Trakia Journal of Sciences, Vol. 9, No 4, pp 88-91, 2011

Available online at:
http://www.uni-sz.bg

ISSN 1313-7069 (print)
ISSN 1313-3551 (online)

Original Contribution

HEALTH BENEFITS FROM TRAINING TAI CHI

S. Bagalev[1], N. Pirovski[2], A. Pirovska[3]

[1]Martial arts Academy, Plovdiv, Bulgaria
[2]Department of Anatomy, Trakia University, Stara Zagora, Bulgaria
[3] Archeological and anthropological Museum - Maritza Iztok, Radnevo, Bulgaria

ABSTRACT
More than 600 Tai Chi related articles published during the last 3 year on PubMed have been search to establish the current scientific knowledge on the effect of practicing Tai Chi on the health and to determine future areas of interest as a preparation for an evaluation of health effects of Tai chi on the members of the Yang Style Tai Chi Chuan Association Bulgaria. Conclusions: Different aspects of the health improve differently, but the outcome is always positive with no side effects. The research should be for a period as longer as practical, but more than 12 weeks and more intensive, at least 5 h a week. Attention should be paid to the speed of the exercises, age of the participants, level of Tai Chi mastered and compliance, and meditation practice should be included as well. Evaluation of the health benefits from Tai chi is not been done in Bulgaria; there is a need of a protocol or standard for it. Our interests for a future work matches with some of the main areas that are currently researched- musculoskeletal fitness, neurological pathology, quality of life and life style.

Key words: tai chi, martial arts, health benefits, holistic medicine, lifestyle

INTRODUCTION

Eastern martial arts as Tai Chi are an important part of their history and of the everyday routine of a millions of people. They are believed to improve health, heal disease and promote a long life. All these statements should be tested and scientifically measured. Since the development of the firearms, and its wide application in the warfare, more and more attention is paid to the health benefits from the martial arts, than to their attacking and defensive capabilities. The self-defense improvements form the training of martial arts remain a primary goal for the army, police and security professionals, while the adolescents are more attracted by the entertaining social, sport and competition activities. Health is a bigger concern for the older part of the society.

As a state of a full physical mental and social wellbeing, health is a much bigger area than just a single laboratory indicator and should be studied from many different directions. At least one physical, mental and social aspect should be examined for the study to meet the requirements of the modern Holistic medicine. Since it would be practically more demanding to perform such a study, one of the ways could be by reviews and meta-analyses.

GOALS

Are goals are to answer to the following questions: Are there any reliable information on the health benefits from Tai Chi? From which areas of the healthcare are they? What and how should we measure in our test group to evaluate the effect of Tai Chi on health?

METHOD

More than 600 articles on PubMed have been search to establish the current scientific knowledge on the effects of practicing Tai Chi on the health and to determine future areas of interest as a preparation for an evaluation of health effects of Tai chi on the members of the Yang Style Tai Chi Chuan Association Bulgaria. Tables with the 38 most informative and reliable sources are compared to summarize and enhance our conclusions.

***Correspondence to**: *Nikola Pirovski , Armeiska 11, Stara Zagora 6000, Bulgaria*
Trakia University, Medical Faculty, Department of Anatomy, e-mail: pirovsky@abv.bg

RESULTS

Classical Yang TC is an exercise with moderate intensity, and its exercise intensity is similar across different ages in each gender (1). Main areas that are currently researched for the connection between Tai Chi training programs and health are- Musculoskeletal fitness and pathology, Cardiovascular system and pathology, Quality of life and self-esteem, Neurological pathology (sleep, depression, stroke, balance and coordination in elderly), Metabolism response (immune system activity, oxidative stress, aerobic capacity, diabetes, obesity).

Another areas that have been explored are the improvement of asthma (2), AIDS (3), addictions (4), Parkinson and Alzheimer`s disease (5). Unwanted side effects were not reported in any of the researches. (***Table 1 and Table 2)***

Table 1. *Table of Comparison*

							Effect of Tai Chi:				
	Country	weeks exercise	times weekly	control group	test group	test group mean age	Positive	No signi ficant effects	Negative	Dubious	year
Musculoskeletal fitness	Canada	12	2times x 50 min		52		1				2009
	Canada	16		18	22	60	1				2009
	China	long term	3times x 60 min	51	48	56	1				2005
Knee osteoarthritis	USA	12	2times x 60 min	yes	40	65	1				2009
	UK	review over 12 articles								1	2008
Osteoporosis	USA	12	3times x 60 min		31	67		1			2008
	Korea	8		yes	50		1				2006
	UK	review over 7 articles								1	2008
Cardiovascular conditions	USA	review over 29 articles					1				2009
	Taiwan	12	tests after a single bout	26	26	60	1				2010
	Korea	6		14	14		1				2004
	USA	review over 26 articles					1				2008
Quality of life and general health	France	24	2times x 30 min		52	65- 94	1				2009
	USA	12			330	73	1				2010
	USA			95	39	69	1				2010
	USA	12	2times x 60 min		30	<25	1				2008
	Taiwan	24	3times x 50 min		41	65>	1				2008
	Taiwan	44	4times x 50 min	18	20	58- 70	1				1998
Sleep	USA	25		56	56	59- 86	1				2008
Depression	China	24	1.5 times	7	7		1				2008
							17	1		2	

Table 2. *Table of Comparison 2*

							Effect of Tai Chi:				
	Country	weeks exercise	times weekly	control group	test group	test group mean age	Positive	No significant effects	Negative	Dubious	year
Falls in eldery; Balance	Taiwan	4 years	5times x 30 min	44	31	68	1				2009
	USA	3	5times x 90 min	11	11	68- 92	1				2006
	USA	review over 9 articles								1	2008
	USA			yes	30		1				2009
	China	48	3 times	90	90	65- 74		1			
	The Netherlands	13		130	130	77		1			2009
	USA	12	2times x 90 min	yes	15	62-85		1			2009
Stroke	China	12	4times x 60 min	62	74		1				2009
Methabolism Oxidative stress, aerobic capacity	Malaysia	48			17	45>	1				2009
	Australia	12	3times x 60 min		11	42- 65	1				2008
	USA	long term	review over 170 articles			50 >	1				2008
	Australia	16	2times x 60 min	19	19	65		1			2008
	Taiwan	12		30	30		1				2009
Diabetes	Taiwan	12	2times x 60 min	32	28		1				2009
	Korea	24	2times x 60 min		62					1	2009
	China	14	5times x 60 min	10	10	57	1				2008
Obesity	France	10	1times x 120 min	yes	21		1				2009
	Australia	24	3times x 60 min	10	10		1				2010
							12	4		2	

DISCUSSION

With 29 articles proving the beneficial effects on health and different diseases from Tai Chi classes, and only 5 that have turned out with no registered positive effects, it is clear that there is some true in the ancient believes. The particular benefits are a wide range, like improving the immune response (6), eye to hand coordination (7), tactile and sensory ability (8), decreases the sympathetic nervous system activity (9) and others. Even though Tai Chi was not recorded to decrease body mass index in obesity people, it definitely changes body fat distribution (10). Another very contradictory area is its contribution to better management of older adult's falls. No difference in the number of falls compared with the control group was reported (11), but better quality of life due to other health improvements like better balance and reduction in fear from fall (12), is not insignificant.

Some studies could not turn up with a definite answer and point towards more, longer and with statistically reliable investigations on the matter. In some works the data reported are inconsistent in reported attendance and home-based practice rates, making it difficult to speculate on the relationship between the amount of TCC and intervention effects (13). Most of the studies are done with 12 week Tai Chi program, which is a not short time for a lifestyle changes to take effect, but some articles suggest that the results could improve more depending of the level that Tai Chi is mastered (6). However, three months is a fairly short term for mastering a system complicated as the martial arts are. Another point is that community based tests are showing bigger health benefits that the one done in the laboratory (14), and that a train-the-facilitator model for Tai Chi Easy is easily disseminated to older adults (15). Nevertheless no unwanted side effects were reported, which is a great advantage.

Many other physical activities are proven to be useful for a healthy lifestyle, but might be that Tai Chi has its unique contribution. Comparison of the effects of Tai Chi and Western exercise resulted in differential improvements in physical functioning among generally healthy older adults. TC led to improvement in an indicator of cognitive functioning that was maintained through 12 months (16).

Different aspects of the health improve differently, but the outcome is always positive with no side effects. Our conclusions are that the research should be for a period as longer as practical, but more than 12 weeks and more intensive than most of the already concluded, at least 5 hours a week. Attention should be paid to the speed of the exercises and meditation practices (17, 18), should be included as well. Evaluation of the health benefits from Tai chi is not been done in Bulgaria; there is a need of a protocol or standard for it.

REFERENCES

1. Lan C, Chen SY, Lai JS, The exercise intensity of Tai Chi Chuan.*Med Sport Sci.*;52:12-9. 2008
2. Chang YF, Yang YH, Chen CC, Chiang BL, Tai Chi Chuan training improves the pulmonary function of asthmatic children. *J Microbiol Immunol Infect.*;41(1):88-95. Feb2008
3. Vazquez E., Don't just sit there. *Posit Aware.*;7(1):23-5. Jan-Feb1996
4. Breslin KT, Reed MR, Malone SB., An holistic approach to substance abuse treatment. *J Psychoactive Drugs.*;35(2):247-51. Apr-Jun2003
5. Klein PJ. Tai Chi Chuan in the management of Parkinson's disease and Alzheimer's disease. *Med Sport Sci.*;52:173-81. 2008
6. Chiang J, Chen YY, Akiko T, Huang YC, Hsu ML, Jang TR, Chen YJ. Tai Chi Chuan Increases Circulating Myeloid Dendritic Cells. *Immunol Invest*. Aug 18. 2010
7. Pei YC, Chou SW, Lin PS, Lin YC, Hsu TH, Wong AM, Eye-hand coordination of elderly people who practice Tai Chi Chuan. *J Formos Med Assoc*.;107(2):103-10. Feb 2008
8. Richerson S, Rosendale K. Does Tai Chi improve plantar sensory ability? A pilot study. *Diabetes Technol Ther*.;9(3):276-86. Jun 2007
9. Motivala SJ, Sollers J, Thayer J, Irwin MR., Tai Chi Chih acutely decreases sympathetic nervous system activity in older adults. *J Gerontol A Biol Sci Med Sci.*;61(11):1177-80. Nov 2006
10. Yu TY, Pei YC, Lau YC, Chen CK, Hsu HC, Wong AM. Comparison of the effects of swimming and Tai Chi Chuan on body fat composition in elderly people. *Chang Gung Med J*.;30(2):128-34. Mar-Apr 2007
11. Woo J, Hong A, Lau E, Lynn H. A randomised controlled trial of Tai Chi and resistance exercise on bone health, muscle strength and balance in community-living elderly people. *Age Ageing*.;36(3):262-8. May 2007
12. Sattin RW, Easley KA, Wolf SL, Chen Y, Kutner MH. Reduction in fear of falling through intense tai chi exercise training in older, transitionally frail adults. *J Am Geriatr Soc*.;53(7):1168-78. Jul 2005
13. Sannes TS, Mansky PJ, Chesney MA. The need for attention to dose in mind-body interventions: lessons from t'ai chi clinical trials. *J Altern Complement Med*.;14(6):645-53. Jul 2008
14. Jones AY, Dean E, Scudds RJ., Effectiveness of a community-based Tai Chi program and implications for public health initiatives. *Arch Phys Med Rehabil.*;86(4):619-25. Apr 2005
15. Jahnke RA, Larkey LK, Rogers C. Dissemination and benefits of a replicable Tai Chi and Qigong program for older adults. *Geriatr Nurs.*;31(4):272-80. Jul-Aug 2010
16. Taylor-Piliae RE, Newell KA, Cherin R, Lee MJ, King AC, Haskell WL., Effects of Tai Chi and Western exercise on physical and cognitive functioning in healthy community-dwelling older adults. *J Aging Phys Act.*;18(3):261-79. Jul 2010
17. Yau MK. Tai Chi exercise and the improvement of health and well-being in older adults. *Med Sport Sci.*;52:155-65. 2008
18. Posadzki P, Jacques S., Tai chi and meditation: A conceptual (re)synthesis?, *J Holist Nurs.*; 27(2):103-14. Jun 2009