

ISEI Abstract – “Session theme number – 10”

Effect of Ba-Duan-Jin on immune function and autonomic nervous balance in ageing people

SONGTAO WANG¹, XIAOQING ZHOU², YUNGUI ZENG², and ANLI WANG²

1, School of PE and Sport Science, South China Normal University, Guangzhou, 510006, China;

2, Beijing Sport University, Beijing, 100084, China.

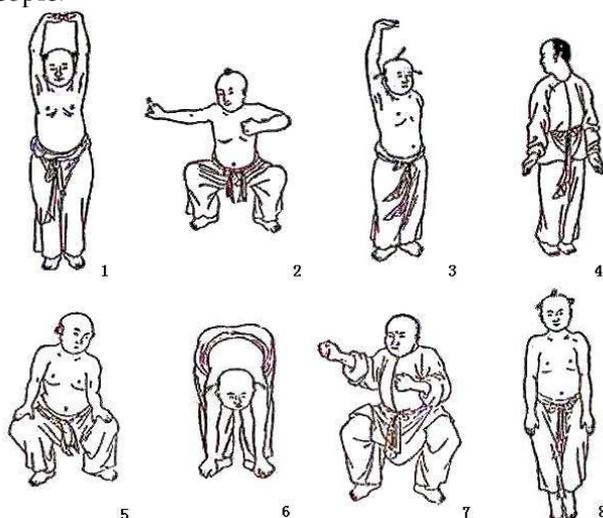
ABSTRACT

[Objective] Ba-Duan-Jin, formed in the 12th century, is an excellent traditional Chinese health exercises. Ancients likened it to “brocade (Jin)”, meaning its action is as elegant as brocade. The total movements are divided into 8 sections, so it is called “ Ba-Duan-Jin (8-section-action)”. Because of its simple action and significantly healthy effect, Ba-Duan-Jin is widely used to enhance physical fitness and prevent diseases. This study was aimed to evaluate the immunological effect of Ba-Duan-Jin in ageing people and analyze its autonomic nervous mechanism.

[Methods] 60 healthy women (64.06±2.53 years old) were divided into exercising group and sedentary group. Exercising group trained Ba-Duan-Jin 12 weeks (5 day/week, 3 repetition/day) . Record electrocardiosignal to analyze heart rate variability (HRV) , and then take blood sample to measure blood routine, immune globulin, complement, sub-T lymphocyte, catecholamines and acetylcholine. These measurements were performed before and after the 8-week’s intervening duration.

[Results] The plasma immune globulin, complement, catecholamines and acetylcholine have no significant difference between two groups. But when it came to lymphocyte in peripheral blood, the women in exercising group have less CD8⁺ T-lymphocyte and higher rate of CD4⁺/CD8⁺ than sedentary group. The analysis of HRV showed an increasing total HRV (TF), a enhanced activity of parasympathetic nerve (RRmean, SDNN, RMSSD, HFnorm) and an attenuated activity of sympathetic nerve (LFnorm) in Ba-Duan-Jin exercising group. Correlation analysis confirmed that there is a close relationship between immune function and autonomic nervous activities.

[Conclusion] Ba-Duan-Jin can transfer the autonomic nervous balance to parasympathetic dominance, which may partially explain the increasing immunity function (especially in cell immunity) in ageing people.



Note:

1. Holding heaven in the palms
2. Posing as an archer shooting
3. Holding one arm aloft
4. Looking backward
5. Swinging the head and lowering the body
6. Moving the hands down the back and legs, and touching the Feet
7. Thrusting the fists and making the eyes glare
8. Raising and Lowering the Heels

Fig: the 8 sections of Ba-Duan-Jin