

CHANGING THE CARDIOVASCULAR FUNCTION OF THE ELDERLY PRACTISING YANGJIA TAIJI QUAN WITH 24 MOVES

Vu Thanh Long¹

Abstract:

Yangjia Taiji Quan is a form of health preservation exercise that has a strong growth rate because it does not require high speed and strength and has good effects on health, especially the health of the elderly. We conducted a survey to assess the adaptation of some cardiovascular function indexes of the elderly when participating in Yangjia Taiji Quan 24 moves exercise training and combining with quantitative walking according to the training plan built by the topic.

Key words: Adaptive change, cardiovascular function, elderly, outdoor health club, Hoan Kiem Ha Noi...

INTRODUCTION

Society is developing stronger and stronger, people's living standard is raised higher, resulting in the increase of life expectancy and the strong increase in the number of elderly people in the community. Therefore, taking care of the elderly's health, improving the quality of life is the responsibility of all branches and levels, including the Physical education and sports branch.

Study results have shown that the elderly suffer from cardiovascular disease with functional impairment. Sports exercise, in which health preservation has special meaning in strengthening and enhancing the function of the cardiovascular system, reduce the heart rate, decrease the level of oxygen use of the heart muscle, reduce arterial blood pressure, increased functional capacity of the heart chambers ... So the survey has scientific and practical meaning in evaluating the effect of exercises and training plans developed.

RESEARCH METHODS

Research Subjects: Senior members of the outdoor health club of Hoan Kiem district Sports Center, Hanoi, n = 30.

1. Pedagogical experiments: By self-comparison method to assess the effectiveness of practicing Yangjia Taiji Quan 24 moves combining with quantitative walking according to the training plan built by the topic.

Training time: Duration of program: 6 months x 4 weeks x 5 times x 90 minutes

Daily training time: From 5:30 to 7:00

Experimental Process: Experiment with 2 stages:

Stage 1: Conduct in 1 month with the contents:

Teaching theory, instructions to implement each new move, complete the Yangjia Taiji Quan 24 moves exercise. Quantitative walking is done at the end of the training session. Requirements: Moderate speed, suitable for each one's health

Stage 2: Conduct in 5 months with the following contents: Completely practice the Yangjia Taiji Quan 24 moves. Ensuring correct posture, rhythm and combining movements with breathing, 5 minutes each time, then rest for 5 minutes, repeat 4 times. Quantitative walking is done after completing 4 training times.

2. Medical examination: Determination of functional indicators: Pulse Frequency (time/minute); Arterial blood pressure: Maximum blood pressure, Minimum blood pressure, blood pressure difference; Systolic volume (Vs) - indirectly calculated according to Starr's formula (1954): $V_s = 90.97 + 0.5 \cdot \text{BPD} - 0.57 \cdot \text{DBP} - 0.61 \cdot T$. Where: Vs (systolic volume); BPD (blood pressure difference, mm.Hg); DBP (diastolic blood pressure, mm.Hg); T (age, year); Blood flow rate per minute - indirectly calculated by the formula: $\text{VBF} = V_s \times f$. In which: VBF volume of blood flow per minute (liter / minute), Vs (systolic volume, liter), f (Pulse Frequency, time/minute)

RESULTS AND DISCUSSION

The topic has organized experiment with time and process built for 30 senior members of the Outdoor Health club - Hoan Kiem district Sports Center, Hanoi. The results collected at two points: Before and after experiment, which were processed according to the parameters ($\bar{X} \pm SD$, t, p,) as shown in Table 1.

1. M.S, Bac Ninh Sport University. Email: vuthanhlong229@gmail.com

Table 1. Characteristics of cardiovascular functional changes before and after experiment ($\bar{x} \pm SD$, n = 30)

No	Norms	Level	General preparation phase (1)		Professtional preparation phase (2)		Competition phase (3)	
			$\bar{x}$	$\pm\sigma$	$\bar{x}$	$\pm\sigma$	$\bar{x}$	$\pm\sigma$
1	Vital capacity (ml / kg)	Professional Level	52.8	5.75	57.5	6.05	59.6	6.12
		Level 1	51.63	5.06	56.8	5.58	58.9	5.8
2	Sudden vital capacity (%)	Professional Level	84.5	6.56	88.78	7.02	91.13	7.14
		Level 1	82.62	8.11	87.7	8.62	90.06	8.87
3	PQ (second)	Professional Level	0.158	0.015	0.154	0.015	0.152	0.015
		Level 1	0.159	0.016	0.154	0.015	0.153	0.015
4	QRS (second)	Professional Level	0.072	0.007	0.07	0.007	0.0693	0.007
		Level 1	0.0723	0.007	0.0702	0.007	0.0694	0.007
5	QT (second)	Professional Level	0.39	0.038	0.379	0.037	0.375	0.037
		Level1	0.391	0.038	0.38	0.037	0.376	0.037
6	TP (second)	Professional Level	0.645	0.063	0.669	0.066	0.686	0.067
		Level 1	0.641	0.063	0.666	0.065	0.684	0.067
7	Cardiac cycle (second)	Professional Level	0.877	0.084	0.894	0.085	0.908	0.096
		Level 1	0.874	0.086	0.891	0.088	0.907	0.089

Table 1 results show that:

Systolic blood pressure tends to decrease in male subjects. However, there's no statistical meaning with $p > 0.05$; In females, systolic blood pressure reduced much more, with $p < 0.01$.

Diastolic blood pressure also tended to decrease (18/30 people). In males with $p > 0.05$; in females $p < 0.05$.

Blood pressure difference in all groups tended to increase but there's no statistical meaning ($p > 0.05$).

Heart rate in males reduction was not statistically significant, while in female the difference was statistically significant at $p < 0.05$.

Systolic volume tended to increase, although not much, but the difference statistical meaning at $p < 0.05$; Blood flow rate per minute increased but there's not much difference.

Thus, after 6 months of experiment of Yangjia Taiji Quan 24 moves combining with quantitative walking in accordance with plans built by the topic, the cardiovascular system tends to change in good direction and beneficial for health. Research results of the study showed that this kind of exercise can regulate cardiovascular functions. Cardiovascular reaction is more reasonable and economic, heart rate reduce is compensated by increased amount of systolic blood. However, the variation is shown clearly in females, while in males the changing trend in some indicators has not reached a statistically

significant difference. In practice, females work harder and more steadily, more persistently, so that the effects of exercise have a greater impact on their health. The results of the study are consistent with the results of some authors in the country. However, 6 months may not be enough to promote the effects on the research subjects.

CONCLUSION

Exercises of Yangjia Taiji Quan 24 moves combining with quantitative walking according to the training plan: 06 months x 4 weeks x 5 times x 90 minutes have promoted the regulation of cardiovascular system function for the elderly, reducing heart rate, decrease the level of oxygen use of the heart muscle, decrease arterial blood pressure, increased functional capacity of the heart chambers.

REFERENCE

1. Dang Quoc Bao (2004), Diets and exercises for cardiovascular disease prevention, Sports Publishing House, Hanoi, pages 44-45.
2. Hoang Bao Chau (1991), "Method of Health Preservation", Encyclopedia of Pathology, Vietnam Encyclopedia Compiling Center, p. 209 - 211.
3. Oscar H., Chris de Laet, Anna Peeters, Jacqueline Jonker, Johan Mackenbach, Wilma Nusseder (2005), Effect of physical activity on life expectancy with cardiovascular disease, Arch Intern Med, p. 2355-2360.