

Effects of Tai Chi and Foot Reflexology on Selected Psychological Variables in Arthritis Patients

^aK. Jothi, ^bI. Aroquiaradje Cesar

^aAssociate Professor, YMCA College of Physical Education, Chennai 600035.

^bPh.D. Scholar

Abstract

The aim of this study was to find out the effects of Tai Chi and Foot Reflexology on stress and depression in arthritis patients. 45 female adult suffering from Rheumatoid arthritis (RA) volunteered to serve as subjects were randomly selected. Their age ranged from 45 to 55 years. All the subjects were taking usual drugs as suggested by their physician. All the patients attended this study from their respective homes. The subjects were randomly divided into three groups, namely, Tai Chi Training (TCT) group and foot reflexology treatment (FRT) group, and the third group was kept under control consisting of 15 each. Experimental groups were provided with respective treatment for six weeks. Data on stress and depression were collected using standard questionnaire both at prior to and after experimental treatments and subjected to statistical treatment using ANCOVA. Results of the study proved experimental treatments that Tai Chi training and Foot Reflexology training significantly reduced rheumatoid arthritis (RA) patient's stress and depression. The mean values, adjusted mean values and multiple comparisons of adjusted means proved that Tai Chi Training (TCT) group was better than and foot reflexology treatment (FRT) group on stress and depression. However, these differences between TCT and FRT training were not significant. It was concluded that TCT and FRT can be safely used for the benefit of rheumatoid arthritis (RA) patients to reduce their stress and depression.

KEYWORDS: Tai Chi, Foot Reflexology, Stress, Depression, Rheumatoid Arthritis.

Introduction

Arthritis is a form of joint disorder that involves inflammation of one or more joints. (The American Heritage Dictionary of the English, 2000) There are over 100 different forms of arthritis. The most common form, osteoarthritis (degenerative joint disease), is a result of trauma to the joint, infection of the joint, or age. Other arthritis forms are rheumatoid arthritis, psoriatic arthritis, and related autoimmune diseases. Septic arthritis is caused by joint infection. The major complaint by individuals who have arthritis is joint pain. Pain is often a constant and may be localized to the joint affected. The pain from arthritis is due to inflammation that occurs around the joint, damage to the joint from disease, daily wear and tear of joint, muscle strains caused by forceful movements against stiff, painful joints and fatigue.

Various treatments are available. Non-pharmacological treatment includes physical therapy, orthoses, occupational therapy and nutritional therapy but do not stop progression of joint destruction. Analgesia (painkillers) and anti-inflammatory drugs, including steroids, are used to suppress the symptoms,

while disease-modifying anti-rheumatic drugs (DMARDs) are required to inhibit or halt the underlying immune process and prevent long-term damage. In recent times, the newer group of biologics has increased treatment options.

Tai Chi, as it is practiced in the west today, can perhaps best be thought of as a moving form of yoga and meditation combined. There are a number of so-called forms (sometimes also called 'sets') which consist of a sequence of movements. Many of these movements are originally derived from the martial arts (and perhaps even more ancestrally than that, from the natural movements of animals and birds) although the way they are performed in Tai Chi is slowly, softly and gracefully with smooth and even transitions between them.

Another aim of Tai Chi is to foster a calm and tranquil mind, focused on the precise execution of these exercises. Learning to do them correctly provides a practical avenue for learning about such things as balance, alignment, fine-scale motor control, rhythm of movement, the genesis of movement from the body's vital center, and so on. Thus the practice of Tai Chi can in some measure contribute to being able to better stand, walk, move, run, etc. in other spheres of life as well. Many practitioners notice benefits in terms of correcting poor postural, alignment or movement patterns which can contribute to tension or injury. Furthermore the meditative nature of the exercises is calming and relaxing in and of itself (Adler PA, Roberts BL, 2006).

Vedantha Maharshi (1983) in his Simplified Kundalini Teaching says Foot Reflexology helps Nature achieve homeostasis. Overactive glands or organs can be helped to return to normal. Conversely, if an organ or a gland is underactive, Reflexology can help return it to its normal functioning level. It is important to note here that the normalization action of reflexology is never one of opposite extreme. In other words, once homeostasis or a normal condition is achieved, working the area too much cannot unbalance it. Overworking can cause some minor reactions such as diarrhea or perhaps some nasal mucus being secreted (runny nose). These reactions though are cleansing poisons from the body. Succinctly, Reflexology cannot harm a system, it simply brings it back into balance. Reflexology helps Nature achieve homeostasis. Overactive glands or organs can be helped to return to normal. Conversely, if an organ or a gland is underactive, Reflexology can help return it to its normally functioning level. It is important to note here that the normalization action of reflexology is never one of opposite extreme. In other words, once homeostasis or a normal condition is achieved, working the area too much cannot unbalance it. Overworking can cause some minor reactions such as diarrhea or perhaps some nasal mucus being secreted (runny nose).

Mildred Carter (1969) defined "Reflexology is Nature's push-button" Secret of Vibrant health more dynamic living, abundant personal energy, better living without pain for the perfection in activities". Reflexology is a science that deals with the principle that there are reflex areas in the feet and hands that correspond to all of the organs and systems in the body. Doing reflexology means more than working on your feet. It is actually working with the person, attempting to mobilize inner energies (physical and mental in conflation) in order to fight any imbalance in the system. The reflexologists, systematically approach, with much empathy, that neglected area between body and soul where modern medical practice normally stops short. And indeed, how often we hear

medical experts tell us that ultimately recovery depends on the determination, trust, and optimism of the patient. Unfortunately, medicine has little to say about the means of cultivating such an attitude, and here is where Advanced Foot Reflexology performs so well.

Reflexology deals with the principle that there are reflex points on the hands and feet which correspond to all of the body's glands, organs and structures. By manipulating or applying specific pressure techniques to the different reflex points, it is possible to initiate healing in the corresponding area of the body. When illness or imbalances occur, the energy channels that flow through our bodies become blocked. A Reflexology treatment aims to destroy these blockages, allowing energy to flow freely again and restoring the body's natural balance and good health. (Judith Berger and Judith Sachs, 1997)

It is the interest of this study how far the Tai Chi Training (TCT) and foot reflexology treatment (FRT) influences stress and depression among Rheumatoid arthritis (RA) patients.

METHODOLOGY

45 female adults suffering from Rheumatoid arthritis (RA) volunteered to serve as subjects were randomly selected. Their age ranged from 45 to 55 years. All the subjects were taking usual drugs as suggested by their physician. All the patients attended this study from their respective homes. The subjects were randomly divided into three groups, namely, Tai Chi Training (TCT) group and foot reflexology treatment (FRT) group, and the third group was kept as control group. Only the subjects with reasonable physical ability and willingness to undergo the experimental training programme volunteered were included in the study. At prior to the experimental treatment the subjects level of stress and depressions due to Rheumatoid arthritis were collected using standard questionnaires Everly, G.S. and Giordano, D.E. (1980) for stress and Goldberg Depression Questionnaire. The Tai Chi Training (TCT) group and foot reflexology treatment (FRT) group subjects were provided with detailed Tai Chi Training and foot reflexology training for six weeks and the control group did not participate in any special treatment. After the experimental treatment, post test scores were obtained on stress and depression using the same questionnaires. The differences between the initial and final scores on selected variables were considered as influence of respective treatments. The collected data were subjected to statistical treatment using ANCOVA.

RESULTS

Table-I
Effects of Tai Chi Training And Foot Reflexology Training on Stress and Depression among Rheumatoid Arthritis Patients

	TCT Group	FRT Group	CONTROL GROUP	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained F
STRESS								
Pre Test Mean	27.47	25.80	25.07	Between	45.38	2	22.69	1.62
				Within	589.07	42	14.03	
Post Test Mean	24.00	23.47	24.93	Between	16.53	2	8.27	0.55
				Within	636.67	42	15.16	
Adjusted Post Test Mean	22.77	23.75	25.88	Between	71.26	2	35.63	9.51
				Within	153.55	41	3.75	
Mean Diff	3.47	2.33	0.13					
DEPRESSION								
Pre Test Mean	37.47	35.73	35.07	Between	46.04	2	23.02	1.66
				Within	583.60	42	13.90	
Post Test Mean	34.00	33.33	34.93	Between	19.38	2	9.69	0.60
				Within	680.27	42	16.20	
Adjusted Post Test Mean	32.69	33.67	35.90	Between	76.48	2	38.24	10.08
				Within	155.50	41	3.79	
Mean Diff	3.47	2.40	0.13					

* Significant at 0.05 level.

Table-II

Multiple Comparisons of Paired Adjusted Means and Scheffe's Post Hoc Analysis Results on Stress and Depression

TCT Group	FRT Group	Control Group	MEAN DIFF	Reqd. C.I
Stress				
22.77	23.75		0.98	1.83
22.77		25.88	3.11*	1.83
	23.75	25.88	2.13*	1.83
Depression				
32.69	33.67		0.98	1.84
32.69		35.90	3.21*	1.84
	33.67	35.90	2.23*	1.84

*Significant at 0.05 level.

DISCUSSIONS

The results presented in Tables I and II proved that experimental treatments that Tai Chi Training and foot reflexology training significantly reduced Rheumatoid Arthritis (RA) patients stress and depression. The mean values, adjusted mean values and multiple comparisons of adjusted means proved that Tai Chi Training (TCT) training was better than and foot reflexology training (FRT) on stress and depression. However, these differences between TCT and FRT training were not significant. Dechamps A, et. al. (2009) found changes in weight, body composition, heart rate, blood pressure, mobility scores, mood due to 30 week period Tai Chi. Bagheri-Nesami M et al. (2014) found significant reduction in anxiety due to foot reflexology massage. Chyu MC, et.al. (2011) found Tai Chi, qigong, and yoga-for Osteoarthritis (OA) management and evaluates their benefits in pain reduction, muscle strength, physical function, stiffness, balance, fear of falling, self-efficacy, quality of life, and psychological outcomes in patients with Osteoarthritis (OA). Moyle W et al. (2013) explored effectiveness of foot massage for care and concluded foot reflexology improved mood, reduced anxiety and lower blood pressure in long-term care. Thus, the findings of this study are in agreement with the previous researches, that TCT and FRT reduces anxiety, improves mood, reduction in pain which are the causes for reduction in stress and depression as found in this study.

CONCLUSIONS

It was concluded that Tai Chi and foot reflexology training can be safely used for the benefit of Rheumatoid Arthritis patients to reduce their stress and depression in women.

REFERENCES

- Adler PA, Roberts BL. (2006) "The use of tai chi to improve health in older adults". **Orthopaedic Nursing**.25(2):122-126.
- Bagheri-Nesami M et al. (2014), "The effects of foot reflexology massage on anxiety in patients following coronary artery bypass graft surgery: a randomized controlled trial.", **Complement Ther Clin Pract**. Feb;20(1):42-7.
- Chyu MC, et.al. (2011)," Complementary and alternative exercises for management of osteoarthritis." **Arthritis**.; 2011:364319.
- Dechamps A, et.al. (2009), "Pilot study of a 10-week multidisciplinary Tai Chi intervention in sedentary obese women", **Clin J Sport Med.**, Jan;19(1):49-53
- Everly,G.S. and Giordano, D.E.(1980), **Controlling Stress and Emotions** (2nd Ed), Englewood Cliffs, N.J. Prentice Hall, Inc.
- Judith Berger and Judith Sachs (1997), **The A-Z Guide to Healing with Pressure Points**, (New York: Lynn Sonberg Book Associates) 3.

Mildred Carter (1969), **Helping Yourself with Foot Reflexology**, (West Nyack: Parker Publishing Company, Inc.) : IX.

Moyle W et al. (2013), “The effect of foot massage on long-term care staff working with older people with dementia: a pilot, parallel group, randomized controlled trial.”,

Thathuvagnani Vethathiri Maharishi (1983), **Guideline to Simplified Kundalini Yoga**, (India: Vethathiri Publications October) : 21–22.

The American Heritage Dictionary of the English Language (2000), Fourth Edition copyright