


The impact of physical exercise on the mental health of the elderly

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ABSTRACT

Objective. To study the impact of physical exercise on the mental health of the elderly, and to formulate corresponding management strategies for physical exercise. **Methods.** From February 2018 to February 2019, 180 elderly people were selected from the community as research subjects. The elderly people included in the group were randomly divided into a physical exercise group and a control group, and the symptom self-rating scales of the two groups were compared. (SCL-90) score. **Results.** The scores of somatizations, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, and terror of the elderly in the physical exercise group were significantly lower than those in the control group ($p < .05$); there was no significant difference in the scores of hostilities, paranoia, and psychosis between the two groups ($p > .05$). **Conclusion.** The mental health of the elderly is an important factor affecting their quality of life, and strengthening the way and content of physical exercise for the elderly can effectively regulate the mental health of the elderly, thereby promoting the improvement of their quality of life and, to a certain extent, alleviating the social and social problems brought about by population aging. Economic pressure is of great significance to the long-term and stable development of society.

Keywords: Physical exercise, Mental health, Exercise.

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INTRODUCTION

In recent years, the trend of my country's population aging has intensified, and the number of elderly people has increased sharply, which has caused greater pressure on society and families. The physical and mental health of the elderly has an important impact on their daily lives. In addition to paying attention to and managing the physical health of the elderly, comprehensively analyze the factors that affect their mental health and formulate effective measures to improve their psychological health. Regulating the health status of the elderly can effectively regulate the physical and mental state of the elderly, improve their quality of life, and moderately reduce the pressure on family and society (Edwards, 2006). The formation and development of psychological problems in the elderly generally have hidden characteristics, and their existing psychological changes are sometimes difficult to notice by family members and the outside world. It is not until the psychological problems have a serious impact on normal life that they are paid attention to. The alleviation and prevention of psychological problems in the elderly have relatively large limitations (Castelli et al., 2007). Physical exercise occupies an important position in people's daily lives. A comparative analysis of the impact of physical exercise on the mental health of the elderly and, based on this, the formulation and implementation of effective physical exercise policies and countermeasures will help improve the physical and mental health of the elderly and promote social development. It is of great significance (Desheng, 2019). In this study, the Symptom Checklist (SCL-90) was used to study the impact of physical exercise on the mental health of the elderly and to formulate corresponding physical activity management strategies.

MATERIALS AND METHODS

General Information from February 2018 to February 2019, 180 elderly people were selected from the community as research objects, and the selected elderly people were divided into groups by computer random selection, and the participants were divided into those who did physical exercise group and control group. There were 90 physical exercise groups, including 49 males and 41 females, aged 66 to 82 averages (73.46 ± 4.71) years old. The control group consisted of 90 subjects, including 46 males and 44 females, aged 67-82 [average (73.85 ± 4.84)] years old. Inclusion criteria: ① Sign the informed consent approved by the hospital ethics committee; ② Age over 60 years old; ③ No language barriers. Exclusion criteria: ① those with severe diseases requiring long-term bed rest; ② those with mental system diseases and cognitive impairment; ③ those with senile dementia. There was no statistically significant difference in age and gender between the two groups ($p > .05$), and they were comparable.

The control group did not carry out physical exercise regularly

Under the guidance of hospitals and community service agencies, the physical exercise group carried out targeted physical exercise in daily life and comprehensive exercise for body functions. Questionnaires were used to investigate the basic information of the two groups, such as age, gender, health status, education level, and hobbies, and the SCL-90 scale was used to evaluate the mental health status of the two groups. Questionnaire surveys and evaluations are conducted on the elderly by experienced, professional medical staff. All medical staff have received professional mental health test training and are able to master assessment knowledge and skills proficiently. Targeting age in research for elderly people who are unable to write the questionnaire due to factors such as size, the medical staff will fill in the records through the method of regular inquiry.

Observation indicators SCL-90 was used to improve the mental health of the two groups

The scale includes 9 aspects of somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, and psychosis. The somatization score ranges from 12 to 60,

and the higher the score, the more somatic the stronger the discomfort, the lower the score, the less obvious the symptom experience; the score of obsessive-compulsive symptoms ranges from 10 to 50, and the higher the score, the more unable to get rid of some meaningless behaviors, thoughts and impulses, and there may be some cognitive symptoms. Behavioral signs of cognitive impairment; Interpersonal relationship sensitivity score ranges from 9 to 45 points, the higher the score, the more problems in interpersonal communication, the more prominent problems such as low self-esteem and self-centeredness, and negative expectations may appear; Depression score 13 to 65 points, the higher the score, the more obvious the depression; the anxiety score is 10 to 50 points; the higher the score, the more severe the anxiety; the hostility part is 6 to 30 points, the higher the score, the more hostile the individual and the worse the temper control ; Horror score 7-35 points, the higher the score, the more severe the fear of places and objects, and obvious physical symptoms may appear at the same time; the paranoia score is 6-30 points, the higher the score, the more prone to paranoia; psychotic Scores range from 10 to 50, with higher scores indicating more psychotic symptoms and behaviors.

Statistical analysis

SPSS26.0 statistical software was used for t test.

RESULTS

There was no significant difference in hostility, paranoid and psychotic scores between the two groups Significance ($p > .05$); the scores of somatizations, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, and terror in the physical exercise group were significantly lower than those in the control group, and the difference was statistically significant ($p < .05$). See Table 1.

Table 1. Comparison of SCL-90 scores between the two groups ($x \pm s$, points, $n = 90$).

Group	Somatic	Obsessive compulsive symptoms	Interpersonal sensitivity	Depression	
Exercise group	12.23 ± 3.66	11.26 ± 2.35	9.46 ± 1.64	13.26 ± 3.21	
Control group	22.23 ± 4.66	18.23 ± 3.26	16.22 ± 2.64	22.23 ± 3.64	
T value	6.264	5.624	5.468	6.554	
p-value	.012	.018	.019	.010	
Group	Anxiety	Hostility	Fear	Paranoid	Psychotic
Exercise group	12.46 ± 3.89	7.64 ± 2.64	8.25 ± 2.34	8.68 ± 2.65	12.22 ± 2.65
Control group	19.64 ± 4.23	9.46 ± 3.12	16.46 ± 3.89	10.46 ± 3.22	13.46 ± 3.56
T value	5.348	3.014	6.234	3.289	3.664
p-value	.021	.083	.013	.070	.056

DISCUSSION

The status quo and influencing factors for the mental health of the elderly

Common types of psychological problems in the elderly the occurrence of psychological problems in the elderly will have obvious adverse effects on their physical health and quality of life. Diseases caused by mental health factors have become one of the most important factors that threaten the health of the elderly. At present, there is insufficient awareness and attention given to the mental health of the elderly in society, and the elderly do not have a strong awareness of their own mental health, which has led to the emergence of different types of mental and mental diseases in the elderly. The research and analysis found that the types of mental illness in the elderly mainly include twilight psychology, inferiority complex, worthlessness, restlessness, mental disorders, and psychosis. The reason for the formation of twilight psychology is the influence of factors such as the children of the elderly leaving home, infirmity, and other factors, which lead

to the loss of the joy of life in the elderly, negative and pessimistic emotions about the future, and a negative and negative gray psychology (Van den Bergh et al., 2014). Inferiority psychology will lead to complaints and acute responsibilities for children in the elderly. The inferiority complex is mainly due to the reduction of economic income, social status, and role changes in the elderly after retirement from their original jobs, followed by the formation of psychological problems. Disappointment and an inferiority complex. The sense of worthlessness means that the elderly cannot adapt to a leisurely life, cannot reasonably arrange their own time, and gradually think that they have become a burden on the family and society, unable to find the value of their own existence, and then have a negative and low evaluation of themselves. Uneasiness is caused by the elderly due to self-enclosed, Unable to communicate with society and others, they gradually develop a feeling of loneliness and helplessness and a fear of the outside world. Senile mental disorders are caused by the lack of regular life and group activities in the elderly, resulting in neurasthenia, depression, anxiety, hypochondria, phobias, Mental disorders such as obsessive-compulsive disorder and hysteria affect the elderly, who have a slightly higher incidence than other age groups (Wood et al., 2002).

Current status of the mental health of the elderly as a country with a large population in the world, under the influence of the aging trend of the population, the number of elderly people continues to rise. In 2010, the number of elderly people over 60 in my country reached 1.37 billion, accounting for 10% of the country's total population 10%. Due to changes in work, family, and health, the elderly is prone to mental health problems. On the one hand, the elderly is prone to loneliness and loss. On the other hand, the lack of knowledge and concepts related to life and health leads to older people being more susceptible to disease and the degeneration of their own body functions, resulting in fear and anxiety. Relevant survey data show that 50% to 80% of geriatric diseases in my country are caused by the mental illness of the elderly, and about 70% of the mental illness of the elderly is caused by a lack of spiritual care (Newton et al., 1997). At present, about 85% of the elderly in my country have different degrees of psychological problems, and more than 20% have significant psychological disorders such as depression and anxiety. The number of patients with Alzheimer's disease has reached 0.75%. Factors such as children leaving home as adults and forming new families have led to an increasing number of empty-nest elderly in my country. More and more elderly people are unaccompanied in their lives, and their lives are very lonely and monotonous (Kissane, 2012). The gradual transfer of the young rural population to the city has seriously affected the medical care, entertainment, and quality of life of the rural elderly population, and their physical and mental health will have varying degrees of problems (Dyson, 2014).

Diseases in various aspects, especially the onset of various chronic diseases, will have obvious adverse effects on the daily life and mental health of the elderly because of the inability to obtain quality quickly and effectively (Wei et al., 2021). At the same time, the social relationship of the elderly is also an important factor affecting mental health. Relevant studies have shown that the mental health of the elderly with close friends and good social relationships is significantly better than that of the elderly with poor social relationships. Good social relations and close friends can enable the elderly to have a way to communicate and express their emotions (Rittweger, 2010). For psychological pressure and bad emotions Able to express and relieve to a certain extent.

The scientific impact of physical exercise on the mental health of the elderly

Physical exercise is a systematic exercise process that can improve the physical and psychological conditions of the elderly through different types and frequencies of physical exercise activities. Under the guidance of a personalized scientific physical exercise program, organizing and guiding the elderly to carry out physical exercise can make them the body gets targeted exercises to improve the discomfort of the elderly's gastrointestinal tract, cardiovascular and cerebrovascular systems, and respiratory systems and

slow down their physical discomfort. The elderly is in a state of leisure and idleness for a long time, and their cognitive function will decline, which will increase their occurrence of obsessive-compulsive, etc. Possibility of mental disorders (Khwajamir, 2016). The development of targeted physical exercise can target the physical and psychological characteristics of the elderly, exercise their different functions, and promote the maintenance and improvement of their cognitive functions. Physical exercise has certain group characteristics. Based on a comprehensive analysis of the physical functions and hobbies of the elderly, it can provide a space for activities and exchanges for the elderly with the same hobbies and characteristics. Communication can play an important role in expressing emotions and alleviating negative emotions and can effectively prevent the elderly from feeling uncomfortable and inferior in interpersonal communication due to long-term solitude and a sense of loss. In addition, regular physical exercise can make the elderly feel confident in their own lives and willing to find activities that suit them. At the same time, through communication with others during exercise, it can effectively reduce the possibility of anxiety and depression symptoms. Sex to cope with old age with a more peaceful and positive mental state in addition, The development of physical exercise can promote the adaptation of the elderly to the external environment, such as outdoor space and crowds, through gradual activities and avoid the occurrence of symptoms such as crowds and social phobia in the elderly (Santonja Medina et al., 2007).

Strategies to optimize the physical exercise of the elderly based on scientific sports exercise

They plays an important role in the mental health of the elderly. Relevant government departments, medical and health institutions, and family members of the elderly should strengthen their awareness and attention to the mental health and physical exercise of the elderly and provide good health care for the elderly from different perspectives. Physical exercise environment, encouragement and guidance the elderly actively participate in physical exercise, which promotes the improvement of their physical and mental condition and quality of life and, at the same time, provides assistance in alleviating family and social pressure.

The government and related departments strengthen the physical exercise of the elderly. Guide the relevant government departments to fully realize the importance of physical exercise for the elderly, strengthen the publicity and guidance of physical exercise, enable all social forces to pay attention to the mental health and physical exercise of the elderly through publicity and education, and provide for the elderly. Contribute to the development of human physical exercise. At the same time, relevant government departments should intensify efforts to build and improve the hardware foundation of physical exercise for the elderly, invest manpower and material resources to improve the equipment foundation for the elderly's physical exercise, improve the venues and equipment for the elderly's physical exercise, and provide the elderly with Scientific and safe physical exercise venues that can promote the enthusiasm and effectiveness of physical exercise for the elderly (Castelli et al., 2007). In addition, it is necessary to give full play to the role of the community, create volunteer services and activity centers for the elderly in the community, strengthen contact and communication with the elderly, and encourage the elderly. The cultivation of hobbies and enthusiasm for physical exercise lays the foundation for promoting the physical and mental health of the elderly (Pantović et al., 2015).

Medical institutions strengthen the research and development of physical exercise for the elderly. Guide medical institutions to give full play to their expertise in the treatment of diseases of the elderly and mental health interventions, strengthen exchanges and communication with community medical service centers, and provide professional and scientific guidance for physical exercise for the elderly. First of all, medical institutions should improve their own medical equipment and supporting facilities, strengthen the professionalism and effectiveness of diagnosis and treatment of geriatric diseases, and ensure that the elderly can receive timely and effective treatment after seeking medical treatment. At the same time, increase

research and nursing management of chronic diseases in the elderly, optimize disease prevention and control measures, and lay a medical and health foundation for the physical and mental health of the elderly (12). Secondly, medical institutions should intensify their guidance and training for community medical institutions and give full play to the medical institutions play a closer role in the diagnosis and treatment of diseases of the elderly and physical exercise and regularly train community medical personnel to improve their professionalism in the prevention and treatment of diseases of the elderly and the guidance of physical exercise. Finally, medical institutions should regularly carry out activities such as entering the community and entering the family to publicize the importance of physical exercise and the way that scientific physical exercise can promote the improvement of the scale and efficiency of physical exercise for the elderly This study shows that the mental health of the elderly is an important factor affecting their quality of life and the prevention and treatment of related diseases. Strengthening the way and content of physical exercise for the elderly can effectively regulate the mental health of the elderly, thereby promoting the improvement of their quality of life and, to a certain extent, alleviating the social and economic pressure brought by population aging, which is of great significance to the long-term and stable development of society.

AUTHOR CONTRIBUTIONS

Mohammad Younus Ajmiri: the primary data was collected. Hizbullah Bahir: completed the literature review, method and design, analysis data and all parts of the article.

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DISCLOSURE STATEMENT

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