

RELATIONSHIP BETWEEN QIGONG BADUANJIN AND DEPRESSION IN CHINESE ELDERLY

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Background. In the context of the aging of the world's population, the process of China's population aging is accelerating. It will be a great challenge to China before becoming rich, and the physical and mental health of the elderly in China has become a focus of much attention. Depression seriously affects the physical and mental health and quality of life of the elderly, and the World Health Organization predicts that depression will be the second killer of endangering the health and life of older people. Research has shown that Chinese qigong gymnastics can have a positive effect on people's physical and mental health. Qigong Baduanjin has the function of strengthening the body and regulating the mood, and may become an important intervention method to effectively prevent the occurrence and development of depression.

The purpose of this study is to understand the relationship between Qigong Baduanjin exercise and depression in the elderly.

Methods. This study evaluated the depression of 530 elderly Qigong Baduanjin enthusiasts over 60 years old using the Geriatric Depression Scale. The relationship between exercise time and the incidence of depression was analyzed through mathematical statistics.

Results. After analyzing the data, we found it is concluded that the shortest practice time of Qigong Baduanjin is 7 hours / month and the longest is 112 hours / month. The overall incidence of depression is 23.9%. After adjusting the interference factors, it was found that the exercise time of Qigong Baduanjin was still significantly negatively correlated with the incidence of depression.

Conclusion. The long-term regular practice of Qigong Baduanjin in the elderly can play a positive role in effectively reducing the occurrence and development of depression.

Keywords: elderly; Baduanjin; depression; China; Qigong.

Introduction. Baduanjin is one of the most widespread forms of Chinese traditional Qigong and is approximately 2,500 years old. Baduanjin is also called the "Eight Cuts of Brocade" because its core training consists of eight separate movements, characterized by symmetrical body positions and movements, breath control, a meditative state of mind, and mental focus. Compared to traditional exercises (such as resistance training, muscle endurance training, and strength training), which are aimed at strengthening the physical body, Baduanjin usually involves the practice of integrating the mind and body to cultivate Qi (life energy based on the theory traditional Chinese medicine) to improve both physical and mental well-being. In addition, Baduanjin can be learned easily as a mind and body exercise, so it may be more suitable for people with physical or cognitive impairments. For example, people with chronic illnesses have a relatively low tolerance to exercise intensity and temperature changes.

Given these results, the researchers have a responsibility to introduce Ba Duan Jin to the world so that as many people as possible are aware of its therapeutic value and can do the Baduanjin exercises for

health. Baduanjin's popularity has grown exponentially throughout China and has spread to other countries since the Chinese Qigong Health Association was established in 2000 to promote Qigong exercises. The rapidly growing number of practitioners in Baduanjin around the world has attracted considerable attention from the research community to study the effects of Baduanjin on various health-related outcomes in both healthy and clinical populations. Depression is the most common type of psychological disorder. It has chronic and recurrent characteristics. It has a high incidence in the population and seriously threatens people's physical and mental health and quality of life. Drug therapy and psychological intervention have certain effects on the improvement of depression, but the heavy economic burden and insufficient medical resources will affect the effect of depression treatment [3. P. 3472]. Therefore, choosing scientific and effective traditional Chinese national sports to suppress the occurrence and development of depression is a research area worthy of attention. Baduanjin is a form of traditional Qigong exercises created in ancient China. Baduanjin is also called the "Eight Slices of Brocade" because its training base consists of eight

separate movements, characterized by symmetrical body positions and movements, breathing control, a meditative state of mind and mental focus. Compared to traditional exercises (such as weight training, muscle endurance training and strength training), which are aimed at strengthening the physical body, Baduanjin usually includes the practice of integrating the mind and body to cultivate Qi (theory-based life energy traditional Chinese medicine) to improve both physical and mental well-being. Physical exercise and mood adjustment have a good effect on preventing the occurrence of depression, and the positive effects of Qigong Baduanjin on improving physical health and psychological adjustment make it possible to prevent the occurrence of depression [1, p. 2667].

At present, there are few reports on Qigong Baduanjin as a means of mental health intervention to prevent depression. Therefore, the study evaluates the relationship between long-term practice of Qigong Baduanjin and depression, through the purpose of exploring the possibility of long-term practice of Qigong Baduanjin to reduce the occurrence of depression, and provides an effective basis for scientific and reasonable formulation of mental health rehabilitation programs [2, p. 230; 7, p. 36].

The purpose of the study. In order to understand the relationship between Qigong Baduanjin exercise and the depression of Chinese elderly.

Research methods and organization. From June to August 2019, an anonymous questionnaire survey was conducted among 60-year-old and older Qigong Baduanjin enthusiasts from Qigong Baduanjin Club in Shenyang, China. The questionnaires were distributed and recovered through mobile phone WeChat, and 530 correct questionnaires were recovered.

Evaluation of Qigong Baduanjin

The survey included training years, training frequency (times / week), and training time (hours / times).

Evaluation of depression

This study used the SDS scale for investigators. The total score of the scale is 80 points. A higher score indicates a stronger depression; a score of 40 or more is determined to have depression.

Evaluation of interference factors

Includes basic information such as gender, age, body mass index (BMI), occupation, education, family status, sleep time, tobacco and alcohol status, and medical history.

Statistical Analysis

The practice time of Qigong Baduanjin was divided into 4 levels as independent variables, and the presence or absence of depression as the dependent variable. The relationship between Qigong Baduanjin and depression was evaluated by multiple regression analysis. Interfering factors include age, gender, BMI, education, family status, tobacco and alcohol status, and medical history. When analyzing the relationship between Qigong Baduanjin's exercise time and other variables, SPSS statistical software was used to analyze the data; the analysis methods were chi-square test and analysis of variance test. $P < 0,05$ was statistically significant.

Research results and discussion. Among the 530 subjects analyzed, the shortest Qigong Baduanjin practice time was 7 hours/month and the longest was more than 112 hours/month. The overall incidence of depression was 2,9 %.

Table 1 shows that women persist in practicing Qigong Baduanjin more than men, accounting for 83.9%; except for the differences shown above, other variables are not statistically significant.

Table 2 shows that the benchmark for the practice time of Qigong Baduanjin is set to the lowest position, namely: 7—14 hours/month.

After adjusting the ratio of three different factors, it can be seen that as the exercise time of Qigong

Table 1

Characteristics of subjects and analysis of variance results

Subject characteristics	7—14 Hours / month (N = 128)	15—28 Hours / month (N = 135)	29—56 Hours / month (N = 133)	57—112 Hours / month (N = 134)	P
Male (%)	21,9	14,8	14,3	13,5	0,21
BMI (kg/m ²)	22,2 (21,8—22,7)	22,4 (21,9—22,8)	22,2 (21,8—22,7)	22,6 (21,9—23,1)	0,99
Bachelor degree or above (%)	23,4	19,3	18,1	17,0	0,62
Married (%)	77,3	83,7	74,4	80,5	0,85
Have occupation (%)	82,8	83,7	82,7	87	0,76
Sleep for 7—8 hours (%)	50,1	54,8	64,7	56,4	0,61
Drinking (%)	53,1	48,2	42,1	49,6	0,95
Smoking (%)	6,9	8,1	7,6	5,4	0,39
Number of diseases ≥ 2 (%)	33,7	34,9	37,6	36,8	0,64
Physical activity (METs)	3,03 (2,89—3,17)	3,19 (3,01—3,40)	3,25 (3,19—3,37)	3,61 (2,47—3,76)	0,06

Table 2

Variable	7—14 Hours / month (N = 128)	15—28 Hours / month (N = 135)	29—56 Hours / month (N = 133)	57—112 Hours / month (N=134)	P
Depression Elderly (%)	34	25	24	14	
No adjustment	1,00	0,67 (0,36—1,13)	0,63 (0,36—1,07)	0,31 (0,16—0,57)	< 0,001
Adjust age and gender	1,00	0,66 (0,38—1,12)	0,66 (0,38—1,14)	0,34 (0,18—0,64)	< 0,01
Multivariate adjustment*	1,00	0,64 (0,37—1,11)	0,65 (0,36—1,12)	0,34 (0,17—0,66)	< 0,01

* Multivariate: gender, body mass index, education, spouse presence, occupation, sleep time, smoking and drinking habits, medical history, physical activity.

Baduanjin increases, the incidence of depression in the elderly shows a significant trend.

This study evaluated for the first time the relationship between exercise time and depression in Qigong Baduanjin. The results showed that with the increase of exercise time, the depression rate of the elderly showed a significant downward trend. This result can show that long-term practice of Qigong Baduanjin has a positive effect on controlling the occurrence of depression in the elderly. Previous studies have confirmed that practicing Qigong Baduanjin can strengthen muscle strength, reduce the number of falls, and improve immunity [6, p. 67]. Combined with the results of this study, it can be inferred that Qigong Baduanjin also has the same effect in preventing depression [4, p. 1062].

It can be explained in two ways: on the one hand is the movement effect itself. Studies have shown that regular exercise can improve the emotional state of depression. The Qigong Baduanjin is suitable for people with different constitutions, especially in the elderly with a high incidence of depression. On the other hand is the role of psychological adjustment. When practicing Qigong Baduanjin, practitioners are required to continuously adjust their breathing, consciousness, and thinking, so that people can reach a state of peace of mind, which can effectively relieve psychological pressure and play a role in psychological stability. Other studies have pointed out that psychological stress is the biggest cause of depression, and practicing Qigong Baduanjin can effectively reduce psychological stress and achieve the purpose of improving depression [5, p. 462].

At the same time, this study also shows that the long-term practice of Qigong Baduanjin has played a certain role in maintaining the long-term mental stability. In this study, many factors that may interfere with the results of the study were considered, including gender, body mass index, education, occupation, sleep time, smoking and drinking habits, etc. However, after adjusting these factors, we found

that there was no significant change in exercise time and depression in Qigong Baduanjin. This shows that the exercise time of Qigong Baduanjin is independent of the above-mentioned interference factors and is significantly related to the incidence of depression. It should be noted that the SDS scale is a screening method for assessing depression, not a clinical diagnosis. Therefore, it is necessary to further study whether the exercise time of Qigong Baduanjin is also related to the clinical diagnosis of depression. Although many interfering factors are taken into account, it is still not guaranteed that with the extension of the exercise cycle of Qigong Baduanjin, other factors may affect the depression. For this reason, only the design of long-term intervention studies can finally establish the effectiveness of the results of this study.

Conclusion. Qigong Baduanjin, based on the theory of yin and yang, qi and blood, the theory of internal medicine, can improve blood composition, balance the yin and yang in the body, thereby improving mental health. Among the elderly who practiced Qigong Baduanjin, the exercise time of Qigong Baduanjin was significantly negatively correlated with the incidence of depression. Even after considering multiple interference factors, the results show the same development trend. When the elderly perform Qigong Baduanjin exercises, they must maintain the long-term and stability of exercise, as well as the time and frequency of exercise every week. This will have a positive impact on preventing and improving the depression of the elderly.

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Взаимосвязь между цигун Ба Дуань Цзинь и депрессией у пожилых китайцев

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Исследования показали, что китайская гимнастика цигун может оказывать положительное влияние на физическое и психическое здоровье людей. цигун Ба Дуань Цзинь имеет функцию укрепления тела и регулирования настроения и может стать важным методом вмешательства для эффективного предотвращения возникновения и развития депрессии. Самое короткое время практики цигун Ба Дуань Цзинь составляет 7 часов в месяц, а самое длинное — 112 часа в месяц. Долгосрочная регулярная практика цигун Ба Дуань Цзинь пожилых людей имеет положительную роль в эффективном снижении частоты возникновения и развития депрессии.

Ключевые слова: пожилые люди; Ба Дуань Цзинь; депрессия; Китай; цигун.