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Comparative Study on Screening Results of Functional Movements of Middle-aged and Old Women before and after Square Dance Exercise

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Objective This study will conduct a functional action screening (FMS) test for middle-aged and older women who participate in square dances, and explore the influence of square dance exercise on the screening results of middle-aged and older women, and provide reference for women's square dance exercise.

Methods Experimental method: A 12-week weekly square dance exercise was conducted on middle-aged and elderly women who participated in the square dance exercise. The functional action screening results of the experimental subjects before and after the experiment were tested and compared.

Results 3.1 Functional screening results of middle-aged and older women before exercise
The average functional screening results of middle-aged and older women before exercise were 13.70 ± 2.518 . The shoulder flexibility score of middle-aged and old women was 2.55 ± 0.711 , the average score of leg flexibility was 2.55 ± 0.506 , and the average score of trunk stability of middle-aged and old women was 1.79 ± 0.485 , and the rotational stability was 1.70 ± 0.529 . The scores of the front and rear leg squatting modes were 1.58 ± 0.663 , the scores of the hurdles were 1.97 ± 0.305 , and the scores of the squatting mode were 1.76 ± 0.792 .

3.2 Changes in functional action screening results of middle-aged and elderly women after the experiment

After exercise, the squat action mode score was 1.39 ± 1.088 , the hurdle step action mode score was 2.30 ± 0.529 , the front and rear leg squat action mode was 1.82 ± 0.769 , and the shoulder flexibility was 2.36 ± 0.895 . The knee lift leg score was 2.36 ± 0.549 , the trunk stability score was 1.52 ± 0.870 , the rotational stability score was 1.88 ± 0.415 , and the total score was 13.67 ± 2.847 .

3.3 Comparison of screening results before and after exercise

After the experiment, the total scores of FMS test indicators, shoulder flexibility, trunk stability, rotational stability, squat movement mode and front and rear leg squat mode were not significantly changed ($P = 0.951, 0.311, 0.119, 0.056, 0.070$ and 0.118 respectively).

The hurdle step movement mode was significantly improved, and the mean increased from 1.97 to 2.30 points ($p < 0.01$).

Conclusions 4.1 The functional quality of middle-aged and older women who participate in square dance exercises is generally not high.

4.2 Once a week, 2 hours of 12-week square dance exercise can effectively improve the walking movement mode of middle-aged and older women.

4.3 Once a week, 2 hours of 12-week square dance exercise can not effectively improve the upper and lower limb flexibility, core stability and squat and front and rear leg movement modes of middle-aged and older women.

4.4 Middle-aged and older women who participate in square dance exercise need to add functional training in a targeted manner, instead of relying solely on square dance.