物理疗法与太极拳在老年膝骨关节炎患者中的疗效对比

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摘要：目的: 中国统计局《2018 年国民经济和社会发展统计公报》公布的数据显示，截止 2018 年，我国 60 岁及 60 岁以上人群达到 24949 万，占中国总人口 17.9%，而且这个数字还在不断上升。近年来膝关节骨性关节炎的发病率呈逐年上升趋势。膝关节骨性关节炎对我国中老年人的生存状况造成了很大的影响，对社会和家庭造成了很大的经济和社会负担。国际指南也指出，在症状较轻的膝关节骨性关节炎病人中，运动疗法是首选方法。因此，在社区卫生保健中，运动疗法是重中之重。由于中老年人的身体机能较差，运动能力有所下降，因此有必要制定出一套针对老年膝关节炎患者的健身计划。太极拳是我国中老年人低强度有氧运动的首选。本文通过观察太极拳与物理疗法对老年膝骨关节炎患者的影响，并将太极拳练习与物理疗法进行对比，观察其在改善老年膝骨关节炎的疗效差异。**方法:**将 60 名符合纳排标准的老年膝关节炎患者随机分为太极拳组（n=30）和物理疗法组（n=30）。太极拳组采用国家体育总局制定的《八式太极拳》，主要动作有：指卷肱式，搂膝拗步，野马分鬃，云手，金鸡独立，蹬脚，揽雀尾，十字手，以及起式和收式。利用不同方向的进步、后退、斜步、重心变化，来促进腿部肌肉及膝关节的运动，以增强肌肉力量、增强躯干和下肢的动态稳定性。开展每次进行 60 分钟的练习，每周三次；物理治疗组根据《骨关节炎的康复治疗》专家共识，进行股四头肌等长收缩训练、直腿抬高训练、膝关节屈伸训练，每周三次。两组均进行膝关节骨性关节炎相关健康教育包括如何正确的进行运动锻炼, 改变不良生活习惯等, 一周 1 次, 持续 12 周。在干预前 (基线) 和干预后通过 WOMAC 指标 (Western Ontario and McMaster University Osteoarthritis Index）、关节活动范围、SAS 量表 (Self-Rating Anxiety Scale）、匹兹堡睡眠指数（Pittsburgh Sleep Quality Index）、一般自我效能量表（General Self-efficacy Scale）进行评估。数据分析采用 Microsoft Excel 2019 和 IBM SPSS Statistics 20.0。年龄、BMI、WOMAC 评分等连续变量用平均±标准差表示，采用单独样本 t 检验将太极拳组和物理治疗组进行对比。采用卡方检验分析两组间的分类变量 (如性别、婚姻状况、吸烟、饮酒等因素）。对于不满足正态分布的数据，采用非参数检验进行统计分析。本研究的主要指标是测量两组干预前后 WOMAC 评分和 ROM 评分的差异。在所有分析中 $P < 0.05$ 表示该指标具有统计学意义。**结果：** 在 12 周干预过后，太极拳组与物理疗法组的 KOA 患

者在 WOMAC 评分、SAS 评分、PSQI 评分均降低，关节活动范围均有所增加，GSES 评分均增加，两组患者症状均有所改善。但在两组进行对比研究时发现太极拳组疗效明显优于对照组，太极拳组 WOMAC 评分、关节活动范围、SAS 评分均显著优于物理疗法组，且具有统计学差异（$P < 0.05$），其他指标未见显著性差异，说明太极拳组疗效优于物理疗法组。本研究也发现太极拳组的依从性高于物理治疗组，且太极拳组的整体疗效感知显著优于后者。太极拳属于团体运动，练习过程中的互动交流可以促进练习者的兴趣和积极性；而物理治疗则需要患者主动与治疗师沟通，积极配合训练，坚持 3 个月的干预对受试者有一定的难度。

结论：通过对太极拳与物理疗法对 KOA 患者症状的影响；太极拳与物理疗法对 KOA 患者关节活动范围的影响；太极拳与物理疗法对 KOA 患者焦虑的影响等结论进行分析，研究发现，经过十二周的干预后，太极拳组和物理疗法组对于膝关节的疼痛、功能、关节活动度及焦虑评分都有改善效果，但总体来说太极拳组疗效明显优于物理疗法组，且太极拳组能增加膝关节活动度，缓解僵硬，促进全身协调发展。两组在研究过程中均未出现严重不良反应，且太极拳组相较于物理疗法具有经济、实用、方便等特点，增加膝关节骨性关节炎患者治疗依从性，促进膝关节骨性关节炎患者的身心健康发展。太极拳练习能显著改善老年膝关节炎患者的症状，且与物理疗法相比，太极拳练习对于老年膝骨关节炎的疗效更好。因此，太极拳练习对于膝骨关节炎的改善在社区卫生保健中是安全可行且有效的，太极拳可成为老年膝关节炎患者康复的长期锻炼方法，太极拳练习值得在社区中推广应用。

关键词：太极拳，物理疗法，膝骨关节炎

Comparison of efficacy of physiotherapy and Taijiquan in elderly patients with knee osteoarthritis

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Abstract: Objective: According to the data released by the Statistical Bulletin of National Economic and Social Development 2018 by the Chinese Bureau of Statistics, as of 2018, the number of people aged 60 and above in China reached 249.49 million, accounting for 17.9% of China's total population, and this number is recent years, the incidence of knee osteoarthritis has been increasing year by year. Knee joint osteoarthritis has a significant impact on the living conditions of middle-aged and elderly people in our country and has caused a great economic and

social burden on society and families. International guidelines also state that exercise therapy is the preferred approach for patients with milder knee osteoarthritis. Therefore, exercise therapy is given top priority in community health care. Due to decreased physical function among middle-aged and elderly individuals, it is necessary to develop a fitness plan specifically designed for elderly patients with knee arthritis. Taijiquan is considered as low-intensity aerobic exercise suitable for middle-aged and elderly individuals in China. By observing its influence on elderly patients with knee osteoarthritis compared to physical therapy, this paper aims to determine differences in efficacy between Taijiquan practice and physical therapy in improving symptoms associated with knee osteoarthritis among older adults. **Methods**: 60 elderly patients with knee arthritis were randomly divided into Taijiquan group (n=30) and physical therapy group (n=30). Taijiquan group adopts the "Eight forms of Taijiquan" formulated by the General Administration of Sport of the State. The main movements are: finger curl, lap lap, wild horse hair parting, cloud hand, golden rooster independent, foot pushing, holding the tail of the bird, cross hand, and the rising and folding style. Using progress, retreat, oblique step and center of gravity change in different directions to promote the movement of leg muscles and knee joints to enhance muscle strength and enhance the dynamic stability of the trunk and lower limbs. Perform 60 minutes of exercise three times a week; The physical therapy group performed quadriceps isometric contraction training, straight leg elevation training, knee flexion and extension training three times a week according to the expert consensus of Osteoarthritis Rehabilitation Treatment. Both groups received knee osteoarthritis related health education, including how to correctly exercise and change bad lifestyle habits, once a week for 12 weeks. WOMAC Index (Western Ontario and McMaster University Osteoarthritis Index), joint range of motion and SAS scale (Self-Rating Anxiety) were evaluated before intervention (baseline) and after intervention Scale, the Pittsburgh Sleep Quality Index and the General Self-efficacy Scale. Data were analyzed using Microsoft Excel 2019 and IBM SPSS Statistics 20.0. Continuous variables such as age, BMI and WOMAC score were represented by mean ± standard deviation. A single sample T-test was used to compare the Tai Chi group with the physical therapy group. Chi-square test was used to analyze categorical variables (such as gender, marital status, smoking, alcohol consumption, etc.) between the two groups. For the data that do not meet the normal distribution, non-parametric test is used for statistical analysis. The main indicator of this study was to measure the differences in WOMAC

scores and ROM scores between the two groups before and after the intervention. $P < 0.05$ in all analyses indicated that the indicator was statistically significant. **Results**: After 12 weeks of intervention, WOMAC score, SAS score and PSQI score of KOA patients in Tai Chi group and physical therapy group were decreased, joint range of motion was increased, GSES score was increased, and symptoms were improved in both groups. However, in the comparative study of the two groups, it was found that the effect of Taijiquan group was significantly better than that of the control group, and the WOMAC score, joint range of motion and SAS score of Taijiquan group were significantly better than that of the physical therapy group, with statistical differences ($P < 0.05$). No significant differences were found in other indicators, indicating that the effect of Taijiquan group was better than that of the physical therapy group. This study also found that the adherence of the Taijiquan group was higher than that of the physical therapy group, and the overall efficacy perception of the Taijiquan group was significantly better than the latter. Taijiquan is a team sport, and the interaction during practice can promote the interest and enthusiasm of the practitioners. On the other hand, physical therapy requires patients to actively communicate with therapists and actively cooperate with training. The intervention lasting for 3 months is difficult for subjects. **Conclusion**: The effect of Taijiquan and physical therapy on the symptoms of KOA patients; the influence of Taijiquan and physiotherapy on joint range of motion in patients with KOA and the effects of Taijiquan and physical therapy on the anxiety of KOA patients were analyzed. The study found that after 12 weeks of intervention, the Taijiquan group and the physical therapy group had improved the pain, function, joint motion and anxiety scores of the knee joint, but in general, the effect of Taijiquan group was significantly better than that of the physical therapy group, and the taijiquan group could increase the knee joint motion, relieve stiffness and promote coordinated development of the whole body. There were no serious adverse reactions in the two groups during the study. Compared with physical therapy, Taijiquan group has the characteristics of economy, practicality and convenience, which can increase the treatment compliance of patients with knee osteoarthritis and promote the physical and mental health development of patients with knee osteoarthritis. Taijiquan practice can significantly improve the symptoms of elderly patients with knee arthritis, and compared with physical therapy, Taijiquan practice is better for elderly patients with knee osteoarthritis. Therefore, Taijiquan practice is safe, feasible and effective for knee osteoarthritis in the community. Taijiquan can become a long-term

exercise method for the rehabilitation of elderly patients with knee arthritis, and Taijiquan practice is worth promoting and applying in the community.

Key words: Taijiquan; Physical therapy; Knee osteoarthritis