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# The Effectiveness of Tai Ji Quan for Anxiety and Depression

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#### ${f Abstract}$

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- 7 Tai Ji Quan is always considered to be an exercise that has the same benefit as other exercise
- 8 when it is done properly. Once considered as a martial art, nowadays, people think that
- 9 practising Tai Ji is one of many ways to prevent illness, and getting a better health. Some
- studies have proven the benefit of Tai Ji in several medical condition, however the efficacy of
- 11 Tai Ji for psychiatric conditions is very limited due to the limitation of variety of studies.
- Some studies propose that Tai Ji might have efficacy in treating anxiety or depression,
- whether it is as an augmentation or a single therapy for the patients.

*Index terms*— Tai ji quan, anxiety, depression

### 1 Introduction

ai Ji Quan (Tai Chi Chuan) is one of many types of the Chinese martial arts, which originates in the village 17 of Chenjiagou in Wenxian county, Henan province, China. The first person whose practice and taught Tai Ji 18 was Chen Wangting, in the seventeeth century, and he introduced a format that recognized as the Chen style. 19 Nowadays, there are few styles of Tai Ji that have been derived from Chen style, i.e., Yang style, Wu (Hao) 20 style, Wu style, and Sun style. Among them, Chen style is the oldest style, whilst Yang style is the most popular 21 style. 1,2 Tai Ji has been seen as an exercise that can promote prevention of illnesses, health, and cultural 22 exchange. 1 The effect of Tai Ji for health includes its benefit to develop good concentration, memory, balance, 23 and psychological conditions, e.g., anxiety, and depression. 3 It is thought that its advantage for health is due to 24 "three regulations" that is explained in traditional Chinese medicine, i.e., posture and movement (body focus), 25 breath focus, and meditative component (mind focus). 4 These regulations have been found to reduce markers of inflammation and alter cellular immunity, which have been linked to depression. 5 27

## 2 II. Tai Ji Quan

Tai Ji Quan is originated from Taoism, and accomplished in semisquat position. It has characteristics which 29 include: 1) breathing mastery and mind concentration, 2) whole body effort, and 3) spiral, curved, and continuous 30 body movements. Tai Ji can be formed alone or as group exercise, and it advantages Author: Departement of 31 Psychiatry Faculty of Medicine University of Sumatera Utara. e-mail: mustafamamin78@gmail.com consist of 32 emotional, physical, and social functions. Its potential use in medicine includes neurological disease, orthopaedic 33 disease, rheumatological disease, cardiopulmonary disease, cancers, and mental health. 1,2 Tai Ji is also 34 35 considered as meditative performance to promote longevity, stress neutralization, personal tranquility, and 36 healing. 4 Tai Ji practice includes relaxed breathing, deep mental focus, and slow, deliberate movements. 6 Every 37 Tai Ji practice costs between 3 and 6 metabolic equivalents (METs), and it activates coordination of muscular activities of legs and feet. 2 A person who is practicing Tai Ji will get the same benefit as getting a moderate 38 intensity aerobic exercise, 2 in other word practicing Tai Ji is the same as getting brisk walking, competitive 39 table tennis, bicycling with the speed between 5 to 9 mph, recreational swimming, and other exercises which 40 have moderate activity. 7 Tai Ji Quan is also a low cost exercise due to there are not any facility and equipment 41 needed when somebody practice it. 2 Practicing Tai Ji has been proven by research to have benefit: 1) improving 42 aerobic capacity, particularly in middle-aged and older women and men, 2) increasing muscular strength of lower

extremities due to it is performed in semisquat position, in subjects age between 20-45 years, 3) enhancing visual system in elderly people with visual impairment, 4) promoting proprioceptive function of upper extremities, it has been found that the facilitation of perceptual function and tactile acuity in Tai Ji practitioners are due to their focus on specific mental attention on the upper extremities and body, 5) advancing vestibular system in patients with dizziness and balance disorders, i.e., patients who did Tai Ji training showed improvement in their Dizziness Handicap Inventory Scores, patients with vestibulopathy showed improvement in their vestibular rehabilitation, and in older people it has been proven to imprve the up to and go test, backward deflection, forward deflection, and the maximum sway area, 6) several studies have found that Tai Ji training is fruitful in the elderly, particularly on falls prevention and balance function, 7) older people who practice Tai Ji routinely, have reported improvement in their daily activities, 8) reducing anxiety, perceived stress, anger-tension, and improving mood state. A Abstract -Tai Ji Quan is always considered to be an exercise that has the same benefit as other exercise when it is done properly. Once considered as a martial art, nowadays, people think that practising Tai Ji is one of many ways to prevent illness, and getting a better health. Some studies have proven the benefit of Tai Ji in several medical condition, however the efficacy of Tai Ji for psychiatric conditions is very limited due to the limitation of variety of studies. Some studies propose that Tai Ji might have efficacy in treating anxiety or depression, whether it is as an augmentation or a single therapy for the patients.

### 3 III. Tai Ji and Anxiety

Tsai et al, 8 have found that Tai Ji practice has reduced state anxiety and trait anxiety, significantly. Zheng et al, 9 have reported a protocol in people who is healthy but stressed, Tai Ji activity was done 5 hours a week, for 63 6 weeks, however they have not published the result yet. A Meta-Analysis study by Wang et al, 10 has shown 64 that practicing Tai Ji has beneficial effect on anxiety. They did a meta -analyses from a total 42 studies which 65 included 27 studies from English databases, and 15 studies from the Chinese, and found that Tai Ji practice 66 led to positive effects in reducing anxiety. However, a different result has been reported by Saeed et al, 6 when 67 treating anxiety as a disorder, Tai Ji has not got any effectiveness.

### 4 IV. Tai Ji and Depression

In a review by Saeed et al, 6 they have written that older patients with depression has gained benefit from Tai Ji practice, they thought that the benefit of Tai Ji comes from paracticing it in a group format. whilst in a review and meta-analysis by Wang et al 10, they concluded that when compared to waitlist controls, education controls, sham exercise controls, martial arts controls, and routine medication, Tai Ji proved to improve patients with depression. Chou et al 11 studied, Chinese older patients with depression who got Tai Ji, gained reduction in their scale for depression, compared to patients who got no teatment at all. Lavretsky et al 5 studied that when Tai Ji practice was used as augmentation in geriatric patients with depression who received escitalopram, it showed better reduction of depression symptoms, compared with those who received escitalopram and health education. Another study by Yeung et al 12, who studied 39 Chinese Americans patients who diagnosed with Major Depressive Disorder got positive results in practising Tai Ji, in which they thought that Tai Ji would have beneficial effect for MDD. In general, Tai Ji paractice might help patients with depression, particularly in the erlderly.

#### 5 V. Conclusion

Tai Ji is originated from China, and it has been proven to have efficacy in several medical illnesses. In its origin country the practice of Tai Ji has begun from few hundreds years ago, and people have thought that it can promote health, and prevent illness. Studies have shown that people who practice Tai Ji will get benefit as getting a moderate intensity aerobic exercise, a low cost exercise, and almost no side effects to be known when practicing Tai Ji.

Whilst Tai Ji has been proven by many studies to have beneficial effect in some medical conditions, however the effect of Tai Ji in psychiatric illnesses is very limited due to there are not many study support its effect. The efficacy of Tai Ji can only be seen on two psychiatric conditions, i.e., 1) anxiety, the results of Tai Ji on anxiety varies in which some studies suggest it migh have benefit for anxeity syndrome but not as a disorder, 2) depression, patients with depression as a syndrome or disorder have found that Tai Ji has helped them to get reduction on their depression score, however attention should be made in relation with these results due to several studies were done in particular population, i.e., in older patients with depression and in Chinese population. In conclusion, at the moment the effect of Tai Ji is limited in treating depression, particularly in older patients. Future studies should be done with more variety of psychiatric illnesses to get result of the beneficial effect of Tai Ji for psychiatric patients.



Figure 1: 2

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