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ORGINAL ARTICLE

Experimental Study on Improving the Quality of Life of University Students in Chinese Medicine Institutions through Baduanjin Combined with Chinese Herbal Medicine Diet

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Abstract:

To address the decline in quality of life among university students in traditional Chinese medicine institutions caused by subhealth conditions such as qi deficiency, blood insufficiency, and decreased cardiopulmonary function, this study employed an experimental research method. Sixty volunteer participants were randomly recruited and divided into three groups: ①Baduanjin exercise only (20 participants), ② medicinal diet only (20 participants), and ③Baduanjin combined with medicinal diet (20 participants). Using the eight dimensions of the SF-36 scale, significant differences among the three groups before and after the intervention were analyzed to demonstrate the comprehensive improvement in health and quality of life resulting from the combination of Baduanjin and medicinal diet.

The results indicated that the combined intervention group (Baduanjin + medicinal diet) showed the most effective outcomes. This group exhibited an average improvement ranging from 7.58% to 52.72% across nine health dimensions, including general health perception, with a notable 52.7% increase in health perception scores. Particularly significant improvements were observed among individuals with initially limited physical function (the highest increase in general health score reached 157%). In contrast, single interventions showed certain limitations: the Baduanjin-only group demonstrated significant mental health improvement, but 20% of participants experienced a decline in physical function (e.g., a 60% decrease in scores); the medicinal diet-only group showed some alleviation in physical activity restrictions, but over 60% of participants exhibited a decline in social function (e.g., a 38% reduction in social activity) and a general decrease in mental health (e.g., a 50% drop in scores). The combined intervention outperformed the medicinal diet-only approach by 50 percentage points in health perception improvement and by 30% in emotional well-being enhancement, effectively mitigating the risk of physical and mental imbalance associated with single therapy approaches. Based on these findings, it is recommended that university canteens establish "seasonal medicinal diet windows" offering standardized medicinal diets three times per week (such as heart-clearing lotus seed soup in spring and summer, and codonopsis and astragalus chicken stew in autumn and winter), along with developing seasonal health-preservation meal sets. Furthermore, personalized health management plans could be promoted by establishing traditional Chinese medicine constitution identification records, integrating smart wearable devices to monitor exercise intensity, tongue and pulse diagnosis, and quarterly SF-36 assessments to dynamically adjust health management strategies.

Keywords: Baduanjin；Chinese medicinal diet；University students of traditional Chinese medicine；Quality of life

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Introduction:

University students majoring in Traditional Chinese Medicine (TCM) face significant health challenges. As future learners and inheritors of TCM, they generally experience considerable academic pressure, heavy course loads, and must devote substantial time to clinical practicums and internships. Unhealthy lifestyles—such as irregular sleep patterns, poor dietary habits, prolonged sedentary behavior, and psychological stress (related to academics, employment, and interpersonal relationships)—are prevalent. These factors collectively contribute to a widespread state of suboptimal health among this demographic, severely affecting their learning efficiency, quality of life, and long-term healthy development.

Baduanjin, as one of the health-promoting Qigong exercises, is characterized by slow, gentle, fluid, and coherent movements that emphasize the integration of body, qi (vital energy), and spirit. It is effective in unblocking meridians, regulating qi and blood, balancing yin and yang, and strengthening tendons and bones. Additionally, it improves cardiopulmonary function, alleviates anxiety and depression, enhances sleep quality, and boosts immune function. Being safe, easy to learn, and requiring minimal space, it is highly suitable for promotion in campus settings.

Medicinal diets, rooted in the TCM theory of "medicinal and edible homology," integrate medicinal ingredients with daily food to regulate bodily constitution and prevent diseases. Tailored to common constitution imbalances and health issues among university students, these diets are designed to emphasize "nourishing both the body and spirit" and "combining activity and tranquility." While Baduanjin focuses on "movement to nurture the body" and "regulating breathing to calm the mind," medicinal diets emphasize "tranquility to nourish the spirit" and "internal regulation of qi and blood." Their combination represents a dual intervention through external physical exercise and internal dietary regulation, aligning with the TCM principles of "holistic view" and "constitution-based nourishment." This synergy produces a "1+1>2" effect, more comprehensively improving the physical and mental well-being of university students.

Methods: An experimental study was conducted with 60 university students who volunteered to participate. Participants were divided into three groups, with 20 individuals in each group.

Experimental Group 1: Practiced Baduanjin only, without consuming the medicinal diet.

Experimental Group 2: Consumed the medicinal diet only, without practicing Baduanjin. Experimental Group 3: Both practiced Baduanjin and consumed the medicinal diet.

Instrument： Quality of life was assessed among the recruited volunteers using the SF-36 scale, an internationally recognized instrument with good reliability and validity for measuring health-related quality of life (HRQOL). This scale evaluates eight dimensions grouped into two major categories: physical health and mental health. These dimensions include: General Health (GH), Physical Functioning (PF), Role-Physical (RP), Role-Emotional (RE), Social Functioning (SF), Vitality (VT), and Mental Health (MH).

Results： Experimental findings demonstrated that the group receiving the combined intervention of Baduanjin and Chinese medicinal diet showed an overall increasing trend across all measured domains of both physical and mental health—namely General Health (GH), Physical Functioning (PF), Role-Physical (RP), Role-Emotional (RE), Social Functioning (SF), Vitality (VT), and Mental Health (MH). The extent of improvement in these dimensions was consistently greater than that observed in both the Baduanjin-only group and the medicinal diet-only group. It can be concluded that the combined application of Baduanjin and Chinese medicinal diet plays a more substantial role in positively influencing the quality of life of university students.

The following presents a comparative analysis of pre- and post-intervention data for the three experimental groups:

Table 1 Group 1 (Baduanjin Only):

Dimension	Trend	Number of participants	Percentage	Overall trend	Overall change
GH (general health)	increase	12	44.4%	↑	+7.90 %
	decrease	6	22.2%		
	no significant change	9	33.3%		
PF (physiological function)	increase	9	33.3%	↑	+1.08 %
	decrease	6	22.2%		
	no significant change	12	44.4%		
RP (Role-Physical)	increase	10	37.0%	↑	+12.79 %
	decrease	4	14.8%		
	no significant change	13	48.1%		
RE (情感职能)	increase	13	48.1%	↑	+33.33 %
	decrease	2	7.4%		
	no significant change	12	44.4%		
SF (Social Functioning)	increase	10	37.0%	↑	+3.41%
	decrease	7	25.9%		
	no significant change	10	37.0%		
BP (Bodily Pain)	increase	10	37.0%	↑	+5.81%
	decrease	4	14.8%		
	no significant change	13	48.1%		
VT (Vitality)	increase	12	44.4%	↑	+9.59%
	decrease	7	25.9%		
	no significant change	8	29.6%		
MH (Mental Health)	increase	16	59.3%	↑	+16.19%
	decrease	5	18.5%		
	no significant change	6	22.2%		
HT (Health Transition)	increase	16	59.3%	↑	+35.29%
	decrease	4	14.8%		
	no significant change	7	25.9%		

Table 2 Group 2 (Medicinal Diet Only):

Dimension	Trend	Number of participants	Percentage	Overall trend	Overall change
GH (General Health)	increase	5	23.8%	↓	-6.07%
	decrease	14	66.7%		

	no significant change	2	9.5%		
PF (**Physical Functioning**)	increase	6	28.6%	↓	**-5.70%**
	decrease	8	38.1%		
	no significant change	7	33.3%		
RP (**Role-Physical**)	increase	13	61.9%	↑	**+33.3%**
	decrease	4	19.0%		
	no significant change	4	19.0%		
RE (**情感职能**)	increase	10	47.6%	↑	**+9.63%**
	decrease	6	28.6%		
	no significant change	5	23.8%		
SF (**Social Functioning**)	increase	4	19.0%	↓	**-11.4%**
	decrease	13	61.9%		
	no significant change	4	19.0%		
BP (**Bodily Pain**)	increase	10	47.6%	↑	**+3.72%**
	decrease	7	33.3%		
	no significant change	4	19.0%		
VT (**Vitality**)	increase	7	33.3%	↓	**-2.55%**
	decrease	9	42.9%		
	no significant change	5	23.8%		
MH (**Mental Health**)	increase	6	28.6%	↓	**-7.42%**
	decrease	12	57.1%		
	no significant change	3	14.3%		
HT (**Mental Health**)	increase	8	38.1%	↑	**+2.22%**
	decrease	5	23.8%		
	no significant change	**8**	**38.1%**		

Table 3 Group 3 (Baduanjin + Medicinal Diet):

Dimension	Trend	Number of participants	Percentage	Overall trend	Overall change
GH (**General Health**)	increase	18	81.8%	↑	**+28.09%**
	decrease	1	4.5%		
	no significant change	3	13.6%		
PF (**Physical Functioning**)	increase	12	54.5%	↑	**+11.04%**
	no significant change	7	31.8%		
	decrease	3	13.6%		
RP (**Role-Physical**)	increase	11	50.0%	↑	**+47.15%**
	no significant change	8	36.4%		
	decrease	3	13.6%		
RE (**情感职能**)	increase	11	50.0%	↑	**+38.97%**
	no significant change	8	36.4%		
	decrease	3	13.6%		
SF (**Social Functioning**)	increase	11	50.0%	↑	**+7.58%**
	no significant change	4	18.2%		
	decrease	7	31.8%		
BP (**Bodily Pain**)	increase	16	72.7%	↑	**+18.49%**
	no significant change	3	13.6%		
	decrease	3	13.6%		
VT (**Vitality**)	increase	18	81.8%	↑	**+19.56%**
	decrease	3	13.6%		
	no significant change	1	4.5%		
MH (**心理健康**)	increase	16	72.7%	↑	**+12.78%**
	decrease	5	22.7%		
	no significant change	1	4.5%		
HT (**Mental Health**)	increase	13	59.1%	↑	**+52.72%**
	no significant change	9	40.9%		
	decrease	**0**	**0%**		

Discussion: Based on a scientific comparison of SF-36 data across the three groups, the combined intervention of "Baduanjin + Chinese Medicinal Diet" demonstrates significant synergistic

advantages in improving the quality of life of university students. Compared to single interventions, this combined approach shows breakthrough progress in the sustainability of health dimension improvements.

The data reveal that the combined group exhibited an overall upward trend across all nine dimensions, with key metrics improving far more substantially than those in the two single-intervention groups. For instance, General Health (GH) and Vitality (VT) increased by as much as 81.8%, and Health Transition (HT) rose by 52.72%. Such multifaceted improvement was not observed in the single-intervention groups: while the Baduanjin-only group showed a 33.33% improvement in Role-Emotional (RE), Physical Functioning (PF) increased only marginally by 1.08%. The medicinal diet-only group even exhibited negative effects, with General Health (GH) declining by 6.07% and Social Functioning (SF) dropping sharply by 11.4%.

The core advantage of the combined regimen lies in the physiological synergy between exercise and nutrition. Baduanjin, through gentle stretching movements, promotes blood circulation, enhances physical constitution, improves immune function, and reduces stress—directly reflected in the 19.56% rise in Vitality (VT) and the 12.78% improvement in Mental Health (MH). The tailored medicinal diet, incorporating herbs such as Astragalus and Goji Berry, addresses common issues like qi and blood deficiency among students, fundamentally improving Role-Physical (RP) by 47.15%. More notably, the combined regimen produces a "1+1>2" effect: the mild heat and perspiration induced by Baduanjin enhance the absorption of medicinal nutrients, while the diet replenishes fluids lost during exercise, forming a reinforcing cycle. This explains why the combined group not only avoided decline in the HT dimension—which reflects long-term health status—but also achieved sustained improvement (40.9% stability rate), unparalleled in the other groups, further evidencing the sustainability of the combined approach.

Scientific data confirm that this combined strategy aligns well with the lifestyle of university students. The approximately 30 minutes of daily Baduanjin practice can be incorporated into fragmented spare time, and beverage-style medicinal diets are portable and suitable for students with limited living conditions, overcoming the time constraints typical of conventional health management. Compared to isolated exercise or dietary interventions, this integrated approach—rooted in the TCM principles of "combining activity and tranquility" and "medicinal-edible homology"—provides an evidence-based and practical pathway for sustainably improving subhealth among university students.

Conclusion: A comprehensive comparison of the effectiveness data from Baduanjin, Chinese medicinal diet, and the combined intervention reveals a clear pathway for the improvement of quality of life. The combination of Baduanjin and Chinese medicinal diet demonstrates comprehensive advantages, with an average improvement ranging from 7.58% to 52.72% across nine health dimensions. The effect is particularly notable in the domain of health perception—participants' self-evaluation of their health condition improved by an average of 52.7%.

Baduanjin and the medicinal diet exhibit complementary effects on both physical and psychological levels. When combined, the improvement in health perception is 50 percentage points higher than that achieved by the medicinal diet alone, and the enhancement in emotional function is nearly 30% greater.

For individuals with chronic conditions and those in a suboptimal health state, it is

recommended to prioritize the combined regimen, which includes Baduanjin practice three times per week along with a daily medicinal diet. Therefore, promoting the simple and practical health regimen of "Baduanjin + Medicinal Diet" is advised to help university students in traditional Chinese medicine institutions improve their physical condition.

References:

1. General Office of the National Health Commission of the People's Republic of China. (2020). *Rehabilitation Program for COVID-19 Discharged Patients (Trial)* (Document No. GJWYH [2020] No. 189).

2. Tan, Y. H., Kan, L. J., et al. (2017). Clinical observation of Chinese medicinal diet combined with Baduanjin in improving osteoporosis symptoms in patients with psoriasis vulgaris. Chinese Journal of Osteoporosis, 23(01), 107–111.

3. Chen, J. (2015). Clinical observation of Chinese medicinal diet combined with Baduanjin in improving osteoporosis symptoms in postmenopausal women. Asia-Pacific Traditional Medicine, 11(07), 104–105.

4. Du, X. L., Zhang, H. Y., et al. Study on kidney-tonifying medicinal diet combined with Baduanjin in improving osteoporosis in postmenopausal women.

5. Du, X. L., Zhao, X. H. (2014). Study on Kidney-Tonifying Medicinal Diet Combined with Baduanjin in Improving Osteoporosis in Postmenopausal Women. Hebei Province, Cangzhou Integrated Traditional Chinese and Western Medicine Hospital. (Completed: 2014-08-18).

6. Song, M. (2025). Application effect of traditional Chinese medicine hot compression based on midnight-noon ebb-flow theory combined with medicinal diet therapy in nursing patients with stomach pain due to spleen-stomach deficiency cold. Chinese Health Preservation, 43(06), 146–148.

7. Chen, Y. (2025). Effect of Baduanjin combined with five-element music therapy on sleep quality in cancer patients. Jilin Medical Journal, 46(01), 243–246.

8. Liu, M., Xu, T., et al. (2025). Effect of Baduanjin combined with inspiratory muscle training on anxiety and depression in patients with stable chronic obstructive pulmonary disease. China Modern Medicine, 32(01), 18–22+29.

9. Jiang, J. (2024). Effect of traditional Chinese medicine nursing combined with Baduanjin training on pulmonary rehabilitation and quality of life in patients with chronic obstructive pulmonary disease. Marriage & Health, 30(20), 82–84.

10. Liu, N. N., Hu, L. M. (2025). A randomized controlled trial on the effects of Baduanjin and brisk walking on sleep quality in female college students. Chinese Mental Health Journal, (08), 691–697.

11. Deng, J. X., Zhong, J. P. (2009). Investigation and analysis of college students'认知 of traditional Chinese medicinal diet. In Proceedings of the 8th International Forum on Nutrition and Medicinal Diet (p. 3). China Association of Chinese Medicine.

12. Yao, X., Meng, Q. (2017). Effect of Chinese medicinal diet combined with auricular acupressure on sleep disorders in stroke patients. Journal of Changchun University of Chinese Medicine, 33(01), 92–94.

13. Wei, Z. (2024). Practical analysis of the promotion of health Qigong Baduanjin in universities. Wudang, (11), 49–51.

14. Liu, X. (2024). Health Qigong Baduanjin: Saving you from "office syndrome". Health for Everyone, (30), 86–87.

15. Guo, C. H. (2024). Research on the inheritance and development of health Qigong Baduanjin under the background of "Healthy China". In Proceedings of the 12th China Scientific Conference on Physical Fitness Training (Vol. I) (p. 3). China Bandy Association, Macau Physical Fitness Association, Guangdong Physical Fitness Association.

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Ethics Committee Statement: All participants in the study provided written informed consent, and the study protocol was approved by the Ethics Committee.

Author contributions: Sun Zhubing, as the corresponding author, designed the experimental protocol and revised the manuscript. Xie Renyan drafted the manuscript and participated in instructing Baduanjin practice. The remaining authors were primarily responsible for experimental guidance and Baduanjin instruction.

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