BioTechnology

An Indian Journal

Study on influence of Chinese square dance on poor mental health of elderly females

Luo Hong, Deng Hongmei*, Wang Yuefeng, Chen Yuanping, Wang Wei
P.E.Department, Jinggangshan University, Ji'an Jiangxi, (CHINA)
E-mail: 1123756980@qq.com

ABSTRACT

With accelerated aging in China, the degree of poor mental problem of the elderly is especially significant. In order to identify the mental problems of the elderly, this paper takes 62 elderly females (31 persons as standard group and 31 persons as treatment group) from first-class cities as study object with literature method, questionnaire method, interviewing method, statistical method, comparative analysis method, logical reasoning method and other methods. They are first subject to mental test and following-up survey and then grouped reasonably into standard group (31 persons) and treatment group (31 persons) and finally subject to a comparative analysis. The conclusion is drawn that poor mental health indexes of elderly females are all relatively serious mental health problem, lonely mentality and conceited mentality are serious problem; after treatment with square dance, significantly improved indexes in two observations are lonely mentality and conceited mentality, significantly improved indexes in one observation are inferiority mentality, emptiness mentality, selfish mentality and guess mentality, significantly improved indexes in two observations are vanity mentality and rivalry mentality and significantly improved indexes in one observation are blundering mentality and jealous mentality.

KEYWORDS

Square dance; The elder; Female; Poor mental health.

With constantly steady growth of Chinese GDP, living level and quality of people are constantly improved, medical reform is constantly improved and healthcare awareness is constantly deepened and promoted, physical and mental health of massive people have been greatly safeguarded, but mental problem has not always been paid enough attention in China. Data show that at present, with accelerated aging in China, the number of people, 60 years old or elder, have been beyond 0.2 billion, accounting for 15% of total population and it will be constantly increased in next 20 years; 70% of the elder suffer mental problem more or less and 27% of them suffer obvious anxiety, depression and other mental problems [1]. Therefore, it can be drawn that health of the elder, especially mental health, have been paid high attention by relevant department and the society. Square dance has become popular in China and is helpful to the elderly both physically and mentally. This study, based on full understanding of inherent features of square dance and health and treatment test study, dynamically observes the changes in score of important indexes of poor mental health of elderly females in square dance in 12 months (Vanity mentality, inferiority mentality, emptiness mentality, selfish mentality, blundering mentality, guess mentality, lonely mentality, Jealous mentality, rivalry mentality and conceited mentality) and further understands status of their poor mental health, so as to lay a foundation for further study on mental problem of elderly females.

STUDY OBJECT AND METHOD

Study object base

Easy sample method is used to sample 62 elderly females as study object within the cities in China from May 1, 2013 to April 30, 2014; then they were subject to mental health test and following-up survey and finally reasonably grouped into the standard group (31 persons) and the treatment group (31 persons). Basic standard for the study object: age (50-75), BMI (18.5-25), blood pressure (systolic pressure 140-90mmHg / diastolic pressure 90-60mmHg), FBG (3.9-6.1mol/L) and pulse（50-90 times/min）. Results in Table 1 show: mean age difference of the objects in the standard group and the treatment group before the test (60.6±5.9; 61.7±6.4) is -0.9 and (F=0.438, P=0.511＞0.05); mean weight difference (22.5±1.9; 22.6±1.4) is -0.1 and (F=0.032, P=0.858＞0.05); mean blood pressure difference (125.6±9.3/80.5±4.4; 127.9±10.3/81.2±5.4) is -2.3/-0.7 and (F=0.866/0.321, P=0.356/0.573＞0.05); mean FBG difference (4.96±0.58; 4.90±0.61) is 0.06 and (F=0.184, P=0.647＞0.05); mean pulse difference (74.4±8.1; 73.5±7.3）is 0.9 and (F=0.212, P=0.647) [3], basic standard indexes are all healthy and P＞0.05, there are no obvious differences between the two groups, which indicates that such objects are with relatively good and similar conditions. In addition, except the condition of serious illness, schizophrenia and the education background lower than junior high school (excluding junior high school), the standard group and the treatment group are comparable.

Table 1 Comparative Analysis of Indexes between Standard Group and Treatment Group before Treatment (N=62, $\overline{X}$ ±S)

Index	Age (years)	Weight index	Mmhg Blood pressure mmhg	Fbg mol/l	Pulse time/min
Standard group	60.6±5.9	22.5±1.9	125.6±9.3/80.5±4.4	4.96±0.58	74.4±8.1
Treatment group	61.7±6.4	22.6±1.4	127.9±10.3/81.2±5.4	4.90±0.61	73.5±7.3
Difference	-0.9	-0.1	-2.3/-0.7	0.06	0.9
Value f	0.438	0.032	0.866/0.321	0.184	0.212
Value p	0.511	0.858	0.356/0.573	0.647	0.647

Main study method: ① Standard group: Only engage in walking, card game and other sports activities after a meal each day, without square dance; ② Treatment group: Be intervened by regular square dance: 60～90 min/time, 6 times each week, 7pm-8:30pm from Monday to Saturday, control their activity load and strength with remote cardiotachometer and adjust activity strength and load once each week according to actual conditions (mainly through practice time, practice rhythm, intermittent time and practice arc), be sure to be within the aerobic range and keep the interference period as 12 months.

Observation indexes: Make test and give score according to poor mental indexes (vanity mentality, inferiority mentality, emptiness mentality, selfish mentality, blundering mentality, guess mentality, lonely mentality, jealous mentality, rivalry mentality, conceited mentality) in life specified in *Live Psychology* written by Yang Jianfeng [2]. 100 items will be tested in each test, including 10 poor mental indexes which respectively include 10 items. Three tests are made respectively before treatment, 6 months and 12 months after treatment (items of each test are different, but they reflect same index contents); test item types are true or false questions, 1 score for true question, 0 score for false question, the highest score for each index is 10 scores and lowest score is 0 score, score 8.01-10 means very serious mental problem, score 6.01-8 means serious mental problem, score 4.01-6 means relatively serious mental problem, score 2.01-4 means generally serious mental problem, score 0-2 means normal mental state; the higher the score is, the poorer the mental state is.

Mathematical statistics method: Mean value in SPSS16.0 shall be used to compare with T test and sort, analyze and reason the observation indexes, (P＞0.05 means being without obvious difference; P ＜0.05 means being with obvious difference; P ＜0.01 means being with greatly obvious difference).

RESULTS AND ANALYSIS

Comparative Analysis of Data of Standard Group and Treatment Group before Observation

Results in Table 1 show: mean vanity mentality difference (5.16±1.07; 5.03±0.98) is 0.13 and (F=0.245, P=0.622＞0.05); mean inferiority mentality difference (4.90±1.30; 4.93±1.29) is -0.03 and (F=0.010, P=0.922＞0.05); means emptiness mentality difference (5.84±0.82 ; 5.78±1.48) is 0.06 and (F=0.044, P=0.842＞0.05); mean selfish mentality (5.29±0.97 ; 5.35±0.98) difference is -0.06 and (F=0.067, P=0.796＞0.05); mean blundering mentality (4.39±1.20; 4.29±1.19) difference is 0.10 and (F=0.102, P=0.751＞0.05); mean guess mentality (5.13±1.31; 5.19±1.38) difference is -0.06 and (F=0.036, P=0.851＞0.05); mean lonely mentality (7.00±1.26; 7.02±1.35) difference is -0.02 and (F=0.009, P=0.926＞0.05); mean Jealous mentality (5.42±1.39; 5.77±1.43) difference is -0.35 and （F=0.984, P=0.325＞0.05); mean rivalry mentality （4.71±1.22; 4.61±1.15) difference is 0.10 and (F=0.104, P=0.748＞0.05); mean conceited mentality (6.13±1.61; 6.32±1.47) difference is -0.19 and (F=0.245, P=0.622＞0.05)[3]. It can be drawn that lonely mentality and conceited mentality are serious, and other mental indexes are relatively serious and value P ＞0.05, showing consistency and comparability of the mental state of the two groups before observation.

Table 2 Comparative Analysis of Score of Poor Mental Indexes between Standard Group and Treatment Group before Treatment (N=62, $\overline{X}$ ±S)

Index	Standard group	Treatment group	Difference	Value F	Value P
Vanity mentality	5.16±1.07	5.03±0.98	0.13	0.245	0.622
Inferiority mentality	4.90±1.30	4.93±1.29	-0.03	0.010	0.922
Emptiness mentality	5.84±0.82	5.78±1.48	0.06	0.044	0.842
Selfish mentality	5.29±0.97	5.35±0.98	-0.06	0.067	0.796
Blundering mentality	4.39±1.20	4.29±1.19	0.10	0.102	0.751
Guess mentality	5.13±1.31	5.19±1.38	-0.06	0.036	0.851
Lonely mentality	7.00±1.26	7.02±1.35	-0.02	0.009	0.926
Jealous mentality	5.42±1.39	5.77±1.43	-0.35	0.984	0.325
Rivalry mentality	4.71±1.22	4.61±1.15	0.10	0.104	0.748
Conceited mentality	6.13±1.61	6.32±1.47	-0.19	0.245	0.622

Comparative analysis of data of standard group and treatment data in observation after 6 month and 12 months

Results of Table 3 and Table 4 show that for standard group and treatment group in the observation after 6 months and 12 months, mean vanity mentality(5.13±0.79: 4.68±0.79, 5.23±1.15: 4.52±1.12) difference is 0.45, 0.71 and (F=4.958, 6.070, P=0.03, 0.017＜0.05); mean inferiority mentality(4.87±1.23: 4.23±1.09, 5.03±1.38: 4.10±0.98) difference is 0.64, 0.93 and (F=4.785, 9.499, P=0.033＜0.05, 0.003＜0.01); mean emptiness mentality(5.74±0.96: 5.13±1.09, 5.84±0.82: 4.94±0.85) difference is 0.61, 0.90 and (F=5.509, 18.037, P=0.022＜0.05, 0.000＜0.01); mean selfish mentality(5.29±1.10: 4.67±1.01, 5.52±1.00: 4.48±0.89) difference is 0.62, 1.04 and (F=5.202, 18.528, P=0.026＜0.05, 0.000＜0.01); mean blundering mentality(4.52±1.00: 4.03±1.02, 4.65±1.05: 4.03±0.91) difference is 0.49, 0.62 and (F=3.597, 6.017, P=0.063＞0.05, 0.017＜0.05); mean guess mentality(5.39±1.43: 4.74±1.18, 5.19±1.22: 4.32±1.30) difference is 0.75, 62 and (F=4.181, 7.379, P=0.048＜0.05, 0.009＜0.01); mean lonely mentality(7.13±1.34: 6.06±1.43, 6.54±1.18: 5.35±1.14) difference is 1.07, 1.09 and (F=9.139, 16.402, P=0.004, 0.000＜0.01); mean Jealous mentality(5.61±1.12: 5.06±1.46, 5.23±0.80: 4.61±4.06) difference is 0.55, 0.62 and (F=2.763, 5.232, P=0.102＞0.05, 0.026＜0.05); mean rivalry mentality(4.84±1.24: 4.23±1.09, 4.64±0.98: 4.06±0.89) difference is 0.61, 0.58 and (F=4.281, 5.920, P=0.043, 0.018＜0.05); mean conceited mentality(5.94±1.44: 5.03±1.02, 5.90±1.22: 4.65±1.08) difference is 0.91, 1.25 and (F=8.172, 18.444, P=0.006, 0.000＜0.01)[3]; it can be drawn that the significantly obvious difference indexes in 2 observations are lonely mentality and conceited mentality; the difference indexes that are first obvious and then significantly obvious are inferiority mentality, emptiness mentality, selfish mentality and guess mentality; obvious difference indexes in 2 observations are vanity mentality and rivalry mentality: obvious difference indexes in one observation are blundering mentality and Jealous mentality.

The unhealthy mental health refers to one's a group of syndrome dominated as terror, depression, anxiety, inharmonious interpersonal relationship. Lonely mentality refers to a lonely emotional experience naturally generated due to lacking

communication with people; conceited mentality refers to an emotional experience of someone who has unpractical or excessive expectation for oneself. The square dance can provide a communication platform for everybody. Through communication, people know each other and make friends, gradually keep away from alone and lonely, and lonely mentality can be greatly improved. Meanwhile, the difficulty of square dance is from the easier to the more advanced and progressive; people must comply with this law, correctively know their endeavor and slowly adjust the "un-accept the aging" mentality, and the conceited mentality will be greatly adjusted. It can be seen that the scores of the lonely and conceited mentality indexes in two observation tests are very significantly improved.

Inferiority mentality refers to an emotional experience from suspecting one's ability to unable to demonstrating one's ability, from considering oneself being unfit to really unfit, from being afraid of communicating with others to lonely self-reclusive [4]; Emptiness mentality is the outward manifestation of empty soul, namely, the generally speaking "not interesting", "boring" and "exhausted". Selfish mentality refers to an emotional experience of someone who is self-centered and considers too much about one's own interest. Guess mentality refers to a complex distrust emotional experience generated to others from subjective speculation [5]. Firstly, in square dance, accompanied with the music rhythm, people dance trippingly with pretty and charming action; people can see the others' process, have a more proper understanding of their own and keep improving their confidence, and the inferiority mentality can be greatly improved; Secondly, square dance is a long term fitness process. As long as you insist on square dance fitness, a certain time shall be spent, and then the "boring", that is, emptiness mentality will be slowly overcome; Thirdly, square dance is a team event. It needs everybody's collaboration and joint process. In this way, it can break the indifference of people, open people's heart to share and get rid of people's selfish mentality; Finally, square dance can cultivate people's rational thinking, prevent emotional reasoning, train people to stay calm, observe, analyze and think, and eliminate the guess mentality. It can be seen that, the longer the time is, the score change of inferiority mentality, emptiness mentality, selfish mentality and guess mentality index of elderly female will be larger. They are significantly improved after 6 months, and very significantly improved after 12 months.

Vanity mentality refers to one passive emotional experience of one person to protect his/her self-esteem from damage with certain false and improper method[6]；Rivalry mentality refers to one negative emotional experience caused when one person finds deviation between him/her and reference individual. Square dance can meet people's rational physiological (fitness) need, safety need, social need, self-esteem need and self-actualization need at all levels, reach need realization and make people correctly treat their own capacity, success or failure and defects, improve oneself and overcome vanity mentality; meanwhile, square dance can be considered as summation of individual performance level, the people with bad performance level always want to change better, they will cause positive rivalry desire and overcome negative rivalry mentality. It can be seen that there is significant change in the two scores of the vanity and rivalry mentality indexes for elderly female.

Blundering mentality refers to unhealthy emotional experience of one person such as frivolity, discontent with life, violent temperament, doing things without patience, irresoluteness, opportunism, reap without sowing and all day doing nothing [8]；Jealous mentality refers to one unhealthy emotional experience of one person when he/she is aware that he/she is threatened by some occupation for certain profit, or suffers potential profit or potential threatening. Square dance makes people to focus their attention, and forget annoying things in life during action exercise. Long-time exercise will make people relax themselves, reject invasion of blundering mentality; meanwhile, functions of square dance include helping people realize fitness, contact and self-worth, highlighting performance ability of themselves, improving self-worth and rejecting jealous mentality. It can be seen that, the longer the time is, the score change of blundering mentality, and jealous mentality index of elderly female will be larger. They are significantly improved after 6 months, and very significantly improved after 12 months.

Table 3 Comparative Analysis of Score of Poor MentalIndexes between Standard Group and Treatment Data in Observation after 6 Month (N=62, $\overline{X}$ ±S)

Index	Standard group	Treatment group	Difference	Value F	Value P
Vanity mentality	5.13±0.79	4.68±0.79	0.45	4.958	0.03
Inferiority mentality	4.87±1.23	4.23±1.09	0.64	4.785	0.033
Emptiness mentality	5.74±0.96	5.13±1.09	0.61	5.509	0.022
Selfish mentality	5.29±1.10	4.67±1.01	0.62	5.202	0.026
Blundering mentality	4.52±1.00	4.03±1.02	0.49	3.597	0.063
Guess mentality	5.39±1.43	4.74±1.18	0.75	4.181	0.048
Lonely mentality	7.13±1.34	6.06±1.43	1.07	9.139	0.004
Jealous mentality	5.61±1.12	5.06±1.46	0.55	2.763	0.102

| Rivalry mentality | 4.84±1.24 | 4.23±1.09 | 0.61 | 4.281 | 0.043 |
| Conceited mentality | 5.94±1.44 | 5.03±1.02 | 0.91 | 8.172 | 0.006 |

Table 4 Comparative Analysis of Score of Poor MentalIndexes between Standard Group and Treatment Data in Observation after 12 Month(N=62, $\overline{X}$ ±S)

Index	Standard group	Treatment group	Difference	Value F	Value P
Vanity mentality	5.23±1.15	4.52±1.12	0.71	6.070	0.017
Inferiority mentality	5.03±1.38	4.10±0.98	0.93	9.499	0.003
Emptiness mentality	5.84±0.82	4.94±0.85	0.90	18.037	0.000
Selfish mentality	5.52±1.00	4.48±0.89	1.04	18.528	0.000
Blundering mentality	4.65±1.05	4.03±0.91	0.62	6.017	0.017
Guess mentality	5.19±1.22	4.32±1.30	0.87	7.379	0.009
Lonely mentality	6.54±1.18	5.35±1.14	1.09	16.402	0.000
Jealous mentality	5.23±0.80	4.61±4.06	0.62	5.232	0.026
Rivalry mentality	4.64±0.98	4.06±0.89	0.58	5.920	0.018
Conceited mentality	5.90±1.22	4.65±1.08	1.25	18.444	0.000

MAIN CONCLUSIONS

After treatment of square dance, significantly improved indexes in 2 observations are lonely mentality and conceited mentality: significantly improved indexes in one observation are inferiority mentality, emptiness mentality, selfish mentality and guess mentality: significantly improved indexes in 2 observations are vanity mentality and rivalry mentality; significantly improved indexes in one observation is blundering mentality and Jealous mentality.

REFERENCES

[1] Cui Xing, et al. Experience of Mental Health Education for Elderly Patients in Hospital. Chinese Journal of Convalescent Medicine, 2008(11): 670-671
[2] Yang Jianfeng. Live Psychology. Beijing: Foreign Affairs Press, 2013
[3] Guo Xiuwen. Application of SPAA Statistical Software in Sports. Beijing: Peoples Sports Publishing House, 2007
[4] Fu Jianping. Study on Interiority Mentality of College Students and Its Countermeasures. Modern Enterprise Education, 2008(10): 86-87
[5] Luo Jianhua. Analysis on Interpersonal Communication and Mental Health of College Students. Yuannan Police Officer Academy, 2003(03): 91-94
[6] Xue Yu. Psychologic Status of College Students with Family financial difficulties and Its Countermeasures. Journal of Nanjing Normal University, 2011
[7] Zhu Hongqiu. Rational Thinking on Rivalry Problem of Primary and Secondary Students. Class teacher 2012(02)：55-57
[8] Ming Xianzhong. Non-Healthy Psychology and Adjustment for It of Private College Students. Education and Cultivation (higher education forum) 2005(03): 24-26