

Article

The biomechanical influence of Qianlong health maintenance movement on the mental health of the elderly people

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Abstract: Purpose: As mental health issues among the aging population become increasingly prevalent, effective interventions that incorporate physical movement are essential. To explore the influence of Qianlong health exercise on the mental health of the elderly people, emphasizing the biomechanical aspects of physical activity. **Methods:** A general situation questionnaire and the SCL-90 were used to measure the psychological status of 627 elderly people. **Results:** There were significant differences in the dimensions of somatization, obsessive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychosis, sleep diet and total score, especially in the dimensions of interpersonal sensitivity, depression, anxiety, paranoia and psychosis. Furthermore, the study identified significant variations in the length, frequency, and forms of Qianlong health exercise practiced by participants, indicating that these factors may play a critical role in influencing mental health outcomes. The biomechanical properties of Qianlong health exercise, characterized by controlled movements that enhance balance, coordination, and flexibility, may contribute to improved psychological well-being by reducing stress and promoting relaxation. **Conclusion:** Qianlong health exercise represents an effective intervention for enhancing mental health among the elderly, integrating physical activity with psychological benefits. Future research should focus on the specific biomechanical mechanisms that mediate these effects and explore how such exercises can be incorporated into comprehensive health promotion strategies for the aging population. This approach not only addresses physical fitness but also fosters mental resilience, making it a valuable addition to geriatric health programs.

Keywords: Qianlong health; mental health; the elderly

1. Introduction

According to the Research Report on the Prediction of the Development Trend of The Aging of China's Population, China will be in an aging society for a long time in the future, and the number of the aging population will continue to rise in the next 30 years and reach a peak of [1]. The aging of China's population is derived when the national comprehensive level is relatively backward, and the aging speed is fast, and the size of the elderly population is large, resulting in the problem of getting old before getting rich and getting old. In the current situation of the deepening of population aging in China, it should be more aware that Chinese modernization is the modernization of the elderly population, and more attention to the material and spiritual coordination of the elderly population should be paid attention to. Therefore, paying attention to the cause of elderly people and solving the problems of "urgent, sad, difficult and hope" faced by middle-aged and elderly people are essential for

realizing China's great dream, with the advancement of population aging, the health problems of elderly people have become increasingly prominent.

As a part of healthy aging, mental health has become an indicator used to evaluate the health status of the elderly [2]. Mental health is the expression of people's good psychological quality and an important part of people's overall health [3]. The elderly are a group with a high incidence of chronic diseases. Entering the elderly life, a little physical discomfort will have doubts about their physical function health, this doubt is easy to make them produce negative emotions [4]. In order to enhance the immunity of the elderly and improve their health level, such people should exercise appropriately [5]. Studies have found that proper physical exercise can improve the physical and mental health of the elderly [6]. By encouraging the elderly to participate in physical activities, they can slow down their physical aging, improve their physiological immune function and the decline of common diseases, frequent diseases and chronic diseases, and improve their quality of life. The psychological benefits of physical exercise are mainly manifested in long-term mental benefits and short-term mental benefits. A long-term mental benefit refers to the effect of long-term Taijiquan exercise on stable psychological quality, that is, reducing depression, improving the sense of self-worth and establishing positive happiness; short-term mental benefit refers to the influence of a Taijiquan exercise on the psychological state of the elderly, which has unstable factors and may alleviate the emotional state and psychological anxiety of the elderly, but cannot be used as the evaluation basis. Therefore, more attention should be paid to the mental health of the elderly, increasing institutional social and emotional support for the elderly and improving their overall health status.

Chinese traditional health preservation can promote the health of the elderly, delay aging, prevent various diseases, so as to improve life ability and improve the quality of life; its simple action, convenient methods, "simple to easy", and no side effects and loved by people. The Qianlong health maintenance technique was developed by Professor Hu Xiaofei from Beijing Sport University after studying Emperor Qianlong's "ten principles and four evils" and a variety of ancient and modern health maintenance techniques, which are based on exercise physiology, modern medicine and Chinese and Western theories and years of teaching experience and self-health maintenance experience in modern middle-aged and elderly people [7]. Qianlong health sitting potential work is according to modern people's (especially the elderly) body status and a combination of traditional Chinese medicine theory, traditional health theory and methods, under the guidance of the mind with slow abdominal breathing and orderly body movement, in the heart, interest, as practice criteria, under the integration of self-leading science physical exercise, so as to improve health and prevention, with the purpose of prolonging life. At present, the state's general administration of sports and other relevant government departments attaches great importance to the scientific and standardized development of health preservation, the theory and technology, basic facilities and propaganda effects and other related work gave certain planning and support, a comprehensive, multi-level guidance work, and achieved good results, further expanding the spread of health practices of the masses and increasing people's confidence in preserving one's health, for its stable development provides a strong support. As a traditional Chinese method of health preservation, it can regulate human viscera, qi and blood, and has the

functions of preservation, and self-control, while exercise is conducive to a quiet mind and plays a positive role in improving psychological quality and emotional adjustment. It belongs to the traditional Chinese fitness technique, and its movements are arranged in a comprehensive and orderly way, covering limb extension, joint activity, and acupoint and meridian massage, emphasizing the role of breath regulation and body regulation [8], and has the effect of enhancing physical fitness and immunity. Besides, it is simple and easy to learn, without side effects, and is favored by the middle-aged and elderly groups. With smooth connections and beautiful movements, it integrates self-cultivation, nourishing nature, entertainment and viewing [9]. Because of its low intensity of action, it is suitable for aerobic exercise in general middle-aged and elderly groups [10]. In addition, health preservation creates an elegant and quiet atmosphere for practitioners. Flowing notes and soothing movements blend with each other to achieve “static and static”, so that the practitioners can achieve the harmony and unity of meaning, qi and form, and also effectively improve the psychological state [11]. By using the SCL-90 as a tool for measuring the mental health of the elderly, this study explored the influence of Qianlong health exercise on the mental health of the elderly, in order to provide some reference value for the health exercise interventions of elderly researchers, related geriatric institutions and communities.

2. Research object and method

2.1. Research object

Table 1. Demographic variables in the practice group and the control group.

Demographic variables information	Control group	Exercise group	<i>t</i>	<i>P</i>
Gender	1.48 ± 0.50	1.50 ± 0.50	-0.51	0.65
Age	64.77 ± 4.21	64.69 ± 4.68	0.22	0.38
Educational level	3.10 ± 1.02	3.30 ± 1.06	-2.48	0.50
Occupational status	2.09 ± 1.41	2.08 ± 1.37	-0.07	0.06
Marital status	3.23 ± 1.17	3.22 ± 1.24	-0.03	0.17
Living condition	1.81 ± 0.55	1.79 ± 0.57	0.46	0.39
Health status	1.20 ± 0.45	1.18 ± 0.42	0.73	0.16
Pension status	1.24 ± 0.43	1.25 ± 0.44	-0.39	0.44

In the Wushu association of Gusu District of Suzhou city, 303 people were selected as the Qianlong health maintenance practice group via a random cluster sampling method. The inclusion criteria were as follows: no physical disability and no major organic diseases. They participate in Qianlong health training at least 2 times a week, and do not participate in other sports. A total of 324 people were selected as the control group. The inclusion criteria were as follows: no physical disability and no major organic diseases. The elderly who have no Qianlong practice experience and do not participate in or less participate in other sports exercise. The mean age of the elderly in the exercise group was 64.69 years old (SD = 4.68), with 49.5% (150) males and 50.5% (153) females. The mean age of the elderly in the control group was 64.77 years (SD = 4.21), with 52% (167) males and 48% (157) females. There were no

significant differences between the two groups in age, sex, education level, occupational status, marital status, living status, health status and retirement status (**Table 1**).

2.2. Measurement tools

The questionnaire consists of two parts:

(1) The questionnaire of demographic variables, including gender, age, education level, occupational status, marital status, living status, health status and pension status.

(2) The Symptom Checklist (SCL-90), also known as the self-assessment Checklist. This scale has been proven to have good reliability and validity when applied to the elderly population in China [12]. The SCL-90 contains 90 items, which are classified into nine symptom factors of somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, and psychosis, and one other factor. A five-level score from 1 to 5 is used, and the score for each factor is the average of all the items for that factor. Each factor reflects the pain of a certain aspect of the symptoms of the subjects, and the distribution characteristics of symptoms can be understood through the factor scores to assess the mental health status in the latest week [13].

2.3. Implementation procedure

After informed consent was obtained from the leaders of the Wushu Association of Gusu District of Suzhou city and the elderly themselves, group tests and individual tests were conducted. Before the formal test, the investigators involved in the study were uniformly trained, including the guidance language, the content of the SCL-90 scale, and the responsibilities and precautions of the investigators. During the formal test, the investigator introduced the guidance in detail to the elderly subjects, and monitored the quality of the elderly filling in the questionnaire. In order to ensure the authenticity and reliability of the data, we have equipped special investigators to conduct individual tests for the elderly who could not complete the scale independently.

2.4. Data processing and analysis

SPSS 26.0 software was used to collect and analyze the data of 627 valid questionnaires (the recovery rate was 90%). Statistical methods include descriptive statistics, independent sample *t* test and *F* test.

3. Results and discussions

3.1. The influence of Qianlong health maintenance movement on the mental health of the elderly

As shown from **Table 2**, compared with those in the control group, there were significant differences in the dimensions of somatization, obsessive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychosis, sleep diet and total score in the exercise group, especially in the dimensions of interpersonal sensitivity, depression, anxiety, paranoia and psychosis. The results

show that Qianlong health maintenance can significantly improve interpersonal relationships, depression, anxiety, paranoia and psychosis of the elderly. From the general trend, all the dimensions and total scores of the exercise group are smaller than those of the control group, which further indicates that Qianlong health exercise can effectively improve the mental health problems of the elderly.

Table 2. Effects of the Qianlong Shengggong movement on the mental health of the elderly ($\bar{x} \pm s$).

Dimensionality	Control group	Exercise group	<i>t</i>	<i>P</i>
Somatization	1.37 ± 0.60	1.34 ± 0.47	0.75	0.002**
Obsessive symptom	1.64 ± 0.74	1.52 ± 0.59	2.02	0.004**
Interpersonal sensitivity	1.51 ± 0.75	1.42 ± 0.58	1.56	0.000***
Depressed	1.47 ± 0.70	1.36 ± 0.51	2.22	0.000***
Anxiety	1.44 ± 0.69	1.31 ± 0.50	2.53	0.000***
Antagonize	1.44 ± 0.70	1.38 ± 0.56	1.15	0.009**
Horror	1.38 ± 0.59	1.35 ± 0.54	0.73	0.169
Bigoted	1.42 ± 0.69	1.32 ± 0.51	2.07	0.000***
Psychosis	1.40 ± 0.69	1.25 ± 0.44	3.09	0.000***
Sleep diet	1.44 ± 0.68	1.40 ± 0.55	0.64	0.002**
Total points	1.45 ± 0.64	1.37 ± 0.48	1.88	0.001**

Note: $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

3.2. Influence of different Qianlong health maintenance exercises on the mental health of the elderly

Table 3 shows the descriptive statistics of the effects of Qianlong health maintenance exercises on mental health in different ways (exercise years, exercise frequencies and exercise forms).

Table 3. Descriptive statistics of the effects of different Qianlong health maintenance exercises on the mental health of the elderly ($\bar{x} \pm s$).

Dimensionality	Years of exercise					Exercise frequency			Exercise form		
	Within three months	Within half a year	Within a year	Within two years	More than two years	Twice a week	Three or four times a week	Five or six times a week	Everyday	Practice by yourself	Group exercise
Somatization	1.43 ± 0.51	1.33 ± 0.37	1.32 ± 0.54	1.19 ± 0.17	1.16 ± 0.37	1.37 ± 0.49	1.25 ± 0.32	1.24 ± 0.43	1.13 ± 0.16	1.40 ± 0.53	1.26 ± 0.36
Obsessive symptom	1.61 ± 0.64	1.62 ± 0.52	1.48 ± 0.60	1.31 ± 0.26	1.17 ± 0.52	1.58 ± 0.60	1.40 ± 0.47	1.20 ± 0.42	1.07 ± 0.20	1.61 ± 0.64	1.41 ± 0.49
Relationship sensitivity	1.50 ± 0.58	1.49 ± 0.56	1.39 ± 0.62	1.17 ± 0.18	1.18 ± 0.60	1.46 ± 0.60	1.31 ± 0.44	1.26 ± 0.54	1.09 ± 0.24	1.51 ± 0.62	1.30 ± 0.48
Depressed	1.44 ± 0.56	1.40 ± 0.44	1.33 ± 0.52	1.16 ± 0.15	1.15 ± 0.54	1.40 ± 0.53	1.24 ± 0.34	1.15 ± 0.38	1.04 ± 0.11	1.44 ± 0.57	1.26 ± 0.39
Anxiety	1.36 ± 0.55	1.37 ± 0.41	1.29 ± 0.53	1.11 ± 0.09	1.16 ± 0.64	1.35 ± 0.53	1.18 ± 0.32	1.17 ± 0.39	1.07 ± 0.12	1.38 ± 0.58	1.23 ± 0.36
Antagonize	1.44 ± 0.60	1.48 ± 0.54	1.33 ± 0.53	1.16 ± 0.17	1.17 ± 0.61	1.41 ± 0.56	1.36 ± 0.56	1.17 ± 0.50	1.11 ± 0.38	1.47 ± 0.59	1.26 ± 0.48

Table 3. (Continued).

Dimensionality	Years of exercise					Exercise frequency			Exercise form		
	Within three months	Within half a year	Within a year	Within two years	More than two years	Twice a week	Three or four times a week	Five or six times a week	Everyday	Practice by yourself	Group exercise
Horror	1.37 ± 0.57	1.41 ± 0.55	1.36 ± 0.55	1.15 ± 0.15	1.17 ± 0.54	1.38 ± 0.56	1.26 ± 0.48	1.16 ± 0.43	1.05 ± 0.13	1.43 ± 0.58	1.24 ± 0.48
Bigoted	1.35 ± 0.52	1.44 ± 0.52	1.29 ± 0.56	1.14 ± 0.20	1.05 ± 0.15	1.34 ± 0.51	1.26 ± 0.53	1.26 ± 0.66	1.01 ± 0.05	1.38 ± 0.54	1.24 ± 0.44
Psychosis	1.29 ± 0.15	1.31 ± 0.40	1.24 ± 0.52	1.04 ± 0.05	1.10 ± 0.39	1.28 ± 0.46	1.18 ± 0.35	1.17 ± 0.43	1.04 ± 0.14	1.33 ± 0.50	1.15 ± 0.32
Sleep diet	1.46 ± 0.61	1.45 ± 0.50	1.40 ± 0.54	1.16 ± 0.15	1.19 ± 0.55	1.45 ± 0.56	1.22 ± 0.45	1.19 ± 0.47	1.18 ± 0.34	1.48 ± 0.62	1.30 ± 0.39
Total points	1.43 ± 0.51	1.42 ± 0.43	1.34 ± 0.53	1.16 ± 0.12	1.15 ± 0.48	1.40 ± 0.50	1.26 ± 0.38	1.20 ± 0.46	1.08 ± 0.16	1.44 ± 0.54	1.27 ± 0.37

In terms of years of exercise, somatization ($F = 2.421$, $P = 0.048$), obsessives ($F = 4.034$, $P = 0.003$), interpersonal sensitivity ($F = 2.898$, $P = 0.022$), depression ($F = 2.645$, $P = 0.034$), hostility ($F = 2.626$, $P = 0.035$), paranoia ($F = 3.532$, $P = 0.008$) and total score ($F = 2.834$, $P = 0.025$) significantly differed. It can be seen that with the increase of exercise years, the mental health scores of the elderly show a decreasing trend, and the value span of exercise years within one year and within two years was large, indicating that the elderly should insist on exercising for at least one year in the practice of Qianlong health maintenance, in order to improve their mental health significantly.

In terms of exercise frequency, there were significant differences in compulsion ($F = 4.707$, $P = 0.003$), depression ($F = 3.338$, $P = 0.020$), sleep diet ($F = 2.943$, $P = 0.033$) and total scores ($F = 2.764$, $P = 0.042$). It can be seen that with the increase of exercise frequency, the mental health scores of the elderly show a decreasing trend, indicating that when the elderly practice Qianlong health, the more the frequency of exercise, the better the improvement of their mental health. The scores of compulsions, depression, sleep and total score of the elderly were the lowest in the frequency of daily exercise, suggesting that the frequency of daily Qianlong health exercise can significantly reduce mental health problems in the elderly.

In terms of exercise forms, somatization ($F = 6.492$, $P = 0.011$), obsessive-compulsive symptoms ($F = 8.783$, $P = 0.003$), interpersonal sensitivity ($F = 9.912$, $P = 0.002$), depression ($F = 9.905$, $P = 0.002$), anxiety ($F = 6.757$, $P = 0.010$), hostility ($F = 10.770$, $P = 0.001$), terror ($F = 9.323$, $P = 0.002$), paranoia ($F = 4.984$, $P = 0.026$), psychosis ($F = 11.768$, $P = 0.001$), sleep diet ($F = 8.726$, $P = 0.003$) and total score ($F = 10.112$, $P = 0.002$) were significant differences. It can be seen that the scores of somatizations, obsessive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychosis, sleep diet and the total score are the lowest in group practice, indicating that Qianlong health training in the form of group exercise can significantly improve mental health problems in the elderly.

3.3. Discussion

Physical exercise can regulate and promote physical health, and is also an effective means to improve people's mental health [14]. Physical exercise can not only enhance the physical function of elderly people but also regulate their emotions, improve interpersonal problems, improve coping ability, enhance happiness, and enhance mental health. Fitness Qigong can relieve tension, anxiety, depression and other psychological symptoms, improve psychological function, and produce psychological effects. It can be seen that health preservation exercise can not only improve the physical health of the elderly, but also further improve their level of mental health. Qianlong health maintenance is a kind of health exercise that is beneficial to the physical and mental health of the elderly by changing their physical conditions in response to modern diseases [15]. In this study, the average scores of the elderly in the Qianlong health maintenance practice group were significantly lower than those in the control group were, which also indicates that the practice of Qianlong health maintenance can improve the mental health level and mental health problems of the elderly to some extent.

Some scholars have proposed that in terms of group standards of social psychology of sports, researchers emphasize the interaction and influence between independent individuals and others in the social environment [16], while in the process of sports and exercise, different individuals are interrelated and influence each other. Long-term physical exercise can improve the physical and mental health of the elderly, and not only bring subjective satisfaction, but also provides a certain motivational basis for the correlation between physical exercise and interpersonal relationships [17]. Previous studies have found that Qianlong health maintenance can significantly increase the positive emotions of elderly exercisers, thereby improving their negative emotions [18]. In the practice of Qianlong health, the elderly can communicate with each other, communicate with each other, enhance friendships with each other at the same time, and expand social exchanges, so as to improve interpersonal problems. In such an environment, the elderly re-establish the social category, some motivations, goals and values can be realized, no longer worry about whether to play the residual heat, but also reduce the sense of loneliness. Second, sporting activities require that the old man actively communicate with other participants, need mutual understanding, respect, collaboration, relieve the estrangement in interpersonal communication, enhance friendship, and good friendship can increase each other company and emotional talk channels, reduce and eliminate the external environment of tension, anxiety, depression and other negative emotions. At the same time, in the process of practice, with increasing practice time, the elderly will also find their own sense of value in group practice, improve their self-attributes, and reduce their sense of loneliness. In the process of getting along with others, individual subject consciousness and self-efficacy are greatly enhanced, and negative emotions and bad psychological experiences are improved significantly, to things, empathy for others, so that the participants in the process of getting along with family can be more rational and positive to deal with problems, improve family adaptability, significantly improve the participants and family intimacy, family function improve the positive emotional experience, so as to effectively improve their mental health level. In addition, the

movement of Emperor Qianlong's health preservation technique requires a certain memory and coordination ability. In the process of continuous practice of health preservation, the brain needs to remember the order of movements and control the coordinated movement of various parts of the body. This is a beneficial stimulus for the brain, similar to performing cognitive training. For example, when learning a new combination of health preservation movements, the elderly need to focus on understanding and remember the name, starting posture, movement trajectory, etc. This process helps to improve the neuronal activity of the brain, so as to improve cognitive function to a certain extent and prevent cognitive disorders such as senile dementia.

According to the viewpoint of physical exercise on emotion regulation mechanism, physical exercise can induce positive emotions and thoughts, and these positive emotions and thoughts have a resistance effect on anxiety, depression and other negative emotions [19]. Physical exercise can significantly improve people's anxiety and depression levels [20], regulate the bad emotions of the elderly such as tension, anxiety and depression, and improve their physical and mental health [21]. Qianlong health maintenance can improve people's psychological symptoms. It is a combination of heart adjustment, breath adjustment and body adjustment, during the practice process, you can concentrate on, relax the mood, fully into the movement. Secondly, breathing during practice helps to relax the tension of the body and mind and improve the emotional level. In addition, Qianlong's exercise process, stretch the body, the mind by the body, open their own heart, calm the mind, forming a good physical and mental effects. The basic premise of physical exercise on emotional regulation is that physical exercise can induce positive thinking and emotion, which have resistance effects on negative mood, such as depression, anxiety and confusion. It emphasizes the improvement of individual control and self-efficacy. Recent studies have suggested that the regulation of depression level is mainly reduced by the improvement of the mediating variable, body thinning. This theory seems to be very convincing to explain long-term physical exercise on emotional regulation, but one-time physical exercise also has a significant role in emotional regulation, and the change of self-efficacy and self-esteem is not changed by one-time physical exercise can change, therefore, from this point of view, it is really difficult to convince. According to the social and cultural view of physical exercise, the basic premise of physical exercise is that the social communication with friends and colleagues in physical exercise is pleasant, and it has the role of regulating emotions. Qianlong health preservation contains a variety of movements, when the elderly can gradually master these health movements, will produce a sense of self-efficacy. For example, in the early stages of learning health preservation, the elderly may have difficulty in balancing movements or body coordination, but with the practice, they gradually become able to complete the whole set of movements. This transition from inability to capability will convince the elderly that they have the ability to control their physical functions, thus increasing self-confidence.

In terms of exercise years, the elderly insisted on at least one year of Qianlong health exercise, and their physical and psychological functions obvious changed, promoting the further development of mental health. Longer periods of physical activity can reduce depression, hostility and paranoia, and thus reduce the risk of

mental illness. Exercise can effectively promote the mechanism of mental health, one of the manifestations is that exercise can lead to physiological changes. At the same time, the establishment and maintenance of interpersonal relationships in the process of exercise can promote lasting exercise to a certain extent. On the contrary, exercise can also bring corresponding social support to exercise groups [22]. The higher the exercise frequency, duration and intensity level are, the better the cardiopulmonary fitness, flexibility and flexibility of the upper and lower limbs; the better the cardiopulmonary fitness [23]; the better the cardiopulmonary fitness, balance and BMI index [24]; the upper limbs and the upper and lower limbs are better than the exercise alone [25]. Most of the elderly leave work and are no longer the main body of economic and social activities. After the reduction of social participation and interpersonal communication behavior, some loneliness of the elderly will arise spontaneously, and over time may be accompanied by depression, despair and other pessimism. Although they have enough leisure time, their life is bored. In this case, fun and colorful leisure activities not only enrich leisure life but also contribute to the physical and mental health development of the elderly. As an important means to promote the health level of the elderly, sports are deeply loved by the elderly, and the elderly are also willing to spend more time participating in physical exercise [26].

In terms of exercise frequency, daily Qianlong health practices can significantly improve mental health problems in the elderly. This is mainly due to the release of endorphins. When older adults engage in more intense activities, such as fast walking or cycling the body produces endorphins. Endorphins bind to opioid receptors in the brain, producing a pain-relieving and euphoric effect similar to morphine [27]. This sense of euphoria can improve their psychological state. At the same time, moderate exercise helps regulate the secretion of cortisol. In older adults, chronic stress or exercise can lead to high levels of cortisol, which can have negative effects on both physical and mental health. Exercise can increase the body's sensitivity to cortisol, the body to use cortisol more efficiently in emergencies, helping older adults maintain stable emotions and good mental health [28]. The more often older people exercised each week, the better their mental health. Therefore, it is recommended that elderly friends, if physical conditions permit, carry out Qianlong health exercise every day, will achieve better mental health results. There are still some old people exercise frequency is low, every exercise time, exercise is not enough, which is one of the main reasons for their poor quality of life, for this part of the elderly should find the cause of their lack of physical exercise, help them to actively participate in reasonable physical exercise, improve the quality of life. According to the survey results of the frequency of physical exercise in the elderly, most elderly pay more and more attention to their physical health status, increase the awareness of participating in physical exercise, and the number of participating in physical exercise increases. But also found that in the process of survey, some of the elderly for physical exercise "heart spare", by talking with this part of the elderly, they don't work, although the free time, but need to help children take care of their children, or life, thus occupy the elderly leisure time, lead to their own leisure time reduced accordingly, participate in the number of physical exercises also decreased [29].

In terms of exercise forms, the mental health level of the elderly who practiced in groups was significantly better than that of the elderly who practiced on their own.

On the one hand, the Qianlong group exercises can supervise each other, communicate and interact, ensure the quality of the movement, urge each other, insist on exercise, and stimulate the active exercise attitude. On the other hand, through the form of group exercise, the elderly gradually expand their social circle, increase positive emotional experiences, and obtain more social support. Many studies have confirmed that some sports on the positive role of the elderly physical and mental health, different sports for health is different, therefore, to participate in a variety of sports, can not only satisfy a variety of interests, but also make life rich and colorful, and is conducive to the integration of multiple different functions and comprehensive advantages, more effectively promote physical and mental health, increase the elderly participate in physical exercise content rich performance effectively improve the quality of life of the elderly. Many studies have confirmed that some sports on the positive role of the elderly physical and mental health, different sports for health is different, therefore, to participate in a variety of sports, not only can meet a variety of interests, make life rich and colorful, and is beneficial to the integration of different multiple functions and comprehensive advantages, more effectively promote physical and mental health, increase the elderly participate in physical exercise content rich performance effectively improve the quality of life of the elderly. This study found that the higher the proportion of elderly people with physical activity venues and facilities, and the higher the proportion of elderly people who often participated in physical exercise, the higher the proportion of elderly people who did not participate in physical exercise. This shows that the allocation of sports facilities and venues has been an important factor for the masses to participate in physical exercise, and the allocation of sports facilities and venues should be strengthened in the process of promoting national fitness work. The physical indicators of the regular exercise group were significantly better than those of the occasional exercise group and the no exercise group. The practice process of health preservation techniques focuses on breathing regulation and physical and mental relaxation. In the elderly, they can activate the parasympathetic nervous system of the body through deep breathing and slow movement rhythm. For example, during deep inspiration, the diaphragm drops, the lungs expand fully, and the body receives more oxygen supply; during expiration, the body's muscles are further relaxed. This breathing method helps to reduce the secretion of stress hormones in the body, such as cortisol, thereby reducing anxiety and stress mood. The regular practice of health preservation also provides a way for the elderly to focus on the present moment and temporarily free them from their worries and worries in life. During the practice, the elderly need to focus on the body movements and breathing, which can reduce distractions and give the mind a moment of peace.

Potential issues to be aware of during the implementation of “Qianlong Health Preservation Method” are as follows: For elderly people with physical strength, it is easy to cause muscle overwork, leading to muscle soreness, strains, and other problems. Over fatigue can also affect the immune system the elderly, making them more susceptible to diseases. Secondly, some health preservation exercises in the Qianlong health preservation method may involve specific postures and movements. The movements are not standardized, it is easy to cause joint injuries. Therefore, when the elderly perform health preservation exercises, there should be professional coaches or caregivers to their postures. After the exercise, close attention should be paid to the

elderly's physical reactions, such as whether they show signs of over fatigue, increased muscle, joint pain, etc. Additionally, attention should be paid to the elderly's psychological state after exercise, such as whether their mood has improved, whether their signs of anxiety or depression, etc. If it is found that the elderly's mood does not improve or negative emotions appear after exercise, the reasons should be analyzed which could be due to unsuitable exercise methods or poor exercise environment, etc. Then, adjustments should be made accordingly.

4. Conclusion

Physical exercise can improve the mental health of the elderly. Qianlong health maintenance, as a traditional fitness technique in China, can significantly reduce the mental health symptoms of the elderly such as interpersonal sensitivity, anxiety and depression. At the same time, it also proves that Qianlong health maintenance is one of the effective means to improve the mental health of the elderly, and can also be used as an intervention means to prevent anxiety and depression in the elderly, with certain health benefits. The period, frequency and form of Qianlong's exercise will affect the mental health level of the elderly. It is recommended that the elderly adhere to at least one year, daily group exercise, at this time the effect will be better.

Some suggestions on the impact of Qianlong health-preserving exercise on the mental health of the elderly: Set up special health lectures in the community to introduce the Qianlong health-preserving sports. Secondly, open Qianlong health-preserving sports classes and organize traditional martial arts classes, such as Baduanjin (similar to the physical exercises that might have existed during the Qianlong period) at community activity centers or senior universities. Suggestion on the impact of Qianlong health-preserving on the mental health of the elderly. Finally, it is recommended to incorporate the policy system for promoting the health of the elderly, formulate a plan to promote health-preserving exercises, the government should include traditional health-preserving methods such as Qianlong health-preserving exercises in the overall plan for promoting the health of the elderly. In addition, specify the target groups for promotion and specific promotion strategies, including training professional health-preserving exercise instructors and establishing health-preserving exercise promotion points in communities. Set up funds to support the research and promotion of Qianlong health-preserving exercises.

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