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Emotional Freedom Technique (EFT) Effects on Psychoimmunological Factors of Chemically Pulmonary Injured Veterans

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ABSTRACT

Emotional Freedom Technique (EFT) as a new therapeutic technique in energy psychology has positive effects on psychological and physiological symptoms, and quality of life. In this research we studied the effect of this treatment on immunological factors.

This study tested whether 8-week group sessions of EFT (compared to a wait-list control group) with emphasis on patient's respiratory, psychological and immunological problems in chemically pulmonary injured veterans (N=28) can affect on immunological and psychological factors.

Mixed effect linear models indicated that EFT improved mental health (F=79.24, p=0) and health-related quality of life (F=13.89, p=0.001), decreased somatic symptoms (F=5.81, p=0.02), anxiety/insomnia (F=24.03, p<0.001), social dysfunction (F=21.59, p<0.001), frequency and severity of respiratory symptoms (F=20.38, p<0.001), and increased lymphocyte proliferation with nonspecific mitogens Concanavalin A (Con A) (F=14.32, p=0.001) and Phytohemagglutinin (PHA) (F=12.35, p=0.002), and peripheral blood IL-17 (F=9.11, p=0.006).

This study provides an initial indication that EFT may be a new therapeutic approach for improving psychological and immunological factors.

Keywords: Emotion, Health, Immunological Factors; Lung Injury; Mental Health; Psychological Techniques; Quality of Life; Veterans

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INTRODUCTION

Emotional freedom technique (EFT) as an energy psychology treatment method, combines cognitive functions and physical components (tapping on acupunctures points) for providing psychological changes.[1] Supporters of this therapeutic method claim that by tapping on meridional points of body and repeating a short and significant phrase about one's problem, EFT can reduce patient's underlying emotional distress that does not have accurate diagnosis or definition.[2]

Previous studies showed that EFT is effective in treatments of veterans. For example, in Psychological Trauma Symptom Disorder (PTSD) patients reduces psychological and physiological PTSD symptoms, psychological distress, depression, anxiety and pain perception.[3-7] It has been shown that EFT can also be an effective part of treatment package in non-veterans for example, in animal phobias,[2,8-10] in tension-type headache sufferers, which reduces frequency and severity of pain and improve quality of life,[11] in students, which reduces depression, anxiety, and test anxiety,[12-14] in addict persons, which reduces anxiety, hostility and obsessive-compulsive disorders (OCD) symptoms and improve somatization symptoms and interpersonal sensitivity,[15] in healthcare workers, which reduces psychological distress, pain and cravings,[16] in persons without clinical signs and symptoms, which reduces depression, anxiety and cortisol level.[17] Also EFT increases acceptance, coping and quality of life in individuals with fibromyalgia.[18]

Pulmonary injured veterans with chemical weapons encounter many stressors like chronic respiratory problems, war induced psychological and physical problems and other routine stressors that affect on their health, immunity and quality of life. Furthermore, they are on palliative medications like corticosteroids with immunosuppressive effects. Thus, new non-drug treatment strategies that can improve immunity and health of these patients is very important in their rehabilitation. This paper aimed to describe the effects of EFT on chemically injured pulmonary veterans and explain immunological effects of EFT on them.

MATERIALS AND METHODS

Participants

This study was done in a 12-month period (November 2012-october 2013) and the Participants (N=28) were male veterans (age 43-58; Mean=49 years) with pulmonary injury by mustard gas in Iran-Iraq war 1980–1988. The participants had mild to moderate pulmonary problems based on Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria (FEV1/FVC<0.70 and $FEV_1 \geq 50\%$ normal)[19] without any history of psychotic disorder or any other chronic diseases. All of them were Caucasian race and inhabitants in Tehran, Iran.

Procedure

Participants were asked to complete study measures; general health questionnaire (GHQ), and *Saint George* respiratory questionnaires (SGRQ). They were then referred to pasture institute of Iran, for immunological tests. After this first evaluation, participants were randomly replaced in two groups; EFT group (N=14) and Wait- List (WL) control group (N=14) using computerized number generator. EFT group received 8 sessions of EFT. In the first session after taking 5cc vein blood, the history and applications of this method were described for patients. Then an educational film about the other patients' previous experience was shown. Afterwards, the therapists helped patients for identifying three common distressing problems. These problems were; respiratory symptoms such as cough and shortness of breath, immune deficiency and recurrent infectious diseases and psychological problems like depression and anxiety. For each of these problems, two part statements were made, separately in order to being used in EFT practicing period. From the third session these common problems were targeted and tapping was started. EFT was administered by a clinician specialist (MD-PhD in psychology) and consisted of 8 weekly 90 min group sessions, and 2 times of daily home practices. Following the 8-week period, all participants returned to complete the same measures of first evaluation .Again 5cc blood sample was taken by laboratory technicians and sent for immunological tests. During this 8-week period, WL group were asked not to participate in any new intervention or treatment and received EFT program after second evaluation.

EFT

EFT as an energy Psychology treatment method, is a form of counseling intervention that draws on various theories of alternative medicine including acupuncture, neuro-linguistic programming, energy medicine, and

thought field therapy; which combines cognitive functions and physical components (tapping on acupunctures points) for providing psychological changes [1]. Supporters of this therapeutic method claim that by tapping on meridional points of body and the positive affirmations (repeating short and significant phrase about one's problems), EFT can decrease emotional distress and its consequences in patients who do not have accurate diagnosis or definition[2]. Advocates also claim that the technique may be used to treat a wide variety of physical and psychological disorders.

Measures and Data Analytic Approach

GHQ-28

The GHQ questionnaire as a screening tool for detecting psychiatric problems was first developed in 1978 by Goldberg. It has 4 subscales including; "somatic symptoms" (items1-7), "anxiety/insomnia" (items8-14), "social dysfunction" (items 15-21) and "depression" (items22-28). Each question has 4 responses: not at all, no more than usual, rather more than usual, and much more than usual. These responses are scored from 0 to 3. Then a subscale score is from 0 to 21 and total score is from 0 to 84.

However, no cut off point on the GHQ-28 demonstrated satisfactory sensitivity; the optimum cut off point for the GHQ-28 in relation to DSM-III-R criteria was 11/12 (sensitivity 81%, specificity 68%). Goldberg (1978) suggests that participants with total scores of 23 or below should be classified as non-psychiatric, while participants with scores > 24 may be classified as a patient with psychiatric problems.[20]

SGRQ

The SGRQ is developed by Jones et al as a self-administered and standardized pulmonary disease-specific questionnaire. It has 50 items in 76 levels and 3 subscales: "Symptoms" including frequency and severity of several respiratory symptoms (8 items), "Activity" includes activities that cause or are limited by breathlessness (16 items), and "Impacts" including psychological problems and social functioning resulted from pulmonary disease (26 items). Each item has a weight attached. This Questionnaire has 4 scores; 3 scores for 3 subscales, and an overall score. All of scores range from 0–100. Zero indicating no impairment in quality of life.[21]

Immunological Tests

Lymphocyte Transformation Test *(*LTT)

LTT is the most widespread functional in vitro assessment of the immune system. It measures lymphocyte proliferation in response to stimuli. The basic assumption in this test is: "the greater proliferation, the more effective immune response".[22] Peripheral blood mononuclear cells (PBMCs) were isolated from heparinized blood by density gradient centrifugation over Histopaque-1077 (Sigma Aldrich, St. Louis, MO, USA). PBMCs (4×10^5) were distributed in duplicates in 96-well microtiter plates (SPL, South Korea) in a final volume of 200µl, with phytohaemagglutinin (PHA, 15ug/ml, Gibco), Concanavalin A (ConA) (5ug/ml, Sigma) or medium as control. Briefly, 4×10^5 viable cells were cultured in RPMI with 10 mM HEPES, supplemented with 2 mM L-glutamine, 10% heat-inactivated fetal bovine serum, 100U/ml penicillin, and 100mg/ml streptomycin. Cultures were incubated for 4 days and processed for incorporation of [^{3}H]-thymidine.

The enzyme-linked Immunosorbent Assay (ELISA)

The supernatant of cells in 24 well plates (cultured as indicated earlier) 72h after stimulation were collected, stored at -70°C and concentration of IL-17 was quantified by sandwich ELISA technique using commercial kits (eBioscience, San Diego, CA) according to manufacturer's procedure. Samples were measured in duplicates.

Data Analysis

This is a mixed factorial 2× (2) design, with within subject (two times evaluation) and between subject (with and without intervention) factors. We used "mixed factorial analyses of variance" test for analyzing data in each dependent variables. Then, if we had significant interactional effect, we used "paired-sample t-test" for comparing before and after intervention data of each group, and "Independent-Sample t-test" for comparing after intervention data of two groups. These analyses were done for each dependent variable separately.

RESULTS

Preliminary Analyses

The EFT and WL groups did not significantly differ on any dependent variables at baseline (Table 1). This

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Table 1. Characteristics of randomly selected participants before intervention

Variable	EFT Group	Waiting list Group	Difference Statistic
Age	47.92 (5.21)	50 (4.99)	t=-1.07, *p*=0.29
GHQ-TOTAL	35.08 (11.92)	37.80 (0.87)	t =-0.85 , *p* =0.4
SGRQ – TOTAL	68.65 (10.54)	62.31 (11.69)	t = 1.50 , *p* =0.14
LTT(SI)- CONA	10.21 (5.13)	14.64 (9.23)	t = -1.56 , *p* = 0.12
LTT(SI)- PHA	18 (8.70)	22.21 (17.19)	t = -0.81 , *p* = 0.42
IL-17	224.23 (143.90)	214.51 (166.98)	t = 0.16 , *p* =0.87

indicates successful randomization.

EFT Training and GHQ

The EFT reduces GHQ total score compared to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in GHQ total score (F(1,26)=79.24, *p*=0) (Table 2). Specifically, EFT participants showed significant decreases in GHQ total score from before intervention to after intervention (t=4.74, *p*=0) compared to significant increases from before intervention to after intervention in WL group (t=-18.07, *p*=0) (Table 3). As an additional test of EFT effects on GHQ total score, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower GHQ total score at after intervention compared to WL participants (t= -5.07, *p*=0) (Table 4), after controlling for baseline GHQ total score. Results are shown in Figure 1.

The EFT reduces "somatic symptoms" subscale score of GHQ compared to WL condition, a mixed effect linear model revealed a significant treatmentcondition× time interaction in "somatic symptoms" score (F(1,26)=5.81, *p*=0.02) (Table 2). Specifically, EFT participants showed significant decreases in "somatic symptoms" score from before intervention to after intervention (t=3.1, *p*=0.01) comparing to no changes from before intervention to after intervention in WL group (t=0.52, *p*=0.61) (Table 3). AS an additional test of EFT effects on "somatic symptoms" score, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower "somatic symptoms" subscale score of GHQ at after intervention comparing to WL participants (t=-3.47, *p*=0.002) (Table 4).

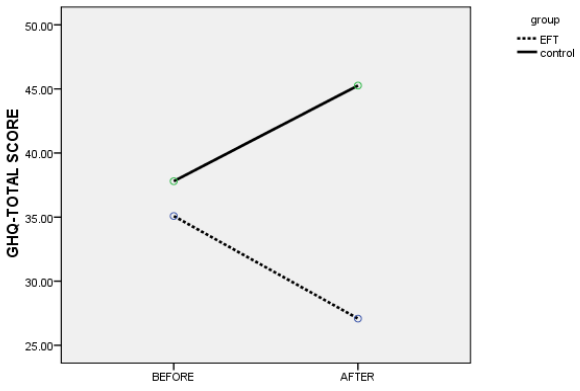

Figure 1. Results of GHQ total score, after and before treatments in two groups

The EFT reduces "anxiety/insomnia" subscale score of GHQ comparing to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in "anxiety/insomnia" score (F(1,26)=24.03, *p*<0.001) (Table 2). Specifically, EFT participants showed significant decreases in "anxiety/insomnia" score from before intervention to after intervention (t=4.19, *p*=0.001) comparing to significant increases from before intervention to after intervention in WL group (t=-2.69, *p*=0.01) (table 3). AS an additional test of EFT effects on "anxiety/insomnia" score, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower "anxiety/insomnia" subscale score of GHQ at after intervention comparing to WL participants (t=-5.15, *p*<0.001) (Table 4).

The EFT reduces " social dysfunction " subscale score of GHQ comparing to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in " social dysfunction "score (F(1,26)=21.59, *p*<0.001) (Table 2). Specifically, EFT participants showed significant decreases in "social dysfunction" score from before intervention to after intervention (t=3.98, *p*=0.002) compared to significant increases from before intervention to after intervention in WL group (t=-2.51,

p=0.02) (table 3). AS an additional test of EFT effects on "social dysfunction" score, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower "social dysfunction" subscale score of GHQ at after intervention compared to WL participants (t=-6.57, *p*=0) (Table 4).

The EFT did not reduce "depression" subscale score of GHQ compared to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in "depression" score (F(1,26)=32.77, *p*<0.001) (Table 2). Specifically, EFT participants did not show significant decreases in "depression" score from before intervention to after intervention (t=1.34, *p*=0.2) compared to significant increases from before intervention to after intervention in WL group (t=-1.82, *p*<0.001) (Table 3). As an additional test of EFT effects on "depression" score, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower"depression" subscale score

of GHQ at after intervention compared to WL participants (t=-3.55, *p*=0.001) (Table 4)

EFT Training and Health- Related Quality of Life (SGRQ)

The EFT reduces SGRQ total score in comparison to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in SGRQ total score (F(1,26)=13.89, *p*=0.001) (Table 2). Specifically, EFT participants showed significant decreases in SGRQ total score from before intervention to after intervention (t=3.65, *p*=0.003) compared to no significant changes from before

Table 2. Effects of EFT on all dependent variables

Variables		Pre mean	SE	Post mean	SE	*F*- value	*P*. value
GHQ-Total	EFT	35.08	3.18	27.08	3.55	79.24	0.003
	WL	37.80	0.23	45.26	0.39		
GHQ-Somatic Symptom	EFT	10.75	0.97	8.75	1.04	5.81	0.02
	WL	12.64	0.27	12.45	0.19		
GHQ-Anxiety/Insomnia	EFT	11.41	1.04	8.08	1.06	24.03	0.001
	WL	12.78	0.25	13.64	0.20		
GHQ-Social Dysfunction	EFT	9.16	0.69	7	0.54	21.59	0.002
	WL	9.71	0.34	10.93	0.24		
GHQ-Depression	EFT	3.75	1.21	3.25	1.13	32.07	0.006
	WL	4.78	0.22	7.55	0.41		
SGRQ-Total	EFT	68.65	2.81	59.87	3.53	13.89	0.001
	WL	62.31	3.12	66.80	1.89		
SGRQ-Symptom	EFT	81.33	3.06	66.87	3.38	20.38	0.001
	WL	71.96	2.62	81.11	2.39		
SGRQ- Activity	EFT	64.14	4.01	63.34	3.59	6.74	0.01
	WL	60.54	4.47	70.39	3.75		
SGRQ- Impact	EFT	46.51	6.42	47.82	4.95	0.05	0.80
	WL	47.49	3.09	50.45	2.92		
LTT(SI)- ConA	EFT	10.21	1.37	23.35	5.54	14.32	0.001
	WL	14.64	2.46	7.42	1.28		
LTT(SI)- PHA	EFT	18	2.32	39.50	8.77	12.35	0.002
	WL	22.21	4.59	12	1.17		
IL-17	EFT	224.23	38.45	615.49	117.11	9.11	0.06
	WL	214.51	44.62	276.90	59.61		

ConA: Concanavalin A
PHA: Phytohemagglutinin
GHQ: general health questionnaire
SGRQ: *Saint George* respiratory questionnaires
LTT: lymphocyte transformation test
IL: interleukin

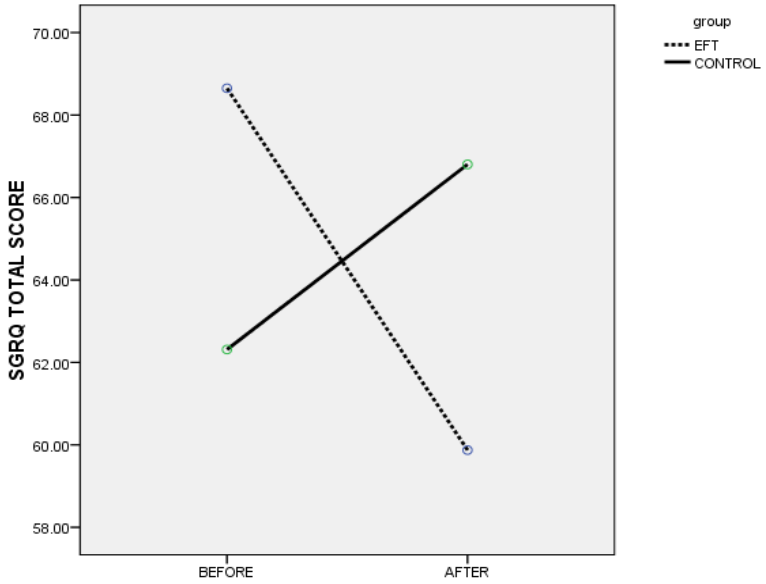

Figure 2. Results of SGRQ total score, after and before treatment in the two groups

Table 3. Paired- sample t-test table in each group

Variables	Group	Mean Diff (Before and After of each group)	*T*- value	*P*- Value
GHQ-Total	EFT	8	4.74	0.005
	WL	-7.46	-18.07	0.001
GHQ-Somatic Symptom	EFT	2	3.1	.01
	WL	0.18	0.52	0.61
GHQ-Anxiety/Insomnia	EFT	3.32	4.19	.001
	WL	0.86	-2.69	0.01
GHQ-Social Dysfunction	EFT	2.16	3.98	.002
	WL	-1.21	-2.51	0.02
GHQ-Depression	EFT	0.5	1.34	.20
	WL	-2.76	-1.82	0
SGRQ-Total	EFT	8.77	3.65	0.003
	WL	-4.49	-1.70	0.11
SGRQ-Symptom	EFT	14.46	5.20	0
	WL	-9.19	-2.06	0.05
SGRQ- Activity	EFT	0.79	0.24	.81
	WL	-9.94	-3.92	0.002
LTT(SI)- ConA	EFT	-13.14	-2.56	0.02
	WL	7.21	4.26	0.001
LTT(SI)- PHA	EFT	-21.50	-2.63	0.02
	WL	10.21	2.66	0.01
IL-17	EFT	-391.2	-4	0.001
	WL	-62.39	-1.29	0.21

SGRQ: *Saint George* respiratory questionnaires
LTT: lymphocyte transformation test
GHQ: general health questionnaire
ConA: Concanavalin A
PHA: Phytohemagglutinin
IL: interleukin

intervention to after intervention in WL group (t=-1.70, *p*=0.1) (Table 3).

As an additional test of EFT effects on SGRQ total score, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower SGRQ total score at after intervention compared to WL participants (t=-1.72, *p*=0.05) (Table 4), after controlling for baseline SGRQ total score. Results are shown in figure 2.

The EFT reduces "Symptoms" subscale score of SGRQ comparing to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in "Symptoms" subscale score of SGRQ (F(1,26)=20.38, *p*<0.001) (Table 2). Specifically, EFT participants showed significant decreases in "Symptoms" subscale score of SGRQ from before intervention to after intervention (t=5.20, *p*<0.001) compared to significant increases from before intervention to after intervention in WL group (t=-2.06, *p*=0.05) (Table 3). As an additional test of EFT effects on "Symptoms" subscale score of SGRQ, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed lower "Symptoms" subscale score of SGRQ at after intervention compared to WL participants(t=-3.43, *p*=0.002) (Table 4).

The EFT reduces "activity" subscale score of SGRQ comparing to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in "activity" subscale score of SGRQ (F(1,26)=6.74, *p*=0.01) (Table 2). Specifically, EFT participants did not show significant changes in "activity" subscale score of SGRQ from before intervention to after intervention (t=0.24, *p*=0.81) compared to significant increases from before intervention to after intervention in WL group (t=-3.92, *p*=0.002) (Table 3). As an additional test of EFT effects on "activity" subscale score of SGRQ, we conducted follow-up independent- sample t-test in our subsample: EFT participants did not show significant differences in "activity" subscale score of SGRQ at after intervention compared to WL participants (t=-1.35, *p*=0.18).

A mixed effect linear model revealed no significant treatment condition× time interaction in "impact" subscale score of SGRQ (F(1,26)=0.05, *p*=0.8) (Table 4).

EFT Training and LTT with ConA

The EFT increases LTT(SI)- ConA comparing to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in LTT(SI)- ConA (F(1,26)=14.32, *p*=0.001) (Table 2). Specifically, EFT participants showed significant increases in LTT (SI) - ConA in comparison between before and after intervention results (t=-2.56, *p*=0.02) compared to significant decreases from before intervention to after intervention in WL group (t= 4.26, *p*=0.001) (Table 3). As an additional test of EFT effects on LTT (SI) - ConA, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed higher LTT(SI)- ConA at after intervention compared to WL participants(t=2.79, *p*=0.01) (Table 4), after controlling for baseline LTT(SI)- ConA. These results are shown in figure 3.

EFT Training and LTT with PHA

The EFT increases LTT (SI)- PHA comparing to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in LTT(SI)- PHA (F(1,26)=12.35, *p*=0.002) (Table 2). Specifically, EFT participants showed significant increases LTT (SI) - PHA from before intervention to after intervention (t=-2.63, *p*=0.02) compared to significant decreases from before intervention to after intervention in WL group (t= 4.26, *p*=0.001) (Table 3). As an additional test of EFT effects on LTT (SI) - PHA, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed higher LTT(SI)- ConA at after intervention compared to WL participants (t=3.10, *p*=0.005) (Table 4), after controlling for baseline LTT(SI)- PHA These results are shown in Figure 4.

EFT training and IL-17 ELISA

The EFT increased IL-17 compared to WL condition, a mixed effect linear model revealed a significant treatment condition× time interaction in IL-17 (F (1,26)=9.11, *p*=0.006) (Table 2). Specifically, EFT participants showed significant increases in IL-17 from before intervention to after intervention (t=-4, *p*=0.001) compared to no significant changes from before intervention to after intervention in WL group (t= -1.29, *p*=0.21(Table 3)). As an additional test of EFT effects on IL-17, we conducted follow-up independent- sample t-test in our subsample: EFT participants showed higher IL-17 at after intervention compared to WL participants (t=2.57, *p*=0.01) (Table 4), after controlling for baseline IL-17. These results are shown in Figure 5.

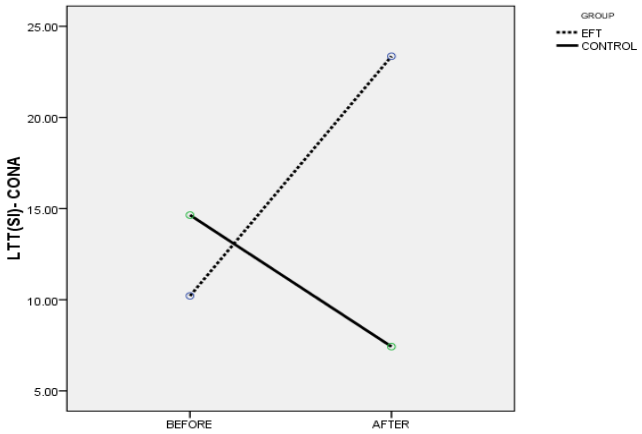

Figure 3. Results LTT with ConA of score, after and before treatment in the two groups

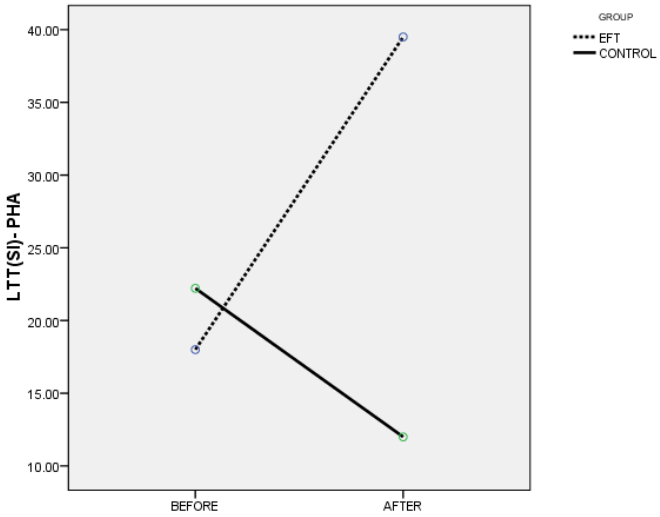

Figure 4. Results of LTT with PHA scores after and before treatment in the two groups.

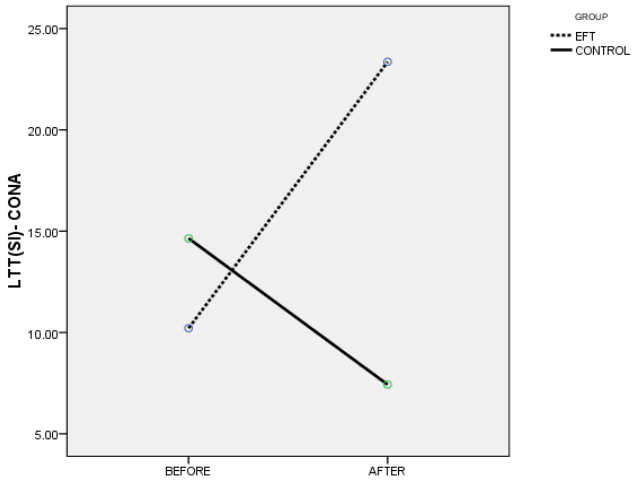

Figure 5. Results of peripheral blood IL-17, after and before treatment in the two groups

Table 4. Independent-sample t-test in dependent variables in each group

Variable	Group	Mean Diff	*T*- value	*P*- Value
GHQ-Total	EFT	-18.18	-5.07	$p<0.001$
	WL			
GHQ-Somatic Symptom	EFT	-3.70	-3.47	0.002
	WL			
GHQ-Anxiety/Insomnia	EFT	-5.56	-5.15	$p<0.001$
	WL			
GHQ-Social Dysfunction	EFT	-3.93	-6.57	$p<0.001$
	WL			
GHQ-Depression	EFT	-4.30	-3.55	0.001
	WL			
SGRQ-Total	EFT	-6.93	-1.72	0.05
	WL			
SGRQ-Symptom	EFT	-14.24	-3.43	0.002
	WL			
SGRQ- Activity	EFT	-7.04	-1.35	0.18
	WL			
	WL			
LTT(SI)- ConA	EFT	15.92	2.79	0.01
	WL			
LTT(SI)- PHA	EFT	27.50	3.10	0.005
	WL			
IL-17	EFT	338.59	2.57	0.01
	WL			

DISCUSSION

Using a randomized controlled trial, this study identifies EFT as a new therapeutic approach for improving mental health, health- related quality of life and immunological factors in chemically pulmonary injured veterans. Although previous studies suggest a role for EFT in reducing psychological distress, depression, anxiety, and other psychological factors and improving quality of life, this is the first study to show that EFT can affect on immunological factors.

In improving mental health, this study shows that EFT reduces somatic symptoms, anxiety/insomnia and social dysfunction. These results are paralleled to the results of previous studies.[3-7,12-14]

In improving health- related quality of life, frequency and severity of pulmonary symptoms, and activity, results of this study are paralleled to results of Bougea et al,[11] study on tension headache sufferer, and Brattberg[18] in individuals with fibromyalgia.

In improving immunological factors, our study shows that EFT can increase lymphocyte proliferation. There is an assumption that greater proliferation is association with more effectiveness of immune responses.[22] Furthermore, EFT can increase IL-17 in peripheral blood of chemically pulmonary injured veterans. IL-17 is a proinflammatory cytokine produced by activated memory T cells and has a key role in host's defense against microbial infections such as mycobacterium tuberculosis.[23] It has a key role in the initiation and maintenance of inflammatory responses.[24] The cells that produce IL-17, have important roles in controlling immune and inflammatory reactions.[25]

Many studies have shown that stress can affect function and number of immune cells,[26] production of many cytokines, like IL-4, IFN-γ, L-10 [27,28] and reduction of lymphocyte proliferation.[29,30] Furthermore, stress management interventions can reduce immunosuppressive effects of stressors.[27] There are many papers on the effect of other stress management techniques like mindfulness based stress reduction (MBSR) on immunological factors, but there is no study about the EFT and immunity.

The present study makes two contributions to the literature. First, this work provides a promising initial indication that EFT may improve immune function and thereby individual's health. Secondly, consistent with the previous findings, we found that EFT could improve psychological functioning and decrease severity and frequency of chronic disease symptoms (respiratory symptoms), and overall quality of life. It will be important for future studies to replicate the present study in large samples with control group and examining other immunological factors.

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