores or demographic characteristics.

Eight Clinical EFT group therapy sessions were administered over eight consecutive weeks. Each session lasted 120 min. Participants were not included in the data analysis if they discontinued attendance after the first two weeks ( $n = 5$ ). Treatment was provided through a group setting, with information being presented by the certified EFT professional, using the PowerPoint slides as a treatment tool, as well as modelling tapping points, as previously described. Participants were given handouts, pens and a clipboard and encouraged to stop and complete areas in the handouts regarding symptoms, thoughts and feelings as needed.

Participants who provided consent to do so, were sent text messages on a weekly basis by the certified EFT therapist, reminding them to use their Clinical EFT techniques daily, which was designed to strengthen motivation and adherence. Participants were able to withdraw from this service at any time and were asked periodically throughout the study if the frequency of contact was appropriate and if there were any concerns regarding this practise.

The post-test was administered at the conclusion of the final session. Three month follow-up was completed

by an email being sent to each participant, containing a link to the measures.

## 2.5. Data Analysis

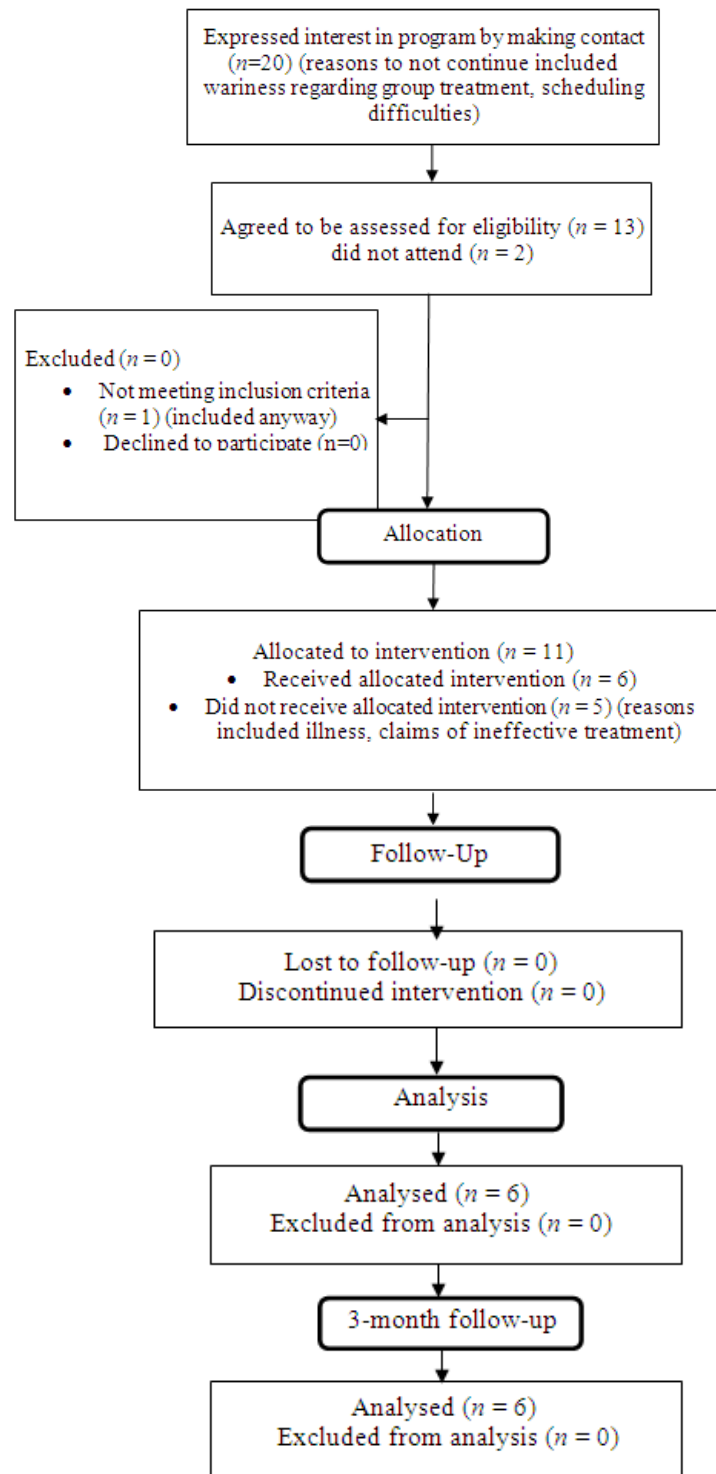
Data was analysed using the Statistical Package for Social Sciences 22.0 (SPSS). An independent samples t-test was conducted to compare the self-reported baseline DASS 21 scores between the depressed and the non-depressed group. There was significant difference in scores between the depressed ( $M = 28.66$ ,  $SD = 9.41$ ) and the non-depressed group ( $M = 6.11$ ,  $SD = 4.63$ ;  $t(38) = 9.25$ ,  $p = 0.00$  (two-tailed). The magnitude of the differences in the means (mean difference = 22.54, 95% CI: 17.61-27.48 was large (eta squared = 0.69).

An independent samples t-test was conducted to compare the self-reported DASS 21 scores at the completion of treatment between the depressed and the non-depressed group. There was a significant difference in scores between the depressed ( $M = 28.16$ ,  $SD = 14.56$ ) and the non-depressed group ( $M = 6.11$ ,  $SD = 4.63$ ;  $t(38) = 3.67$ ,  $p = 0.01$  (two-tailed). The magnitude of the differences in the means (mean difference = 22.04, 95% CI: 6.78-37.31 was large (eta squared 0.26).

An independent samples t-test was conducted to compare the self-reported DASS 21 scores at three month follow-up between the treatment group and the community sample. There was significant difference in scores between the depressed ( $M = 21.16$ ,  $SD = 9.49$ ) and the non-depressed group ( $M = 6.11$ ,  $SD = 4.63$ ;  $t(5.42) = 3.80$ ,  $p = 0.01$ ). The magnitude of the differences in the means (mean difference = 15.04, 95% CI: 5.11 to 24.98) was large (eta squared = 0.27).

An independent samples t-test was also conducted to compare the self-reported baseline BDI II scores between the depressed and non depressed group. There was a significant difference between the depressed ( $M = 30.66$ ,  $SD = 11.00$ ) and the non-depressed group ( $M = 5.08$ ,  $SD = 5.41$ ;  $t(38) = 8.97$ ,  $p = 0.00$  (two tailed). The magnitude of the differences in the means (mean difference = 25.57, 95% CI: 19.80 to 31.34) was large (eta squared = 0.67).

An independent samples t-test was conducted to compare the self reported post BDI II scores between the depressed and non-depressed group. There remained a significant difference between the depressed ( $M = 21.83$ ,  $SD = 14.86$ ) and the non-depressed group ( $M = 5.08$ ,  $SD = 5.41$ ,  $t(5.23) = 2.72$ ,  $p = 0.039$  (two tailed). The magnitude of the differences in the means (mean difference = 16.74, 95% CI: 1.17 to 32.31) was large (eta squared = 0.16).



**Fig. 1.** Participant flow diagram of clinical EFT treatment group



**Table 3.** Descriptive statistics for DASS 21 administration Time 1, Time 2 and Time 3

Time Period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	6	28.66	9.42
Time 2 (Post intervention)	6	28.16	14.56
Time 3 (3 month follow-up)	6	21.16	9.50

**Table 4.** Descriptive Statistics for BDI II for Time 1, Time 2 and Time 3

Time Period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	6	30.66	4.49
Time 2 (Post intervention)	6	21.83	6.07
Time 3 (3 month follow-up)	6	18.66	7.20

An independent samples t-test was conducted to compare the self-reported BDI II scores at three month follow-up between the treatment group and the community sample. There was a significant difference in scores between the depressed ( $M = 18.66$ ,  $SD = 10.93$ ) and the non-depressed group ( $M = 5.08$ ,  $SD = 5.41$ ;  $t(5.44) = 2.97$ ,  $p = 0.028$ ). The magnitude of differences in the means (mean difference 13.57, 95% CI: 2.14 to 25.01) was large ( $\eta^2 = 0.18$ ).

The means and standard deviations of the administration of the DASS 21 and pre treatment, post treatment and three month follow-up are presented in **Table 3**.

The means and standard deviations of the administration of the BDI II, at pre intervention, post intervention and three month follow-up are indicated in **Table 4**.

A Wilcoxon Signed Rank Test revealed no significant reduction in symptoms as measured by the DASS 21 when comparing the pretest scores and the 3-month follow-up,  $z = -1.68$ ,  $p = 0.093$ . However, a Wilcoxon Signed Rank Test revealed a significant reduction in depressive symptoms as measured by the BDI II when comparing the pretest scores and the 3-month follow-up,  $z = -2.20$ ,  $p = 0.028$ .

### 3. RESULTS

#### 3.1. EFT Treatment

Eleven individuals were recruited through university notice boards, Facebook pages and word of mouth. Ten of these individuals met criteria for Major Depressive Disorder, which was assessed by the administration of the MINI. One participant did not meet criteria for Major Depressive Disorder, however, participated in the group due to depressive symptomology.

The first hypothesis asked whether Clinical EFT resolved Major Depressive Disorder as a diagnosis. The data revealed that while the diagnosis of Major Depressive Disorder was not completely resolved immediately after treatment, two members no longer met criteria. In addition, each member of the group no longer met diagnosis for

one or more disorders they had met criteria for when completing the MINI.

The second hypothesis asked whether Clinical EFT was effective at reducing the symptoms of Major Depressive Disorder. While scores on the DASS 21 indicated no significant difference, in several cases individual participants reported clinical differences in symptoms. That is, the difference was enough so that if measured in a clinical setting, it would indicate treatment was successful. Therefore a clinically valid difference was achieved. The BDI II indicated a significant difference in the pre, post and 3-month follow-up measures in the symptoms of Major Depressive Disorder.

The third hypothesis asked whether the treatment effects of Clinical EFT were sustained at follow-up. The data suggests that not only are the effects of Clinical EFT sustained at follow-up, but there appeared to be continuous effects.

#### 3.2. Participant Evaluation and Subjective Ratings

Each participant in the study was asked to complete a worksheet containing social validity questions at the end of each session. This was on a voluntary basis and could be completed anonymously. The answers provided indicated that throughout the program 88% found the Clinical EFT program information and skills to be useful. In addition, 100% found the information easy to understand and 88% indicated they felt either okay, confident, or higher in using the information and skills covered.

Feedback regarding the facilitator was given using a Likert scale from 1-5, with 1 indicating Not at all and 5 indicating Very much. When asked how approachable the facilitator was 4% indicated a score of 4, whereas 96% gave the maximum score of 5. When asked how well the facilitator explained skills and ideas, 24% indicated a score of 4, while the remainder of the participants gave a score of 5. When asked how well the facilitator addressed questions and concerns, 17% gave a score of 4, whereas 83% gave a score of 5. When asked how appropriate the handout materials were, 2% gave a

score of 3, 33% gave a score of 4, with 65% giving a score of 5. The final question asked at what level the program met the individuals' goals. 7% gave a score of 3, 30 % gave a score of 4 and 63% gave a score of 5.

Each participant was re-administered the MINI at the completion of the program. As indicated in **Table 5**, of all EFT the participants, both participant 2 and 5 no longer met criteria for Major Depressive Disorder (MDD). Participant 1 maintained the diagnosis of MDD and General Anxiety Disorder (GAD), however, no longer met criteria for Agoraphobia, Social Anxiety Disorder (SAD) and Obsessive Compulsive Disorder (OCD). Participant 4 maintained the diagnosis for MDD, however no longer met criteria for GAD. Both

participant 5 and participant 2 attended the entire eight week program and had the greatest results. Participant 5 no longer met criteria for MDD, Panic Disorder with Agoraphobia, OCD Current, or GAD. Participant 2 no longer met criteria for MDD, Panic Disorder and Bulimia Nervosa. At the initial administration, participant 3 met criteria for MDD, Panic Disorder and Agoraphobia, SAD, OCD, PTSD, Bulimia and GAD, whereas, when the interview was readministered, the participant no longer met criteria for OCD.

Although the changes in DASS 21 scores were not significant, some changes were at a level to be clinically remarkable and to have indicated change at a clinical level (**Table 6**).

**Table 5.** EFT Pre and post diagnosis from structured clinical interview

Participant	Pre Diagnosis	Post diagnosis
1	Major depressive disorder Agoraphobia Social anxiety disorder Obsessive compulsive disorder	Major depressive disorder General anxiety disorder
2	General anxiety disorder Major depressive disorder Panic disorder Bulimia nervosa	No diagnosis met
3	Major depressive disorder Panic disorder Social anxiety disorder Obsessive compulsive disorder Post traumatic stress disorder Bulimia nervosa General anxiety disorder	Major depressive disorder Panic disorder Social Anxiety Disorder Post traumatic stress disorder Bulimia nervosa General Anxiety disorder
4	Major depressive disorder Generalised anxiety disorder	Major depressive disorder
5	Major depressive disorder Panic disorder Obsessive compulsive disorder General anxiety disorder	No diagnosis

**Table 6.** The depression scale of the DASS 21

Participant	DASS 21 pre	DASS 21 post	DASS 21 3mth follow-up
1	15 Extremely severe	20 Extremely Severe	14 Extremely severe
2	5 Mild	4 Normal	4 Normal
3	15 Extremely severe	4 Normal	9 Moderate
4	15 Extremely severe	12 Severe	9 Moderate
5	8 Moderate	7 Moderate	6 Mild
6	14 Extremely severe	20 Extremely severe	17 Extremely severe

**Table 7.** The anxiety scale of the DASS 21

Participant	Dass 21 Anxiety pre	Dass 21 Anxiety post	Dass 21 Anxiety 3 mthfollow-up
1	5 Mild	10 Extremely severe	9 Severe
2	1 Normal	0 Normal	0 Normal
3	5 Mild	3 Normal	3 Normal
4	12 Extremely severe	8 Severe	5 Mild
5	11 Extremely severe	9 Severe	0 Normal
6	6 Mild	7 Moderate	6 Mild

**Table 8.** The stress scale of the DASS 21

Participant	DASS 21 Stress pre	DASS 21 Stress post	DASS 21 Stress 3 mthfollow-up
1	16 Severe	18 Extremely severe	11 Moderate
2	6 Normal	8 Mild	7 Normal
3	7 Normal	4 Normal	5 Normal
4	12 Moderate	12 Moderate	9 Mild
5	11 Moderate	12 Moderate	6 Normal
6	8 Moderate	11 Moderate	7 Normal

The symptoms of anxiety as measured by the DASS21 generally continued to reduce after treatment with Clinical EFT had concluded (**Table 7**). The Stress scale of the DASS 21 indicated a mild improvement at a clinical level in some cases (**Table 8**).

#### 4. DISCUSSION

The current study was a feasibility pilot study of a Clinical EFT program that was developed to treat Major Depressive Disorder in an adult population. The results confirmed that Clinical EFT is an effective treatment modality when treating symptoms of depression. Firstly, each participant treated with Clinical EFT found their depressive symptoms were reduced at some level. This is consistent with previous reports of reduced depression when using Clinical EFT as a primary treatment modality (Church *et al.*, 2012; Feinstein, 2008).

The measures used to assess the symptoms of depression produced differing results. The BDI II indicated a significant difference between the three administrations, whereas the DASS 21 indicated there

was no significant difference. The second administration of DASS 21 post-treatment, indicated many of the participants had a greater number of symptoms, or experienced greater severity of their symptoms, than was experienced pre-treatment. There may be several reasons for this. As both post measures question how the participants felt over the past week, this may change on a week to week basis. While there may be an improvement in one week, this may change to an increase in symptoms in an alternate week. Moreover, the second administration of both the DASS 21 and the BDI II, were completed at the conclusion of the final EFT session, while the participants were still in the treatment room. Clinical EFT, by its nature brings into consciousness any negative thought or feeling the participant had been experiencing and as this second administration was completed immediately after a treatment session, it could be hypothesised that each individual was more focussed on their difficulties from the prior week, than they would have been when initially completing the survey. Therefore it may have

been that an awareness of depressive symptoms had increased throughout the course of treatment, which led to an increase of reporting, over what was initiated in the initial assessment. However, this does not explain the results of the BDI II.

The BDI II administered immediately post-treatment provided an overall indication that participants experienced less symptoms, at a lower severity level, than had been indicated pre-treatment. The variance in the results of the DASS-21 and the BDI II may have been due to studies on the DASS-21 which have found that rather than the depression, anxiety and stress scales measuring symptoms in those specific areas, many of the items appeared to be measuring general distress (Osman *et al.*, 2012). Osman *et al.* (2012) have suggested that several items of the DASS do not fit specifically in the anxiety, stress or depression scale, leaving the researchers to state that the scales of the DASS 21 appear unreliable. Therefore, the results of the DASS 21 appear to be questionable in a study specifically measuring the symptoms of depression.

The results taken at 3-month follow-up of both the BDI II and the DASS 21 indicated there may have been a progressive improvement effect. Many of the group members experienced a continuous improvement in their symptoms. As previously noted, members of the group were sent periodic supportive text messages to remind them to continue tapping during the treatment program, although it is uncertain how many members completed this exercise, or how often it was completed. However, if it was ascertained that the gradual improvement occurred without further intervention, this would make it a very powerful treatment modality. A delayed effect was also found by Stapleton *et al.* (2011), where EFT used to treat food cravings appeared to have continuous effects, with feelings of restraint over food having been found to increase at 6-month follow-up. Alternatively, if these effects were due to the supportive messages, they further indicate the effectiveness of self-administered Clinical EFT.

There were several limitations to this study. The large number of drop outs from the group meant that it effectively halved in size after recruitment. In addition, recruitment proved difficult with a depressed population. While many enquiries were made regarding the program, the group modality of treatment appeared to be a negative factor for enrollment as many initial enquirers stated they would not feel comfortable attending a group setting.

Completing the structured interview provided a difficulty for some members who failed to attend their appointment to complete the interview. Of the participants that did complete the study, difficulty was experienced in

receiving completed follow-up questionnaires. As depressed individuals usually have difficulty with motivation and concentration, this is an aspect that would need to be considered for future studies.

## 5. CONCLUSION

Three major conclusions can be made from this study. The first conclusion is that Clinical EFT as a treatment modality appears to resolve symptoms a client is experiencing, which may in turn resolve a disorder that has been diagnosed. In the current study, each participant was asked to practise Clinical EFT on any difficulties they were experiencing over the week and were reminded of this through text messages sent by the Clinical EFT professional on a weekly basis. Although the program was targeted toward depressed individuals, they were encouraged to use Clinical EFT to deal with any issues, which could range from self-esteem issues to anger, difficulties with their partner, or any other difficulties that were experienced. This may account for the change in diagnosis for each participant.

The second conclusion was that Clinical EFT appeared to reduce depressive symptoms in each participant. Although there were no significant differences in the self-report measures of the DASS 21, the self-report measures of the BDI II indicated a significant difference. The MINI also, reported a change in diagnosis of Major Depressive Disorder in several participants and a change or reduction in the number of comorbid disorders in other participants.

Each participant indicated to the researcher that they felt better and visually appeared to have an altered demeanour and outlook as the sessions progressed. It could be concluded that as improvements were made between the final session and the 3-month follow-up, changes were in a transient state and that 6-month follow-up measures could ascertain whether there is a stronger effect in this area.

The third conclusion was the results were not only sustained at follow-up, but appeared to improve. In addition, participants' appeared to require the full eight weeks of treatment to no longer meet criteria for Major Depressive Disorder. As both participants who attended the entire eight week program no longer met criteria for Major Depressive Disorder it appears that attendance for shorter amounts of time, although effective, did not produce the same results. Further consideration may be that each participant met criteria for several disorders, therefore, as each participant experienced resolution from one of these, they may have required further

treatment sessions to work through each of their diagnoses to reach the cause of their difficulties and resolve their Major Depressive Disorder.

Future studies could complete longitudinal follow-up assessments on participants to ascertain if the treatment method has long term effects. In addition, due to many enquirers stating they found the group aspect of the treatment daunting, future treatment could focus more on individual treatment on a one on one basis. The current study lends support for a larger trial. Future studies could use more comparison treatment when treating depression, such as relaxation and CBT, as well as utilising a larger sample size.

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