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The Health Benefits of Tai Chi

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A QUALITATIVE RESEARCH PAPER

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ABSTRACT

The purpose of this study is to analyze the health benefits tai chi has to offer. The majority of the literature in this study mainly focuses on the health benefits for the elderly, which include improvement in balance and prevention of falls, rehabilitation from strokes, postural stability for patients with Parkinson's disease, osteoarthritis, type 2 diabetes, and chronic obstructive pulmonary disease. This study also highlights the brief history of tai chi, as well as interviews from tai chi students and an instructor about their views and experiences with tai chi.

The Health Benefits of Tai Chi

The world has made numerous advances in technology, science, and medicine. Because of this, multiple illnesses are being treated, cured, and prevented that would have otherwise been impossible to do in the past. These successes can be contributed to the united efforts of technicians, scientists, and doctors around the globe that shared their own knowledge with each other for a common cause. Because of the shared resources and techniques, the Western world can learn the traditional ways of medicine and science the Eastern world has to offer, and the Eastern world can learn what health remedies the Western world has to offer as well. However, recent evidence has depicted that traditional and unique forms of medicine and therapy are still present and useful in this advancing world. These forms did not originate in the Western world, but have been practiced for many years in the Eastern world. One of those unique forms from the Eastern World is martial arts. According to dictionary.com, martial arts are defined as "various sports or skills, mainly of Japanese origin, that originated as forms of self-defense or attack, such as judo, karate, and kendo" (dictionary.com, n.d). Typically, when society thinks of martial arts, what comes to mind is punching, kicking, and fancy flips. However, there is a form of martial arts that flips that definition in a different direction. Tai chi is a form of self-defense that is composed of slow, rhythmic, and meditative movements used to calm the body (Ching, 2013, p. 2). The aim of this research is to understand how the ancient art of tai chi is used for multiple health benefits and why this martial art is practiced frequently.

Literature Review

The purpose of this study is to highlight the brief history of tai chi and determine what aspects of health it has catered to for the elderly.

Tai chi originated many years ago as an ancient Chinese martial art. It descends from *qigong*, an ancient Chinese discipline that is based on traditional Chinese medicine. Tai chi is a series of slow, meditative body movements that were originally designed for self-defense and to promote inner peace (T. Chi, personal communication, February 4, 2015). Traditional Chinese medicine believes that human beings are considered smaller replicas of the universe. Similar to the universe, humans contain the constant interaction of energies in the body. It is believed that these energies flow in an interrelated manner throughout all the organs of the body as the five phases of universal *qi* (pronounced "chee"), with *qi* defined as the life force. “It is believed that good health is achieved when the interactions between these elements cause the flow of qi to occur in a smooth and balanced manner. People say that studying tai chi can help to allow the qi to flow smoothly” (Weil, 2014, p. 6).

The curiosity about tai chi has been increasing throughout recent years (Bagalev, 2011, p. 89). More than 600 articles on PubMed regarding tai chi have been searched to further knowledge about its effects on health. Main areas that are currently being researched are the connections between tai chi training programs and health. These include the musculoskeletal fitness and pathology, cardiovascular system and pathology, quality of life and self-esteem, neurological pathology, and metabolism response (WebMD.com).

Because tai chi consists of slow, meditative body movements, it is mostly used by

elderly ages 60 and above. Implementing tai chi for elderly patients has portrayed incredible results. According to one study, "benefits have been reported for balance, cardiovascular disease, cardiopulmonary disease, type 2 diabetes, various psychological benefits, and potential benefits for cancer" (Gryffin, 2014, p. 109).

Two of the main health benefits from tai chi are balance and prevention of falls. Performing tai chi involves consistent weight shifting, body rotation, and single-leg standing in different positions. Delicate joint control with muscle coordination is required during motions. Because of this, balance function may benefit from long-term practice of tai chi (Yan, 2013, p. 9). An experiment was conducted in Atlanta to further prove the notion that tai chi aids with balance and fall prevention. In this experiment, a total of 200 participants were divided into three groups: tai chi, balance training, and education. After 15 weeks of training, the fear of falling responses were reduced in the tai chi group compared with the education group, and the tai chi group reduced the risk of multiple falls by 47.5%. Tai chi and conventional balance training appear to have similar effects in falls prevention (Ching, 2013, p. 4).

A common disease that tends to affect the elderly is strokes. In order to assist the healing process of stroke patients, physical activity must be enacted. Tai chi may be a favorable treatment for the rehabilitation of stroke patients. One study conducted by Yong Zhang of the Department of Rehabilitation of the Dongzhimen Hospital designed a tai chi rehabilitation program to help stroke patients with lower-extremity hemiplegia to maintain motor function and postural balance control. Rehabilitation consisted of each movement focusing on the stroke-affected side, by "performing symmetrical and coordinated movements such as trunk rotation and weight-bearing, controlled and

coordinated displacement of the body's center of mass, and rebuilding of the affected ankle and knee joints by anteroposterior and mediolateral stepping" (Yong, 2014, p. 124).

An additional benefit tai chi offers is increased postural stability in patients with Parkinson's disease. According to Dr. Kim, a physical therapist at College of Health Science in Korea University:

> "Tai chi exercise recommended for people with Parkinson's disease. Tai chi exercise was one of the solutions because it involves dynamic body weight shifting, rotations, standing on a single leg, muscle coordination, and good balance. This strengthens the lower extremities and can prolong functional independence to those that have Parkinson's disease" (Gao, 2014, p. 749).

An experiment to test this theory consisted of subjects moving around obstacles in front of them. Tai chi exercises emphasize the various shifting in weight bearing from bilateral to unilateral support. This test was performed to challenge the postural stability of the subjects. A comparison of the results before and after Tai Chi exercises showed an improvement of dynamic postural stability (Gao, 2014, p. 749).

One other disease that is common to the elderly is osteoarthritis. Finding rehabilitation treatments for osteoarthritis are difficult, especially looking for treatments that do not place strains on the patients. Tai chi has been evaluated as a potential rehabilitation for osteoarthritis. Tai chi is gaining more attention in this field because "it involves a series of gentle fluid movements reputedly good for maintaining mobility and gradually improves muscle strength and range of motion without exacerbating arthritic symptoms" (Yan, 2013, p. 4). According to an experiment conducted by Jun-Hong Yan

from the Department of Clinical Medical Technology, Affiliated Hospital of Binzhou Medical College, the results of performing a 12-week tai chi program was effective at reducing pain and stiffness and improving physical function in patients with knee osteoarthritis. The analyses suggested that 8–10 weeks of short-term tai chi can significantly improve pain and physical function, and 18–24 weeks of tai chi improves physical function (Yan, 2013, p. 12).

Another health benefit tai chi offers is with type 2 diabetes. Implementing exercise treatments for diabetic patients reduces their risks of other potential diseases. According to the results of one study conducted at the University of Florida, "tai chi really has similar effects as other aerobic exercises on diabetic control. The difference is tai chi is a low-impact exercise, which means that it's less stressful on the bones, joints and muscles than more strenuous exercise" (Wright, 2009, p. 4). Dr. Ahn, from the Journal of Alternative and Complementary Medicine, conducted an additional experiment. Fifty-nine subjects who were diabetic patients with neuropathy were chosen. Participants' mean age was sixty-four years old, and they had been diagnosed with type 2 diabetes for more than twelve years. A tai chi program was provided for the subjects, which consisted of one hour of tai chi per session, twice a week for twelve weeks. The results concluded that tai chi improved glucose control, balance, neuropathic symptoms, and some dimensions of the quality of life (Ahn, 2013, p. 1175).

Tai chi has even benefitted individuals who have chronic obstructive pulmonary disease (COPD). Because tai chi exercises actively regulate breathing techniques, strengthen the upper and lower limbs function, and especially improve respiratory muscle and quadriceps muscle strength, it benefits the essential aspects of COPD management.

An experiment was conducted where a tai chi group practiced breathing techniques to be used with walking. After practicing it for 60 minutes twice a week for 3 months, a significant improvement was found in the improvement of respiratory functions and activity tolerance (Gryffith, 2013, p. 110).

Methods

According to The National Institute of Aging, the majority of the world's oldest living people are found in the Asian society (Branigan, 2013, p. 1). Factors that contribute to this statistic are the health remedies and techniques of that culture (T. Chi, personal communication, February 4, 2015). Through diet and exercise, the people have been thriving tremendously. One of their alternative therapy remedies is Tai Chi. A qualitative research method was used to determine what health benefits tai chi could offer and how. The health question asked was, "What are the health benefits that tai chi has on the elderly?" Next, information was gathered from ten peer-reviewed articles that supported the benefits that tai chi had on the body and health. The next step was to decide what research design to implement. It was decided to explore the use of observation methods to conduct the research. Local tai chi clinics around the Chattanooga, Tennessee area were searched. The closest and most affordable one found was the Yin Yang Acupuncture and Tai Chi Clinic. Tai chi classes were offered on Tuesdays and Thursdays nights from 5:30-8pm.Three classes were attended, once a week on Thursday nights. During the first class, it was observed that there were a total of seven people in attendance. In addition, participation was implemented in the class in order to experience how tai chi techniques are performed. The sessions consisted of warm up movements and learning the "Brush Knee, Step Forward" form. Using the methods of go-along

interviews, questions were casually asked to the students and the instructor regarding their reasons for taking the class and why they enjoyed it. Questions also included how the students felt after each session. After attending two more sessions, it was time to conduct a one-on-one interview with the instructor. The original requirement of the research process was to conduct three, thirty-minute interviews, which did not include observation methods. Because the conducted methods deviated from the original requirements and included another research method, the conducted research process only required one interview. The interview occurred on a Wednesday night for thirty minutes. This interview was recorded on an iPhone 4s. Basic questions were asked about tai chi in order to learn more about the subject. The emphasis of the interview was on the history of tai chi and its health benefits. After the interview was finished, it was transcribed. The transcription process took two hours to complete. The transcription was given to another student to code. The researcher also coded that same transcript and compared it to the codes that the other student made. After comparing and seeing that the codes were fairly similar, patterns and reoccurring themes were observed in the transcript. These codes were important to further answer the initial research question.

Results

The purpose of this study was to discover what health benefits Tai Chi offers to people. In addition to searching for peer-reviewed articles that supported this study, observational methods as well as an interview process were implemented to gather qualitative data. Observational methods were carried out at the Yin Yang Clinic in Chattanooga, TN, as well as conducting “go-along” interviews with the students and interviewing the instructor. The students ranged from ages 21 to 65, and their experience

level with performing tai chi ranged from beginner to expert. On average, the students that were observed had been practicing tai chi for over a year. During the instructor interview, he was asked multiple questions about tai chi regarding exactly how it aids the body and why. The research and methods conducted for this study supports the notion that Tai Chi offers numerous health benefits. Based off the medical articles and other research, the health benefits that have been discovered range from improving movements for those who have Parkinson's disease, being used as a therapy for stroke patients, improving heart health, improving the arthritic symptoms of those with osteoarthritis, easing digestive problems, and improving balance and walking ability. In this section, the information will be presented as themes that the researcher observed during the process of gathering qualitative information.

THEME 1: TAI CHI OFFERS BENEFITS TO ANYONE

Tai Chi can be a universal martial art and a form of therapy that can be used by anyone, regardless of their gender or age. This was seen when the researcher attended the tai chi classes. During one of the casual interviews, one of the younger students expressed:

> I've gone rock climbing at least four times a week and I'm used to fast moving activities. Practicing tai chi is just a way for me to slow down and relax.

Tai chi is often seen as practiced by the elderly. Due to the slow and dynamic movements, a younger and fast-paced individual would not enjoy practicing this art. The tai chi instructor even mentioned that:

> Tai chi would be beneficial for pretty much anyone, but it doesn't necessarily mean that it's going to be the best fit for everybody. Some

> people are more like the adrenaline junkie types. So the idea of doing something that's relatively slow, and that takes like a long time to actual learn is not necessarily in their personal preference of taste. But that's not to say that they could potentially benefit from it, it just wouldn't be a good match for their own interest. Anybody can take it, anybody can benefit from it, but not everybody is going to be attracted to it in it in the first place.

Overall, the students and the instructor agree that practicing tai chi does offer benefits to anyone if practiced over a period of time. Though the benefits are supported from practicing tai chi, it is common that performing tai chi is not the best suit for everyone due to their varied interests.

THEME 2: TAI CHI HEALTH BENEFITS HAVE A LARGE RANGE

The research regarding the health benefits of Tai Chi presented numerous accounts of information. According to the literature, tai chi should be considered as an option in regards to health promotion and alternative medicine. As Weil states:

> An optimal exercise program for adults should address the health-related physical fitness components of cardiorespiratory (aerobic) fitness, muscular strength and endurance, flexibility, body composition, and neuromotor fitness...It is concluded that Tai Chi is effective in promoting health, and it can be prescribed as an alternative exercise program for patients with certain chronic diseases (Weil, 2014, p. 11).

At the clinic, there were two students, one younger and one elderly that further supported these facts. The younger of the two stated:

> I feel much more relaxed whenever I come and do my techniques. I believe these exercises are going to help me out in the long run with improving my mood. I also think that doing these exercises are going to definitely help de-stress me as I continue on through school.

The older individual stated:

> Ever since I started doing tai chi, I found such an improvement with my mood and my everyday routine. I work as a nurse and, on top of that, I work as a waitress. I'm pretty much on my feet the entire day. Doing tai chi helps me strengthen my lower body, especially my legs. I also find that I can balance way better after I decided to take this class.

The instructor had this to say:

> In pretty much almost anything they've looked at so far they've found improvement through tai chi. So there's especially the focus of the research tends to be with the elderly population and they have found that there is an increase in bone density, so they can actually strengthen the bones without any drugs or anything. There is a significant increase in terms of balance. For people who take tai chi, there is significantly less falls than those who don't. There is a significant improvement in cardiovascular health. They found that it can help to lower the heart rate if the heart rate is too fast, it can sometimes correct arrhythmia. It can help the heart get into a more natural rhythm. They've shown that it's good for COPD patients; it can actually improve the entire cardiorespiratory system. It has been shown to reduce stress; it's been

> shown to improve overall quality of life in terms of measures of mood, measures of overall energy, measures of vague measurement of how good do you feel. So pretty much across the board, almost everything that they've looked at so far they've found that tai chi can actually help in some degree or another.

Tai chi practice was also found in the most unlikely of places. Due to the benefits of improved balanced and flexibility, athletes have incorporated some sort of tai chi practice into their routine. The interviewed instructor had this to say:

> I don't know who specifically, but there are some NFL players that have incorporated that into their routine to sort of being more flexible, in the same way, some NFL players take ballerina, or dance lessons as a way to stay more limber. It can actually compliment any type of exercise regime or sports regime in terms of helping develop more stability and better balance.

THEME 3: TAI CHI IS MORE THAN JUST HEALTH

The roots of tai chi extend far back into the Chinese culture. For them, tai chi is not just about health, but it philosophically represents something more. Tai chi reaches down on a deeper, energetic level that correlates with Chinese beliefs and culture. The instructor even says:

> Really, the significant benefits that come from it have to do with more the energetic level. Again, this is something that western medicine still doesn't even recognize. Tai chi, besides being the martial art and the health and stuff, philosophically represents something. It's the initial

> motion between the yin and the yang. Tai chi is also an actual philosophical or a theoretical construct of the interaction between the yin and the yang energies. Because at the fundamental level, tai chi engages the body energetically to help balance things out, and again from the Chinese medical perspective. If all of the body's energies are balanced, you should be in perfect health. Tai chi is a way to balance the body's energy to maintain better health. The whole point is to engage the mind with the breath and the body to improve it energetically.

Discussion

The Western part of the world has only a small inkling of what tai chi is. While considered a martial art, it was been found that tai chi is so much more. From the beginning of the 17th century, tai chi found its roots in Taoism. Taoist doctrine is solely focused on the tranquility of the mind, with the goal to achieve longevity by meditation and lifestyle modification (Ching, 2013, p. 3). The purpose of tai chi is not only to increase physical health benefits to live longer, but to bring tranquility to the mind as well. Presently though, it is still a relatively new treatment that is not practiced by many people. Because of the high number of patients that need rehabilitation in clinics, it would be beneficially if tai chi practice was suggested or demonstrated as an alternative for them. It would be equally beneficial if tai chi was incorporated in daily exercise routines.

Because tai chi is not well known to the population, it is common for the martial art to be regarded as insufficient. According to Weil, although interest in tai chi as a form of physical exercise has been steadily increasing, the bulk of the research participants and practical participants still belong to the elderly population (Weil, 2014, p. 3). Not many

young people participate in tai chi due to their busy lifestyle or their regard of tai chi as an inefficient training method. While this may be the case, research has demonstrated that tai chi offers health benefits to anyone, regardless of age.

Tai chi offers a large range of benefits to both the young and the old. In the literature findings of Ching, he concludes that an optimal exercise program for adults should incorporate the health-related physical fitness components of cardiorespiratory fitness, muscular strength and endurance, flexibility, body composition, and neuromotor fitness (Ching, 2013, p. 5). He states that previous research suggests that tai chi may improve health-related fitness and psychosocial function. Additionally, tai chi includes the warm-up and cool-down, stretching exercises, and gradual progression of volume and intensity, and it seems to be helpful to reduce muscular injury and complications. This is beneficial for those who are young or old.

One of the additional main benefits that practicing tai chi offers is the strengthening of the lower body and balance. According to his findings, Ching found that the characteristics of Tai Chi include mind concentration with breathing control, whole-body exercise in a semisquat posture, and continuous, curved, and spiral body movements (Ching, 2013, p. 4). He also went on to find that tai chi can be practiced alone or as a group exercise, and it has significant benefits for physical, emotional, and social functions. Participants may practice several tai chi movements instead of a whole set to achieve specific health benefits, such as flexibility and balance.

Though it is true that tai chi can benefit both young and old, there are benefits targeted for the elderly. According to Yan, tai chi significantly improves pain, stiffness, and physical function in patients with knee osteoarthritis (Yan, 2013, p. 5). Due to this, it

indicates that tai chi has benefits in the management of osteoarthritis and should be available in rehabilitation programs as an alternative approach for patients with knee osteoarthritis. Other applications of tai chi could be found for elderly with Parkinson's disease. According to Dr. Kim, he conducted a test on an elderly population with Parkinson's disease (PD) (Gao, 2014, p. 750). In his study, his subjects practiced tai chi exercises that emphasized shifts in weight that challenged their balance. After the study period, it was found that there was a significant amount of improvement in his subjects regarding their ability to perform functional tasks.

Overall, tai chi can be used as a form of therapy, rehabilitation, or for improving general health; there are still many opportunities for research in this field. These findings would certainly broaden the scope of therapy and health benefits in order to discover alternative ways of achieving a healthier lifestyle.

Conclusion

The health benefits found from practicing tai chi is largely due to the manipulation of the body's energy balance as well as the strengthening of the body. The literature and research has exhibited that practicing tai chi has the potential to offer benefits to anyone who is willing to take the time and dedication to practice this martial art or incorporate it into their exercise routines. The researcher was able to practice observational methods of this martial art in a natural setting while gaining information from those who were performing it at the same time. This research was even furthered when the students and the instructors in the current study demonstrated and shared their knowledge and personal experience with learning tai chi. The study was even more beneficial due to the wide age range of students. This aided the researcher to have a larger audience to study and gather

information regarding what age ranges could be potentially interested in this martial art. Further research also found that the slow and dynamic movements of tai chi might not appeal to the younger population. Due to this, it has been learned the elderly population mostly practices that tai chi. While this may be the case, tai chi still offers health benefits to anyone willing to be a part of it. Practicing tai chi or even adding it to exercise regimens could potentially increase an individual or athlete's performance and would be extremely beneficial to their health.

Appendix A: Interview Questions

1. How long have you taken Tai Chi?

2. How did you get interested in Tai Chi?

3. How often do you practice Tai Chi?

5. What were your initial thoughts on Tai Chi?

6. What is the brief history of Tai Chi?

7. Would you recommend Tai Chi classes to people? Why?

8. What are the health benefits that Tai Chi has to offer?

9. Any real life experiences about how Tai Chi works?

10. Did you have any students that were helped out by Tai Chi techniques? How?

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