Research on the Prescription of Healthy Exercise for old of Migrant Resident Women

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Abstract: This paper uses the literature method, experimental method and mathematical statistics method to study the mental health exercise prescription of the elderly women in the old city according to the mental health test and questionnaire survey results of the elderly women in the city. The experimental results show that the exercise prescriptions with Tai Chi, Wu Qin Xi and Ba Duan Jin as the main sports contents can improve the mental health and subjective well-being of the elderly women who move with them. After 8 weeks of suspension, the traditional health sports prescriptions improve the body. The sensitivities and interpersonal sensitivity factors that improve positive emotions and positive experiences are still sustaining.

1. Introduction

Since the 1980s, with the implementation and deepening of the reform and opening up policy, the urbanization process has been accelerating. In order to get together with their children, help with housework and care for their grandchildren, the elderly have formed a "follow-up old man" [1]. Under the influence of the "Comprehensive Two-Child" fertility policy, the proportion of the elderly groups moving in is increasing, and the number is increasing year by year.

The "Opinions on Further Strengthening the Physical Exercises of the Elderly under the New Situation" jointly issued by the 12 ministries and commissions of the State Sports General Administration pointed out that physical fitness activities are the most convenient, economic and effective way to actively respond to the aging of the population, and to become healthy and healthy for the elderly. The ideal way to delay aging [4]. This study evaluates the mental health status of elderly women in A city, and then designs targeted exercise prescriptions for elderly women who are moving with them according to the evaluation results, and promotes the elderly women who are moving in the country to actively participate in the national fitness, "Healthy China 2030" The "Planning Outline" lays the foundation for the establishment and improvement of sports prescription libraries for different groups of people, different environments and different physical conditions.

2. Research objects and methods

2.1 Research objects

The research team used a multi-stage stratified random sampling questionnaire survey method to extract 2 streets in each of the 5 districts of a city, and then extracted 5 communities in each street to conduct a simple random sample survey of elderly women moving with them. This topic defines elderly women who are still in the rural areas of their original residence, follow their children to urban life, migrate across city-level administrative divisions, have a migration time of more than half a year, and are aged 50-65 years old. A total of 1,000 questionnaires were distributed in this survey, and 916 valid questionnaires were collected and recovered. The effective recovery rate was 91.6%.

According to the research needs, recruiting experimental volunteers in a community in A city, select the following elderly women who meet the following conditions: The first is no physical exercise foundation, have general physical activity ability, can persist in exercise for 4 months; Second pass health check, recently 1-2 years without taking drugs affecting mental state, no cardiovascular disease and major diseases, no obvious physical defects and joint damage, normal mental and intellectual intelligence; Third with my consent and signed informed consent. On the basis of understanding the basic health conditions, 48 volunteers were initially recruited. Due to reasons such as moving, sick, injured, returning to their hometown and being unable to persist, only 40 people completed the experiment and were randomly divided into the exercise group (n=21) Subject research and experiment with a control group (n=19) who did not participate in physical exercise.

2.2 Exercise prescription experimental program

According to the results of the mental health status survey of elderly women, the exercise plan of the American Sports Medicine Association [5] and the principles of exercise prescription design [6] were designed for the exercise of elderly women (Table 1). The total time for exercise prescriptions is 16 weeks and the exercise time is 16:00-17:00 pm. Pay attention to preparing activities and organizing activities, making reasonable arrangements, and doing medical supervision.

Table 1. Four elements of exercise exercise prescription

Sports content	Exercise intensity	Excercise time	Motion frequency	Duration
24 style simplified Taijiquan+Wu Qin Xi +Ba Duan Jin	Medium and low exercise load intensity 50%-60%VO_{2max}	30-40min	3-4times / week	16weeks

2.3 Test indicators

2.3.1 Mental Health Questionnaire

The mental health status of older women who were moving was measured using the Symptom Checklist 90 (SCL-90). The scale consists of 90 items, which are graded at 5 levels. They have a wide range of psychotic symptoms such as feeling, emotion, thinking, consciousness, behavior and even living habits, interpersonal relationships, eating and sleeping, etc., with high reliability and effectiveness [7].

2.3.2 Subjective well-being

The Chinese revision of the happiness scale compiled by the Newfoundland Memorial University Kozma measures the subjective well-being of older women. The scale consists of 24 items and is structurally divided into four subscales: positive emotion (PA), negative emotion (NA), positive experience (PE) and negative experience (NE). Higher scores indicate a higher level of subjective well-being. The internal consistency coefficient of each dimension of the scale is 0.800~0.859, and the test-retest reliability is 0.758 [8].

2.4 Mathematical Statistics

All data were statistically processed and analyzed using SPSS 21.0 computer software. Data were expressed as $\overline{X} \pm S$, and paired t-tests were used for comparison between groups, with a significant level of =0.05.

3. Results and analysis

3.1 Mental health status

Older women with follow-up have significant differences in somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, horror, and psychotic factors with the national norm, indicating that the mental health status of elderly women who are moving with them is worrying. Consistent with the results of Li Shan and Yu Ge [10], the mental health status of older women who migrated was significantly worse than that of local seniors. With the help and support of the children's families, the elderly women who have moved to the children's families have come to the strange cities where their children live. The roles change, the living environment changes, the inner feelings lack belonging, the life patterns change, the soil is not satisfied, the living habits Differences and even problems such as language barriers make it difficult for them to integrate into the local society, which leads to psychological loss and inferiority, and is prone to mental health problems such as self-enclosure, loneliness, anxiety and social disorders.

3.2 Exercise prescription experiment

3.2.1 Effects of exercise prescription exercise on SCL-90 in elderly women

Before the experiment, there was no significant difference in the level of SCL-90 between the experimental group and the control group ($P>0.05$), indicating that the experimental group and the control group were homogenous in mental health before the experiment.

After the 16-week experiment, compared with the pre-experimental group, the experimental group had significant differences in somatization, interpersonal sensitivity, depression, anxiety, and hostile factors. After 8 weeks of training, the experimental group was on the somatization and interpersonal sensitivity factors. There was a significant difference ($P<0.05$).

According to Berger's method of obtaining the most emotional benefit method [11], the traditional sports health exercise is self-control and has no interpersonal competition. The medium and small intensity physical activity using rhythmic abdominal breathing makes people feel close to each other and creates A subtle relationship between people, achieving interpersonal affinity and social affinity [12], exercise prescription exercise is a regular, structured activity to promote health, and previous studies have confirmed low and medium Intensive physical exercise has a beneficial effect on mental health. Traditional sports health exercise is a traditional Chinese way of health exercise, with soothing movements, and has the functions of adjusting body, adjusting interest and adjusting heart. It is suitable for middle-aged and elderly people to exercise. In addition, the organizational form of group exercise used in exercise prescription may have a positive effect on the improvement of interpersonal relationship among older women [13].

3.2.2 The effect of exercise prescription exercise on the happiness of elderly women moving with

According to Table 3, before the experiment, there was no significant difference in the subjective well-being of the elderly women in the experimental group and the control group ($P>0.05$), indicating that the experimental group and the control group had subjective well-being levels before the experiment. Basically in agreement. Compared with before the experiment, after 16 weeks of exercise prescription exercise, the subjective well-being level of the elderly women in the experimental group increased significantly, including positive emotion, positive experience, negative emotion, negative experience and total score of happiness. There was a significant difference ($P<0.05$). After 8 weeks of training, compared with the pre-experimental group, the experimental group had significant differences in positive emotion, positive experience and total score of happiness ($P<0.05$).

Table 2. Comparison of subjective well-being between the experimental group and the control group ($\overline{X}$ ±S)

	Control group			Test group		
	Before the experiment	After 16w	After stopping training for 8w	Before the experiment	After 16w	After stopping training for 8w
Positive emotion	6.53±1.26	6.47±1.65	6.51±1.34	6.14±1.35	7.48±1.40**	7.11±1.28**
Negative emotions	7.47±1.39	7.11±1.88	7.23±1.55	7.14±1.71	6.57±1.57**	7.02±1.49
Positive experience	7.58±1.71	7.84±1.54	7.67±1.61	8.71±1.87	10.0±1.61	9.51±1.59**
Negative experience	9.21±1.99	9.00±1.94	9.13±1.89	9.24±2.10	7.52±1.78**	8.87±1.91
Total score of happiness	21.42±3.08	22.21±3.31	21.58±3.06	22.48±3.43	27.38±3.38**	24.56±3.12**

Note: *: P<0.05; **: P<0.01

Li Fangyan's research shows that [15], the old people's emotions are mainly negative emotions, and the experience is mainly negative experience. Compared with the local elderly, the subjective well-being of the old of migrant resident is low. The results of this study show that the traditional health sports prescription exercise with Taijiquan, Wuhuo and Ba Duan Jin as the main contents can improve the subjective well-being of the elderly women who are moving. Consistent with Li Junlan [15] research, traditional health sports require practitioners to have no distracting thoughts, guided by ideas, deepen the artistic conception, and fully integrate the physical exercises and artistic conception, which can help the emotional experience of the elderly women who are moving in the future to be adjusted. And transformation eases the emotional state of tension, improve interpersonal relationships, improve mental health, and have a good effect on the formation and improvement of subjective well-being.

3.3 Rationality analysis of exercise prescription

During the implementation of exercise prescription, the average monitoring value of RPE is between 11 and 13, and the subjective motor feels slightly tired, which is equivalent to 110-130 times/min^{-1} of heart rate. For the elderly women who are moving, the monitoring and adjustment of exercise load is an extremely important part of the traditional health sports prescription. It can not only objectively evaluate the effect of exercise, but also adjust and revise the exercise program according to this, so as to be more effective. Improve mental health and prevent excessive fatigue and sports injuries. This experiment guides the use of low to moderate exercise intensity in middle-aged and elderly women. From the experimental results, it is confirmed that the exercise intensity used in the conventional sports prescription is effective.

4. Conclusion

The traditional health sports prescription exercise with Tai Chi, Wu Qin Xi and Ba Duan Jin as the main sports content can improve the mental health level, subjective well-being level and improve the quality of sleep of the elderly women who are moving. After 8 weeks of training, traditional health sports Exercise prescriptions still have a positive effect on improving somatic and interpersonal sensitivity factors, improving positive emotions and positive experiences, and improving sleep quality and sleep efficiency.

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