

Influence of the Yang Shi Taijiquan practice in women older than 70 years
Influencia de la práctica del Yang Shi Taijiquan en mujeres mayores de 70 años

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ABSTRACT

The research was carried out in order to evaluate the influence of the practice of Yang Shi Taijiquan in women over 70 years old. An intervention-action study, divided into four phases, was carried out where the Wai San She Fa alternative was applied. Eight women between 70 and 74 years old were chosen, recently incorporated into the “José María Queralt” grandparents club and without previous experiences of these practices. To evaluate functional physical condition were used the Senior Fitness Test (SFT), the Wilcoxon rank test, and the data were processed through the SPSS statistical package.

Keywords: Older adults; Yang shi taijiquan; Community physical activity; Functional physical condition; Wai San He Fa

RESUMEN

La investigación se realizó con la finalidad de evaluar la influencia de la práctica del Yang Shi Taijiquan en mujeres mayores de 70 años. Se realizó un estudio de intervención-acción, dividido en cuatro fases, donde se aplicó la alternativa Wai San He Fa. Se escogieron 8 mujeres entre 70 y 74 años, recién incorporadas al club de abuelos “José María Queralt” y sin experiencias previas de estas prácticas. Para evaluar la condición física funcional se utilizó el Senior Fitness Test (SFT), la prueba de rangos de Wilcoxon y se procesaron los datos a través del paquete estadístico SPSS.

Palabras clave: Adultos mayores; Yang shi taijiquan; Actividad física comunitaria; Condición física funcional; Wai San He Fa

INTRODUCTION

Aging is a natural process, which brings a decrease in functional capacity, and thus increases the risk of greater fragility. It is a stage of physiological decline in the development process of the person, leading to an increase in vulnerability to environmental shocks and increases the chances of getting sick, and invariably ends with death.

On this aspect, Quino-Ávila, Chacón-Serna and Vallejo-Castillo (2017) argue that aging "brings with it alterations that make it difficult for the individual to interact with its context and diminish their own biopsychosocial abilities of being". (p.90)

For Fuentes (2020) aging is *"a process formed by multiple factors, present at all levels of biological organization, which cause a greater risk of developing diseases and as a final effect results in a greater risk of death"*. (p.20)

Many of the limitations that occur in these ages are the product of the various pathologies that affect or affected them at some point in their lives, but the physiological changes that occur as a natural process in this stage play a preponderant role in physical conditions. and psychic of these people. (Fuentes, 2020, p.20)

The practice of physical activity, and within this the practice of physical exercises throughout life is an essential factor to enjoy a satisfactory functional level, it is a safe, widely used and effective way; but these must be directed towards its global functionality. This offers possibilities for studying other forms of exercises seeking a greater development of the state of health (functional capacity) in populations older than 60 years from community physical activity (CFA), defined by Fuentes (2020) as *"a process directed by competent staff, with the aim of developing biopsychosocial potential through movement, characterized and influenced by participation-cooperation and the involvement of a social group"*. (p.11)

In this context, the use of therapeutic exercises that work comprehensively on the body is limited, so this article will expose the results achieved when applying an alternative of Yang style Taijiquan exercises (Yan Shi Taijiquan) to improve

physical condition. function of a group of women over 70 years of age belonging to the “José María Queral” grandparents' club at the Faculty of Physical Culture of the University of Guantánamo.

Fuentes, Garcés and Rivera (2019) state that "of extraordinary importance in the elderly is the decrease in physical capacity as age advances, a predictable phenomenon that can be slowed down by paying special attention to the level of physical condition and physical activity" (p.3).

There have been various theories about physical condition, considering the concept regardless of its application. It is a very important aspect for the work of the specialist in physical education in general and, in this particular case, in caring for older adults. (Escalante and Pila, 2012, p.1)

Many people over the age of 60 are close to their maximum capacity level during normal activities of daily living; For them, standing up after sitting in a chair, visiting neighbors or relatives a few meters away from their residence, or climbing a few steps on a ladder demand maximum effort.

In people with these characteristics, a small decrease in the level of physical activity can cause the transition from a state of independence to a state of disability, causing the intervention of other people to assist them in performing daily activities. In this regard, Boyaro and Tío (2014) state that:

“Normal activities of daily life such as dressing, showering, getting up from a chair, carrying shopping bags, picking up a child or climbing stairs, require a degree of functional independence that is only possible if the person maintains a level adequate physical condition”. (p.8)

In adults over 60 years of age, health is identified with the physical capacity to carry out the daily activities mentioned above, which are closely related to the concept of functionality, which is established through aerobic endurance, strength, flexibility, balance and body composition. Due to the aforementioned and given the focus that we want to give to this research, it is then necessary to refer to the concept of functional physical condition, defined by Rikli & Jones (2001) as *“the physical capacity to carry out the normal activities of daily life safely and independent and without excessive fatigue”.* (p.2)

The proposal made by the authors of this research to improve functional physical condition in these elderly people is based on the use of Yang Shi Taijiquan. This is a combat system created by Yang Luchan (1799-1872), but due to modifications made by his descendants, a large part of its content (still maintaining its basic principles for good practice) has become an effective system of physical exercises-therapeutic available to everyone.

The chosen maneuvers are part of the Wai San He Fa, a therapeutic method meticulously elaborated from the long forms of Yang Shi Taijiquan. The Wai San He Fa was chosen because its structure meets the requirements for safe performance and high therapeutic properties for older adults. In its preparation, the work on the components that guarantee an adequate functional physical condition in people over 60 years of age was taken into account.

METHODS

8 women between 70 and 74 years old participated, voluntarily and referred by the area doctor. All newly incorporated (at the time of beginning the study), and without previous experience in the practice of Chinese therapeutic methods.

The research period was between September 2018 and May 2019. It was carried out on the grounds of the Faculty of Physical Culture of the University of Guantánamo. Classes were held three times a week with a duration of between 45 and 50 minutes.

Initial part of the classes (10 minutes): the corresponding actions to determine if the health conditions existed to perform physical exercises, self-massage, stretching exercises, and specific exercises for joint width.

Main part of the classes (30 to 35 minutes): the techniques that make up the proposal were executed:

Exercise 1. Ti Shon Gong (raising the spirit).

Exercise 2. Tui Shan Fa (push the mountain).

Exercise 3. Dao Nian Hou (push back the monkey).

Exercise 4. She Shen Xia Shi (the snake descends on the ground).

Exercise 5. Yun Shou (move your hands like clouds).

Exercise 6. Yin Ying Yan He (harmonize Yin and Yang).

Exercise 7. Shuang Feng Guan Er (the wind blows in both ears).

Exercise 8. Tian Di Xie Tiao (balancing heaven and earth).

Final part of the classes (5 minutes): essentially breathing reeducation exercises and stretching exercises were carried out, with the aim of attaining pulsation levels and parameters close to those shown at the beginning of the sessions.

In phase one, the functional physical condition of the practitioners was evaluated through the senior fitness test (SFT). After obtaining the results, the second stage was applied, where the proposed therapeutic method was intervened.

After the first 12 weeks of practice (December 2018) a second evaluation (third phase) was carried out, using the tests of the initial evaluation. Data were collected to assess how the practitioners responded to the implemented therapeutic method; Once these data had been analyzed and it was observed that all responded appropriately and with favorable results, the same work methodology was continued for a further twelve weeks.

At the end of the twelve weeks, the fourth phase was carried out, the SFT batteries were applied again for the third and last evaluation, and the final study of the results was carried out (May 2019).

Evaluation instruments.

The assessment of functional physical condition was carried out through the protocol designed by Rikli & Jones (2001) in the SFT.

1. Chair stand test (sitting down and getting up from a chair).

Objective: to evaluate the strength of the lower body.

2. Arm curl test (arm curls).

Objective: to evaluate the strength of the upper body.

3. 2-minute step test (2-minute walk).

Objective: evaluation of aerobic endurance.

4. Chair-sit and reach-test (chair trunk flexion test).

Objective: to evaluate the flexibility of the lower body (mainly biceps femoris).

5. Back scratch test (test to put the hands behind the back).

Objective: to evaluate the flexibility of the upper body (mainly shoulders).

6. Foot up-and-go test (get up, walk and sit back test)

Objective: to evaluate agility and dynamic balance.

7.Height and weight (weight and height).

Objective: to assess the body mass index

Analysis of data.

The SPSS version 21.0 statistical package for Windows was used. The data were measured before and after the exercises were applied. For this purpose, the Wilcoxon test was used at a 95% confidence level ($\alpha = 0.05$), which led to determine the level of significance in the results obtained after applying the proposal.

For the qualitative study, a survey was made to the practitioners of 8 questions, these had five possible answers with determined numerical values, these were processed by the SPSS to evaluate the level of satisfaction. In order to measure the level of satisfaction, criteria were established: 1 to 1.5 very favorable the alternative, from 1.6 to 2.5 favorable, from 2.6 to 3.5 indifferent from 3.6 to 4.5 unfavorable, and more than 4.5 very unfavorable. These established criteria were not known to the respondents.

RESULTS

The study group had a mean age of 71.87 years. When comparing the first measurement before applying the alternative, and the last one several months after applying the proposal, the following results were obtained:

Strength in lower limbs $p = 0.011$, strength in upper limbs $p = 0.020$, aerobic endurance $p = 0.012$, flexibility in lower limbs $p = 0.012$, flexibility in upper limbs $p = 0.012$, and balance $p = 0.011$. This shows that there was a significant and very positive change in these six essential components to maintain an adequate functional state at these ages.

Regarding BMI, although the Wilcoxon rank test yielded $p = 0.029$ (significant), different criteria can be had on the positive or negative for health in the people evaluated.

We must point out that, although from the first measurement carried out before applying the proposal, two of those evaluated had a BMI of 21.13 and 20.93, slightly below that established as normal by the third study for the health and

nutrition examination carried out by Fanelli, Kuczmarski and Najjar (2000), chosen as a reference in this article precisely because it takes into account the range of age and sex, in the last evaluation after the proposal was applied these values remained below (21.09 and 21.97), but Another evaluated woman was also added that with an initial BMI value of 22.6, dropped to 21.75. The remaining practitioners, although a slight decrease was observed in some, remained within the ranges considered normal according to what was established by these authors.

From a qualitative point of view, it was confirmed that 100% experienced improvements in daily activities such as walking for a long time, cleaning at home, moving objects such as tables, climbing stairs, and in actions such as bathing and dressing without inconvenience.

The 100% presented improvement in their state of health, and according to the established criteria, all rated the proposed alternative as very favorable or favorable.

DISCUSSION

The study carried out allowed to corroborate, as a novel element, that the practice of Yang Shi Taijiquan has a positive influence on health in women over 70 years of age who claim to have a better performance in housework. In the systematized bibliography, it was found that this technique had not been used in this age group.

The research results coincide with those obtained in the study carried out by Hong, Xian & Robinson (2000). In this study, both sexes (60 with a sedentary lifestyle and 54 practitioners of yang-style taijiquan) were compared in terms of balance, aerobic endurance, and flexibility. In the research, taijiquan practitioners achieved significantly higher scores on each item evaluated than the sedentary lifestyle group.

Zheng et al. (2015) in an investigation in which they made an extensive review of articles, they concluded that the practice of taijiquan in healthy adults can bring benefits in aerobic endurance. This research also coincides with Hallisy (2018) who referred to a study by Hutson and Mcfarlane (2016) on the benefits in general health in taijiquan practitioners, among which strength, balance, resistance and flexibility stood out.

The alternative Wai San He Fa proposed, caused a significant improvement in strength, aerobic endurance, flexibility and balance, fundamental aspects for maintenance, and in some cases the achievement of a level of autonomy and independence that allows an optimal functional state in women over 70 years old. Regarding the Body Mass Index (BMI), although the results do not reflect the same level of positivity as in the other components of functional physical condition, it should be noted that those evaluated maintained a high level of attitude towards exercises, as well as greater confidence in daily tasks, which favors a decrease in the predisposition to suffer falls. The results obtained after applying the alternative, together with the positive criteria of several specialists, demonstrate the feasibility of the proposal.

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