

# 太极拳运动对更年期女性焦虑抑郁和肌力的干预研究

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**摘要: 目的:** 更年期在临床上指的是女性围绝经期前后阶段。女性进入更年期之后, 在身体机能逐渐退化和心理情绪不稳定的双重压力下, 极易出现多种身心不良症状, 在心理上表现为出现烦躁、焦虑、抑郁等心理情绪, 在生理上表现为行经停止, 失眠和骨质疏松等。据国家卫健委调查, 我国约 1.5 亿女性正处于更年期, 且 65 岁以上女性逾半数患有骨质疏松症。预计 2030 年我国更年期女性将超过 2.1 亿。虽然女性更年期是正常的生理现象, 但是如果不能有效调节, 将影响患者的身心健康和生活质量。因此, 理解和关爱更年期女性, 预防骨质疏松、肌无力带来的身体损伤, 缓解心理压力, 综合提升更年期女性的身心健康是一个重要的话题。太极拳是结合易学的阴阳五行变化, 中医经络学, 古代导引术和吐纳术形成的一种内外兼修, 刚柔相济的传统拳术。太极拳松沉柔顺, 圆活畅通, 用意不用力的运动特点, 可疏通经络, 调节阴阳平衡, 正符合更年期女性的身心特点。既可消除其原有的拙力僵劲, 避免肌肉关节, 韧带等器官的损伤性; 还可达到骨质疏松康复的效果, 起到舒缓心理压力的作用。对正在处于更年期的女性, 选用太极拳运动作为干预手段, 来调节更年期女性身心的阴阳平衡, 可以提高更年期女性的生活质量和幸福指数。同时, 也为全面响应国家全民健身计划的政策和太极拳的推广与普及提供有价值的理论参考。**方法:** 为避免“霍桑效应”影响实验结果的准确性, 实验采取单盲实验, 向被试者隐瞒实验目的以控制被试者对实验结果进行估计或预期的影响。因更年期综合征多发于 45-60 岁期间。本文选取测试对象为 42 名年龄 45-60 岁健康且无运动史的更年期妇女。被试随机分为实验组和对照组进行前测, 通过单因素分析法, 对实验组和对照组未进行太极拳运动干预的焦虑和抑郁自评量表和肌力测试结果进行比较, 两组之间无显著统计学差异可进行比较。实验组, 即太极拳 (n=21) 进行每周练习 4 次, 每次 60min, 共 6 个月的太极拳练习 (前 3 个月为基础动作学习阶段、后三个月为强化练习阶段)。实验组练习 48 式太极拳, 在太极拳功法中重点选取站桩, 缠丝功练习, 发放教学光盘和口令引导光盘并同时进行太极拳现有拳理的学习与运用。对照组 (n=21), 保持既往生活习惯只进行一般的身体练习。在进行 6 个月的太极拳运动干预后, 实验组和对照组同时进行后测, 接受焦虑自评量表 (SAS) 抑郁自评量表 (SDS) 测试和肌力测试。本文对于更年期妇女在心理上采用

焦虑自评量表 (SAS) 和抑郁自评量表 (SDS), 量表包含 20 个项目, 每个项目评分为 1~ 4 分, 评分越高表明焦虑或抑郁程度越严重。两组患者均采用将数据纳入 SPSS 22.0 软件中分析, 计量资料比较采用 t 检验, 并以 ( $\pm s$ ) 表示; 计数资料采用  $\chi^2$  检验, 并以 (%) 表示, 以  $P < 0.05$  表示差异具有统计学意义。在生理上采用肌力测试包括: 上肢手握力及下肢股四头肌肌力非惯用肌体肌肉力量生理检测。**结果:** 在经过 6 个月的太极拳运动处方干预后, 两组在心理方面, 实验前, 实验组与对照组的焦虑抑郁情绪标准分基本处于同一水平, 实验后, 实验组的焦虑和抑郁情绪标准分明显低于对照组, 存在极显著性差异 ( $P < 0.001$ ), 实验组为无焦虑情绪, 而对照组受试者情绪仍存在焦虑情绪; 组内的检验显示, 实验组通过太极拳运动干预后焦虑改善幅度明显高于对照组。从整体上看, 参加太极拳练习的实验组整体更年期症状水平及失眠多梦、易怒、等多项更年期症状, 以及她们的焦虑情绪等, 都得到了有效且明显的改善。在生理方面, 实验组的上肢手握力由运动前的  $22.0 \pm 4.1 \text{ Kg}$  显著增加至  $22.8 \pm 4.3 \text{ Kg}$  ( $p = 0.003$ ); 但是未进行太极拳练习的对照组并未有显著差异。在非惯用腿股四头肌的肌力测试中发现实验组和对照组的肌力都有显著增加 ( $p < 0.05$ )。在弯腰摸低测试发现, 实验组的最低摸低点由地面上的  $0.6 \pm 8.3$  厘米增加为地面下  $3.3 \pm 9.0$  厘米 ( $p < 0.001$ ), 但对照组没有发现显著性差异。组内的检验显示, 实验组通过太极拳运动干预后肌力明显高于对照组, 且肌肉的伸展性弹性增强, 利于预防骨质疏松, 并提高运动能力和延缓衰老。**结论:** 实验证明, 太极拳不是单一的身体或心理的练习, 而是身心协调的整体运动, 对于缓解更年期女性焦虑、抑郁失眠等症状并提高更年期女性肌肉力量预防骨质疏松具有显著效果。

**关键词:** 更年期女性; 太极拳; 肌力测试; 焦虑; 抑郁

## An intervention study of Taijiquan on menopausal women's anxiety, depression and muscle strength

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**Abstract: Objective:** Menopause clinically refers to the pre- and post-menopausal period of women. After women enter menopause, under the dual pressure of gradual deterioration of their physical functions and mental and emotional instability, they are very prone to a variety of physical and mental symptoms. Psychologically they appear as irritability, anxiety, depression and

other psychological emotions. Physically they appear as menstruation Stop, insomnia and osteoporosis, etc. According to a survey conducted by the National Health Commission, about 150 million women in my country are undergoing menopause, and more than half of women over 65 suffer from osteoporosis. It is estimated that by 2030, there will be more than 210 million menopausal women in my country. Although female menopause is a normal physiological phenomenon, if it cannot be effectively regulated, it will affect the patient's physical and mental health and quality of life. Therefore, understanding and caring for menopausal women, preventing physical damage caused by osteoporosis and muscle weakness, relieving psychological pressure, and comprehensively improving the physical and mental health of menopausal women is an important topic. Taijiquan is a traditional boxing technique that combines the changes of Yin and Yang and the five elements of the Yi learning, the meridian of Chinese medicine, the ancient Daoyin technique and the vomiting technique. Taijiquan is loose, soft, round, smooth, and effortless. It can dredge the meridians and adjust the balance of yin and yang, which is in line with the physical and mental characteristics of menopausal women. It can eliminate its original clumsiness and stiffness, avoid the damage of muscles, joints, ligaments and other organs; it can also achieve the effect of osteoporosis rehabilitation and relieve psychological pressure. For women who are in menopause, Tai Chi exercise is used as an intervention method to adjust the balance of yin and yang of menopausal women, which can improve the quality of life and happiness index of menopausal women. At the same time, it also provides a valuable theoretical reference for the comprehensive response to the national fitness program policy and the promotion and popularization of Tai Chi. **Methods:** In order to avoid the "Hawthorne effect" from affecting the accuracy of the experimental results, the experiment adopted a single-blind experiment, concealing the purpose of the experiment from the subjects in order to control the subject's estimated or expected influence on the experimental results. Because menopausal syndrome occurs mostly between 45-60 years of age. The test subjects selected in this article are 42 healthy menopausal women aged 45-60 years with no history of exercise. Participants were randomly divided into experimental group and control group for pre-test. Through single factor analysis, the self-rating anxiety and depression scale and muscle strength test results of experimental group and control group without Tai Chi exercise intervention were compared. There is no significant

statistical difference between them to be compared. The experimental group, namely Taijiquan (n=21), practiced 4 times a week, 60min each time, for a total of 6 months of Taijiquan practice (the first 3 months are the basic movement learning stage, the last 3 months are the intensive practice stage). The experimental group practiced 48-style Taijiquan. Among the Taijiquan methods, the focus was on standing stakes and silk-wrapping exercises. Teaching CDs and password guide CDs were distributed and the existing Taijiquan principles were learned and used at the same time. The control group (n=21) maintained their past life habits and only performed general physical exercises. After 6 months of Tai Chi exercise intervention, the experimental group and the control group took the post-test at the same time and received the Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS) test and muscle strength test. This article uses the Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS) for menopausal women psychologically. The scale contains 20 items, each with a score of 1 to 4 points. The higher the score, the greater the degree of anxiety or depression. The more serious. Both groups of patients were analyzed by incorporating the data into the SPSS 22.0 software. The measurement data were compared by t test and expressed as ( $\pm$ s); the count data was by  $\chi^2$  test and expressed as (%), and  $P < 0.05$  indicated that the difference was statistically significant. Learn meaning. Physiologically, muscle strength tests include: upper limb hand grip strength and lower limb quadriceps muscle strength non-conventional body muscle strength physiological testing.

**Results:** After 6 months of Tai Chi exercise prescription intervention, the two groups were psychologically. Before the experiment, the standard scores of anxiety and depression of the experimental group and the control group were basically at the same level. After the experiment, the standard scores of anxiety and depression of the experimental group Significantly lower than the control group, there is a very significant difference ( $P < 0.001$ ), the experimental group is no anxiety, while the control group subjects still have anxiety; the test within the group shows that the experimental group has passed the intervention of Taijiquan. The degree of anxiety improvement was significantly higher than that of the control group. On the whole, the overall menopausal symptoms, insomnia, dreaminess, irritability, and other menopausal symptoms of the experimental group participating in Tai Chi exercises, as well as their anxiety, have all been effectively and significantly improved. In terms of physiology, the grip strength of the upper limbs

of the experimental group increased significantly from  $22.0 \pm 4.1$  Kgf-1 before exercise to  $22.8 \pm 4.3$  Kgf- (p=0.003): but there was no significant difference in the control group without Tai Chi exercises. In the non-dominant leg quadriceps muscle strength test, it was found that the muscle strength of the experimental group and the control group increased significantly (p<0.05). In the bending down test, it was found that the lowest touch point of the experimental group increased from  $0.6 \pm 8.3$  cm above the ground to  $3.3 \pm 9.0$  cm below the ground (p<0.001), but no significant difference was found in the control group. Tests within the group showed that the experimental group's muscle strength was significantly higher than that of the control group after intervention by Tai Chi exercise, and the stretchability of the muscles was increased, which is beneficial to prevent osteoporosis, improve exercise capacity and delay aging. **Conclusion:** Experiments have proved that Tai Chi is not a single physical or psychological exercise, but an overall exercise of physical and mental coordination. It has a significant effect on alleviating the symptoms of anxiety, depression and insomnia in menopausal women and improving the muscle strength of menopausal women and preventing osteoporosis.

**Key words:** Menopausal women, Tai Chi, Muscle strength test, Anxiety, Depression