

Self-administered EFT (Emotional Freedom Techniques) in Individuals With Fibromyalgia: A Randomized Trial

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Abstract

Objective: The aim of this study was to investigate whether self-administered Emotional Freedom Techniques (EFT) lead to reduced pain perception, increased acceptance and coping ability, and better health-related quality of life in individuals with fibromyalgia.

Methods: Eighty-six women, diagnosed with fibromyalgia and on sick leave for at least 3 months, were randomly assigned to a treatment group or a wait-listed group. For those in the treatment group, an 8-week EFT treatment program was administered via the internet.

Results: Upon completion of the program, statistically significant improvements were observed in the intervention group (n=26) in comparison with the wait-listed group (n=36) for variables such as pain, anxiety, depression, vitality, social function, mental health, performance problems involving work or other activities due to physical as well as emotional reasons, and stress

symptoms. In addition, pain catastrophizing measures, such as rumination, magnification, and helplessness, were significantly reduced, and activity level was significantly increased in the treatment group compared to the wait-listed group. However, no difference in pain willingness between the groups was observed. The number needed to treat (NNT) regarding recovering from anxiety was 3. NNT for depression was 4.

Conclusion: Self-administered EFT seems to be a good complement to other treatments and rehabilitation programs. The sample size was small and the dropout rate was high. Therefore the surprisingly good results have to be interpreted with caution. However, it would be of interest to further study this simple and easily accessible self-administered treatment method, which can even be taught over the internet.

Key words: Energy psychology, Emotional Freedom Techniques, EFT, fibromyalgia, internet-based interventions.

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Emotional Freedom Techniques (EFT) were created in the middle 1990s by Stanford engineer Gary Craig. He was a student of Roger Callahan's Thought Field Therapy (TFT)¹ and devised EFT as a comprehensive method that would cover a multitude of health problems. EFT is a controversial psychotherapeutic tool that introduces the principles of acupuncture into psychotherapy and is intended to relieve many psychological conditions, including depression, anxiety, post traumatic stress disorder (PTSD), stress, addictions, and phobias. EFT has also been used for the treatment of various somatic symptoms such as different pain conditions, including migraines, facial neuralgia, back pain, and fibromyalgia.

Treatment protocol includes a comprehensive algorithm used for all types of problems and symptoms. The method consists of 1) a tapping part used, according to the *EFT Manual* by Gary Craig, to "rebalance the energy system,"² 2) a verbal part that involves making appropriate affirmations, and 3) an eye rolling part with the aim of increasing communication between the two halves of the brain. EFT thus aims at combining physiological effects of meridian treatment (acupressure) with mental focusing on thoughts of the pain/trauma/problem (cognitive therapy) and the releasing "eye roll" method that sometimes is used in hypnotic procedures and in the treat-

ment of PTSD with eye movement desensitization and reprocessing (EMDR).

Background Acceptance Therapies

The concept of acceptance is receiving increased attention as an important ingredient in cognitive behavioral therapy. Acceptance of a situation as it is—rather than resisting it—can be important in reducing the suffering that is often associated with persistent and disabling pain, for example in fibromyalgia. This approach differs from established treatments in that it does not principally focus on reducing pain but on reducing the distressing and disabling influences of pain by moving the patient to a more peaceful place of acceptance. Increasing amounts of data support the view that the pain patient benefits from a more accepting and accommodating view of pain.³⁻⁷

EFT Theory

The theory behind EFT is that negative emotions are caused by disturbances in the body's energy field (meridian system). Tapping on the meridians at acupuncture points while focusing on a negative emotion is said to alter the body's energy field, restoring it to "balance."² No matter how it works, the clinical result is that just thinking about the problem does not provide the same emotional response as thinking about the problem while performing EFT, which can actually change the patient's attitude to the problem. EFT may therefore be of assistance in accepting the unacceptable; ie, life with a chronic pain condition.

EFT Research

Gary Craig, the developer of EFT, has published a huge number of case reports on his home page (www.emofree.com) but no scientific articles were found there. However, J. Andrade, MD, Medical Director of JA&A in Argentina; and D. Feinstein, PhD, clinical psychologist, executive director of the non-profit Energy Medicine Institute, and a former researcher on psychotherapeutic innovations at the Department of Psychiatry, Johns Hopkins University Medical School, conducted a large study investigating the use of EFT that involved more than 29 000 patients. Included in this study were approximately 5000 patients diagnosed at intake with an anxiety disorder. All patients were randomly assigned to an experimental group (EFT) or a control group (Cognitive Behavior Therapy [CBT]/medication). The treatment procedures for CBT/medication were not specified.

The study was conducted over a 5-year period and patients were followed by telephone or office interviews at 1 month, 3 months, 6 months, and 12 months after treatment. Preliminary post-study results showed 76% of the experimental group members were judged as symptom free from anxiety compared to 51% of the individuals in the control group. At a 1-year follow-up, the individuals who had received tapping treatments were less prone to relapse than those receiving CBT/medication. The authors also conclude that length of treatment was substantially shorter with EFT therapy (mean 3 sessions) than with CBT/medication (mean 15 sessions). The results are remarkable but preliminary and not yet peer-reviewed.⁸

Only 2 peer-reviewed controlled studies on EFT have been found. The first explored reducing patient phobias of small animals between those who did EFT and those who used trained diaphragmatic breathing—slowing the respiration rate has shown demonstrable physiological changes consistent with deep relaxation.^{9,10} After a 30-minute session, individuals in the EFT group reported significantly greater improvement compared to those who performed a 30-minute breathing session. The improvement for those treated with EFT was maintained at 6- to 9-month follow-ups.

In the second controlled study, 122 students with self-reported phobias were randomly assigned to 1 of 4 groups: 1) EFT, 2) placebo tapping beside the meridian points, 3) modeling treatment—tapping a doll, and 4) a control group with no treatment at all. The first 3 groups displayed significant improvement over time in post-treatment ratings of fear. However, those groups did not differ from each other. The control group displayed no significant differences from the beginning to the end of the study. The authors concluded that the apparent gains are likely nonspecific: The positive effect seems to be unrelated to the tapping algorithm and unrelated to any putative energy meridians.¹¹

B.A. Gaudioano, a doctoral candidate in clinical psychology at MCP Hahnemann University in Philadelphia, Pennsylvania, and J.D. Herbert, associate professor of psychology at the same university, have carried out a critical analysis of TFT, the previously mentioned energy therapy preceding EFT that applies different algorithms to treat different problems.¹² They found no basic empirical support at all for what they term “power therapies” like TFT—methods they classify as pseudoscience. G.J.

Deville from the Australian Centre for Posttraumatic Mental Health has in his critical analysis also concluded that EFT and other power therapies display many characteristics consistent with pseudoscience.¹³ Feinstein also presents a review of the preliminary evidence for energy psychology methods, reporting results that are both positive and negative.¹⁴

EFT and Chronic Pain

A worldwide clinical problem is the large group of patients with widespread chronic pain; eg, individuals with fibromyalgia. A search on Google with the key words EFT and fibromyalgia gave 74 800 hits (June, 2008). There is considerable anecdotal material reporting good results of EFT treatment in individuals with pain including fibromyalgia. However, no scientific studies are reported on the issue. Fibromyalgia is a chronic pain condition that is often difficult for the patient to accept. For this study, I theorized that EFT could help people to accept the pain of fibromyalgia and facilitate the adaptive process leading to improved coping and health. It does not matter if the effect is specific or non-specific if the health-related quality of life improves. EFT has the advantage of being extremely easy for patients to self-administer and the instructions can be administered via the internet.

Aim of the Study

The aim of this study was to investigate whether self-administered EFT leads to reduced pain perception, increased acceptance, coping ability, and health-related quality of life in individuals diagnosed with fibromyalgia.

Methods

The study was approved by the Regional Ethics Committee at Lund University in Lund, Sweden.

Subject Recruitment

Women of working age (20-65 years) with a diagnosis of fibromyalgia for fewer than 5 years who were on sick leave for at least 3 months for the condition were included in the study. Other requirements were access to the internet and a willingness to train in and then perform EFT daily for 8 weeks. Individuals with ongoing rehabilitation or a planned rehabilitation program within 6 months were excluded. The study group was recruited through an advertisement in a public pharmacy newspaper in Sweden and via several Swedish discussion groups on the internet for individuals with fibromyalgia. Participants confirmed their informed consent by sending in the 5 completed and validated questionnaires (explained below) distributed via the internet.

Randomization

A total of 109 people applied to the study, of which 86 sent in completed initial questionnaires. A lottery drawing of the latter took place, carried out by the study leader who was blindfolded. As the recruitment took time, the drawings were done for 10 to 20 individuals at a time. Half of the group members were selected for the intervention group to be given EFT training (n=43) and the other half was wait-listed (n=43). During the waiting period, those

who were wait-listed made up the control group. There were 17 dropouts in the intervention group; the remaining 26 individuals completed the intervention program. In the control group, 36 individuals completed the post-study surveys.

Intervention

Basic EFT involves holding a disturbing traumatic memory, emotion, or sensation in mental focus and simultaneously using the fingers to tap on a series of 13 specific points on the body (face, upper body, hand) that correspond to meridians used in Chinese medicine. The treatment has 3 steps: the *setup phrase*, the *tapping phase*, and the *gamut procedure*.

The setup phrase: The aim of the setup phrase is acceptance and affirmation. A recommended setup affirmation phrase is, “Even though I have this experience, I deeply and completely accept myself.” The setup phrase is repeated 3 times while rubbing what EFT protocol terms the “sore spot” located in a specific spot in the upper left or right portion of the chest, above the nipple line and toward the sternum (alternatively, the “karate point” located at the proximal and lateral side of the fifth metacarpal bone over the hypothenar muscle can be tapped). This statement sets the tone for tapping. It is not necessary to believe the setup phrase, but it is necessary to express it, preferably aloud, to oneself.²

The tapping phase: While tapping the 13 points about 7 times each, a reminder phrase (a short version of the affirmation) is repeated.

The gamut procedure: This involves performing what EFT protocol terms 9 “brain-stimulating actions”: 1) close eyes, 2) open eyes, 3) move eyes hard down right while holding the head steady, 4) move eyes hard down left while holding the head steady, 5) roll eyes clockwise, 6) roll counterclockwise, 7) hum 2 seconds of any song, 8) count rapidly from 1 to 5, 9) hum 2 seconds of a song again—all done while tapping what EFT protocol terms the “gamut point” on the back of the hand between the fourth and fifth metacarpal bones.

Besides assessment information (a series of questionnaires listed below), study instructions consisted of 4 documents and a log register form, all presented via the study’s home page. The documents, which were chapters from the book *To Accept the Unacceptable* written by this author (Stockholm, Värkstad, 2006),¹⁵ had the following titles: Accepting the Unacceptable, Energy Psychology, Training Program for Energy Tapping, To Dare and Be Willing to Choose.

Assessment

At the beginning of the study, and 8 weeks after its conclusion, all participants filled in the following validated questionnaires and Distress Rating Scale.

Validated Questionnaires:

1. SF-36: Health Questionnaire¹⁶
2. HAD: Hospital Anxiety and Depression Scale¹⁷
3. PCS: Pain Catastrophizing Scale^{18,19}
4. CPAQ: Chronic Pain Acceptance Questionnaire²⁰
5. GSE: General Self-efficacy Scale²¹⁻²³

Distress Rating Scale:

1. SUDS: Subjective Units of Distress Scale for Experienced Pain, the Influence of Pain and Stress²⁴

The treatment group used EFT 1x/day for 8 weeks. For every daily session, the EFT participants registered the severity of the treated problem or symptom on the distress rating scale, a numeric scale from 1 to 10 (1 = no problem, 10 = severe problem). Once a week they e-mailed their EFT distress rating sheets to the study leader, who also, when needed, instructed the participants via e-mail. Those who did not e-mail any sheets were reminded by phone calls.

Statistical Analysis

A t-test compared the treatment and wait-listed groups before the intervention. Analysis of variance (ANOVA) with repeated measures was used to analyze the outcome for different variables in both groups. Levene’s test of homogeneity of variance was used. For variables that were non-normally distributed, the non-parametric Wilcoxon Signed Rank Test for repeated measures in the two groups was used. As the variable “Role-Physical” (performance problems involving work or other activities due to physical reasons) was far from normally distributed, the non-parametric Wilcoxon Signed Rank Test was used in the 2 groups to analyze the pre-minus-post differences.

Results

Study Group and Dropouts

The study group consisted of 62 women, aged 29 to 65 (mean age 43.8, SD 8.8), 26 in the intervention group and 36 in the wait-listed/control group. Of the original 43 who were selected for the intervention group, 17 (40%) did not complete the intervention period of 8 weeks. Nine of those 17 did not even start the EFT program. Of those who completed the intervention period, the majority needed several reminders. In the wait-listed group there were 7 dropouts (16%). At study start there were no statistical differences between the groups regarding any of the measured parameters.

Pain and Health

As measured by the Subjective Units of Distress Scale for Experienced Pain (SUDS), self-reported pain decreased in the intervention group from 7 to 5. In the wait-listed group there was no decrease at all ($P=.02$). The influence of pain also decreased in the intervention group from a “very high degree” to a “rather high degree.” The individuals in the wait-listed group were influenced by their pain to a “very high degree” both before and after the study period ($P=.02$). A reduction in stress and tension was also observed in the intervention group compared to the wait-listed group ($P=.02$).

Improvements in health-related quality of life (SF-36) and anxiety and depression (HAD) are shown in Table 1. Statistically significant improvements after using EFT were observed for almost all measured aspects of health. There was a significant improvement in the variable “Role-Physical” in the intervention group ($P<.001$) but not in the wait-listed group.

Table 1. Mean (Standard Deviation) and Significance Levels for the Intervention and Wait-listed Groups With Regard to the Variables in SF-36 and HAD (ANOVA).

	Assessment	Intervention n=30 Mean (SD)	Waiting list n=36 Mean (SD)	Interaction (time x group) F _(1,65)	P value
SF-36					
Physical Functioning	Pre	46.9 (16.3)	43.2 (16.6)		
	Post	53.4 (16.3)	46.1 (18.8)	0.9	.30
Role-Physical ***	Pre	2.9 (8.1)	12.5 (24.3)		
	Post	35.6 (32.5)	18.8 (29.5)	12.9	.001**
Bodily Pain	Pre	26.6 (10.7)	21.9 (16.3)		
	Post	38.6 (17.4)	26.6 (15.6)	2.0	.20
General Health	Pre	35.8 (18.18)	32.8 (19.5)		
	Post	46.7 (19.1)	37.5 (23.2)	2.9	.09
Vitality	Pre	21.9 (14.3)	15.1 (11.9)		
	Post	35.8 (21.7)	18.1 (16.4)	5.3	.03*
Social Functioning	Pre	38.9 (20.1)	41.3 (25.5)		
	Post	55.8 (22.9)	42.7 (25.1)	5.7	.02*
Role-Emotional ***	Pre	29.5 (40.4)	41.7 (41.7)		
	Post	65.4 (40.5)	47.2 (46.0)	5.6	.02*
Mental Health	Pre	47.7 (17.5)	53.4 (22.1)		
	Post	66.9 (20.8)	58.2 (21.9)	7.0	.01*
HAD					
Anxiety	Pre	9.6 (4.3)	9.8 (5.1)		
	Post	7.4 (4.5)	9.7 (5.5)	4.5	.03*
Depression	Pre	9.7 (4.7)	8.8 (4.5)		
	Post	6.9 (4.4)	9.1 (5.1)	5.4	.02*
* Significant P value: $P < .05$ ** Significant P value: $P < .01$ *** "Role-Physical" and "Role-Emotional" mirror the ability to manage daily life with physical and emotional impairments					

Ability to Live With Pain

The PCS (Pain Catastrophizing Scale) consists of 3 subscales: 1) rumination, 2) magnification, and 3) helplessness.^{18,19} The EFT group reported significant improvements in all 3 subscales compared to those on the waiting list (Table 2). The CPAQ (Chronic Pain Acceptance Questionnaire; also Table 2), in the version used in this project, consists of 2 subscales: 1) activity engagement (pursuit of life activities regardless of pain) and 2) pain willingness (recognition that avoidance and control are often unworkable methods of adapting to chronic pain).⁶ Compared to the wait-listed group, those who practiced EFT reported increased activity level. There was, however, no difference between the groups when it came to pain willingness. Self-efficacy on the GSE (General Self-Efficacy Scale; also Table 2) is defined as a person's belief in his or her ability to organize and execute certain behaviors that are necessary in order to produce given attainments.²⁵ A difference between the groups was observed, but the difference was not statistically significant.

Number Needed to Treat

The normal values for anxiety and depression were below 8 (HAD).¹⁷ In an intent-to-treat analysis, the number needed to treat (NNT) was calculated for anxiety and depression.

Those individuals with abnormal HAD values in the beginning who, after intervention, achieved normal values, were designated as the number of treatment patients achieving the target. The NNT for anxiety was 3.1 (95% CI 2.0-8.1); for depression it was 3.5 (95% CI 2.0-13.9).

Discussion

Attrition and Compliance

The high dropout rate (40%) for the intervention group makes it difficult to generalize the results. About half of the dropouts did not discontinue EFT training because of lack of effect; they did not even start the training. Self-reported reasons for dropout included forgetfulness, poor self-discipline, lack of motivation, and too much to do. With the aim of assessing participant compliance, the individuals were requested to send a log register form each week. About half of the subjects found this to be too difficult. Instead, some of them wrote more informally in their own words their experience of the energy tapping. Therefore it was impossible to illustrate the improvement curve in a graph. At-home instructions for daily practice with EFT apparently need to be supplemented with motivational measures, such as contact with good role models who have positive experiences of using EFT.

Table 2. Mean (Standard Deviation) and Significance Levels for the Treatment and Wait-listed Groups With Regard to the Variables in PCS, CPAQ, and GSE (ANOVA).					
	Assessment	Intervention n=30 Mean (SD)	Waiting list n=36 Mean (SD)	Interaction (time x group) F _(1,65)	P Value
Pain Catastrophizing Scale (PCS)					
Rumination	Pre	8.4 (4.2)	7.8 (4.4)		
	Post	4.9 (3.7)	7.8 (4.0)	14.1	<.001***
Magnification	Pre	3.9 (2.6)	4.0 (2.9)		
	Post	2.4 (2.0)	4.1 (3.2)	8.2	.006**
Helplessness	Pre	11.4 (4.7)	11.6 (5.5)		
	Post	7.2 (4.5)	11.2 (5.1)	14.0	<.001***
Chronic Pain Acceptance Questionnaire (CPAQ)					
Activity Engagement	Pre	32.0 (11.6)	32.7 (11.9)		
	Post	40.7 (11.8)	33.7 (12.3)	12.1	.001**
Pain Willingness	Pre	21.4 (8.4)	21.6 (7.5)		
	Post	25.6 (8.9)	24.6 (7.8)	0.6	.40
General Self-efficacy Scale (GSE)					
Self-Efficacy	Pre	29.0 (4.7)	27.2 (5.8)		
	Post	31.6 (4.8)	28.6 (6.2)	2.1	.10
* Significant P value: <i>P</i> <.05 ** Significant P value: <i>P</i> <.01 *** Significant P value: <i>P</i> <.001					

This intervention group attrition is noteworthy. Despite the self-reported reasons for dropout just mentioned, scepticism and disbelief in the procedure may also be possible explanations. Whatever the case, in future studies following up even those who dropped out would ensure that the reasonable assumption of no side effects from the procedure is actually true.

Reasons for Improvement

Despite or thanks to actual EFT protocols, there were improvements among those who used energy tapping: The intensity of their pain as well as its influence was reduced. The results of this study do not make it possible to establish which effect was primary, pain intensity (how much it hurts) versus pain influence (what the pain does to the individual and how it interfere with the daily life). Nor was it possible to determine which physiological or psychological mechanisms were involved. However, L.M. McCracken and C. Eccleston at the Pain Management Unit, Royal National Hospital for Rheumatic Diseases, University of Bath, and K.E. Vowles at the Department of Psychology, West Virginia University, have shown that acceptance of chronic pain is associated with less pain.⁷ As acceptance is central in EFT, acceptance of pain probably led to reported reductions in pain intensity and pain influence. If that is the case, the question is: Why does the EFT procedure lead to acceptance? The setup phrase in EFT is an affirmation dealing with acceptance, which is reinforced by tapping. Earlier studies have shown relationships between affirmations of statements and outcome.²⁶⁻²⁸ Thus, I propose that acceptance of pain may be the key factor in the observed results.

From a Western school medical approach, it is difficult to understand the explanation model for meridian therapy since it

is about energy balance and Western medicine does not have a means of understanding energy as such. Nevertheless, alternative Western explanations of the EFT effect have been suggested. D. Feinstein proposes that EFT has the ability to reduce hyperarousal in the limbic system.¹⁴ R.A. Ruden's conclusion is that stimulation of the acupuncture points releases serotonin in the amygdala and the prefrontal cortex.²⁹ Another possibility comes from a study that showed endomorphin-1, beta endorphin, enkephalin, and serotonin levels increase in plasma and brain tissue through acupuncture application.³⁰ It has also been observed that the increases of endomorphin-1, beta endorphin, enkephalin, serotonin, and dopamine cause analgesia, sedation, and recovery in motor functions as well as having immunomodulator effects on the immune system.³⁰ It is thus possible that the acupressure element in EFT produces the same results.

Non-noxious stimulation of the skin leads to analgesic and sedative effects mediated through activation of oxytocinergic mechanisms.³¹ In specific, K. Uvnäs-Moberg, MD, professor at the Karolinska Institutet, Stockholm, Sweden, has shown that non-noxious sensory stimulation associated with friendly social interaction (when the treatment is led by a therapist) induces a psychophysiological response pattern in which release of oxytocin promotes sedation, relaxation, and decreased sympathoadrenal activity.³² In a study of the effects of EFT on auto accident victims suffering from PTSD, P.G. Swingle, earlier professor of psychology at the University of Ottawa, and his colleagues L. Pulos and M.K. Swingle, showed decreased right frontal cortex arousal in treating trauma with EFT following motor vehicle accidents.³³ However, it is still not possible to determine if EFT has any specific physiological effect.

Most likely, though, EFT has nonspecific psychological effects. The majority of subjects treated in this study experienced calmness after the tapping. The affirmations led to increased self-acceptance. The treatment may function as a symbolic act in a situation in which a person is desperately trying to accept a state of pain. Sometimes a symbolic act can free a person who is mired down in emotional problems. Repeated treatments may also have a desensitizing effect in, for example, phobias. For many individuals the fear of reality (pain) is worse than the reality (pain) itself. It is possible that EFT affects subconscious thoughts about fear in such a way that the individual is able to face reality and thus eliminate obstacles to change. Another psychological effect may be that the individual is provided a justification for breaking a non-functional behavior pattern. To his or her mind, improvement after treatment means that there was something to treat; the symptom was not self-imposed. These reasons are in agreement with reported observations that the treatment effect increases when a therapist treats the individual (vs self therapy).

In addition, the EFT procedure may be distracting or even hypnotic. In a trance state, the individual is more susceptible to suggestions. The affirmations included in the treatment may also have a meditative effect.¹⁵ As another possibility, the individual with chronic pain usually sees her or his problem through a filter of limitations that reinforces the notion that nothing will get better—a scenario that is classified as *more of the same*, such as more treatments by a physiotherapist, which does not result in a solution but only a feeling of hopelessness. P. Watzlawick, a theoretician in Communication Theory and Radical Constructivism, explains that patients often seek help in many places in the hope of getting better without actually achieving the desired reprieve.³⁴ But when they use another strategy entirely—for example, changing their attitude to the pain—they often do get better. Watzlawick calls this later change a *second-order change*, while “more of the same” (seeking more medical treatments) is called *first-order change*. Second-order change leads to a change that makes a difference, what Watzlawick calls a “change of change.” For a second-order change to take place, you have to approach the problem in quite a different and unexpected way. EFT is a different and unexpected therapeutic method that can result in a surprising improvement and thus may facilitate a second order of change in the individual with chronic pain.

Conclusion

The sample size was small and the dropout rate for the therapy group was high. Therefore the surprisingly good results for that group have to be interpreted with caution. The next research step would be to personally interview, examine, and diagnose a much larger group of participants before and after the intervention period, and motivate them to practice EFT daily. This could be accomplished by using good role models who have benefited from EFT. As EFT is a simple, quick, inexpensive, accessible self-administered method without apparent negative side effects, which can even be taught by the internet, it is well worthwhile for practitioners to recommend EFT to their patients with fibromyalgia (pain) as either a complementary process or as another option when customary treatment fails.

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