



Mini Review

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A Mini Review of the Effects of Baduanjin Exercise on Varieties of Diseases: Evidence from Systematic Reviews and Meta-Analyses since 2018

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Abstract

Baduanjin (Eight-Section Brocade), a traditional Chinese Qigong exercise comprising eight gentle and slow controlled movements combined with breathing rhythm and meditative focus, has gained attention as a complementary mind-body intervention for various chronic diseases. This review synthesizes evidence from systematic reviews and meta-analyses of Randomized Controlled Trials (RCTs) on its effects across cardiovascular, metabolic, respiratory, psychological, and musculoskeletal conditions. Findings indicate that Baduanjin, often practiced as an adjunct to standard care, significantly reduces systolic and diastolic blood pressure in hypertensive patients, improves glycemic control (e.g., HbA1c and fasting blood glucose) and psychological well-being in type 2 diabetes, enhances lung function and exercise capacity in Chronic Obstructive Pulmonary Disease (COPD), and improves quality of life, sleep, balance, and reduces anxiety/depression symptoms across populations. It is generally safe with minimal adverse events. While promising, most evidence originates from Chinese studies with methodological limitations, including small sample sizes and short intervention durations. Larger, high-quality, multicenter RCTs are needed to confirm long-term benefits and generalizability. Baduanjin offers a low-cost, accessible option for health promotion and chronic disease management, particularly among older adults.

Introduction

Baduanjin is a classical Chinese Qigong practice that integrates slow, flowing physical movements with regulated breathing and mindful awareness, a traditional therapeutic exercise in China and certain East Asian countries. Standardized by health authorities, it is suitable for people of all ages, including those with chronic illnesses,

due to its low-intensity nature. Recent decades have seen a surge in clinical research evaluating Baduanjin as a non-pharmacological intervention. This review summarizes key findings from published systematic reviews and meta-analyses, focusing on its therapeutic impacts on major disease categories.

Results and Findings

Cardiovascular Diseases and Hypertension

Multiple meta-analyses consistently demonstrate Baduanjin's antihypertensive effects. A 2022 systematic review and meta-analysis involving 2,121 participants reported significant reductions in systolic blood pressure (SBP: -9.3 mmHg) and diastolic blood pressure (DBP: -6.3 mmHg) compared to controls, with larger effects noted in elderly subgroups [1]. Another 2020 meta-analysis of 14 RCTs (n=1,058) found mean differences of -8.52 mmHg in SBP and -4.65 mmHg in DBP when Baduanjin was added to routine care [2]. An earlier analysis of 12 trials showed strong standardized mean differences favoring Baduanjin for both SBP and DBP, particularly when combined with antihypertensive medications over periods exceeding 12 weeks [3]. These benefits likely arise from improved endothelial function, reduced sympathetic nervous activity, and enhanced vascular compliance facilitated by rhythmic movements and breath regulation. Evidence quality is rated low to moderate due to risks of bias, but the consistency across studies supports Baduanjin as a feasible adjunct for blood pressure management.

Type 2 Diabetes Mellitus and Metabolic Health

Baduanjin shows beneficial effects on glycemic control and associated psychological symptoms. A 2023 meta-analysis focusing on type 2 diabetes patients with emotional disorders found significant improvements in HbA1c (SMD = 0.75), depression (SMD = 0.69), and anxiety (SMD = 0.98) [4]. A broader 2022 review confirmed positive impacts on fasting blood glucose, HbA1c, 2-hour postprandial glucose, and overall psychological well-being when practiced alongside conventional therapy [5]. Earlier work from 2017 also supported its role in enhancing metabolic parameters in diabetes management [5]. Mechanisms may include increased insulin sensitivity, reduced systemic inflammation, and stress reduction through mind-body integration. Baduanjin appears particularly valuable for patients experiencing comorbid mood disturbances.

Respiratory Diseases, Particularly COPD

For stable Chronic Obstructive Pulmonary Disease (COPD), Baduanjin improves pulmonary function and functional capacity. A 2024 meta-analysis reported enhancements in FEV1 (MD = 0.29 L), FEV1/FVC ratio, and 6-minute walk distance [6]. An earlier 2018 systematic review with meta-analysis (20 RCTs, n=1,975) demonstrated moderate-to-large effect sizes for exercise capacity (Hedge's $g = 0.69$), FEV1, FVC, and quality of life [4]. Updated analyses in 2023 further confirmed gains in lung function, exercise tolerance, and reductions in dyspnea and anxiety/depression symptoms. Benefits are attributed to strengthened respiratory muscles, improved diaphragmatic breathing, and overall physical conditioning. Longer interventions (≥ 3 -6 months) and higher adherence yield stronger outcomes.

Mental Health, Sleep Quality, and Overall Well-Being

A foundational 2017 meta-analysis of Baduanjin Qigong highlighted improvements in quality of life, sleep quality, balance, and handgrip strength across various populations [7].

Complementary reviews indicate reductions in musculoskeletal pain and better sleep in people with chronic diseases. In heart failure and other conditions, it enhances exercise capacity and quality of life while alleviating emotional distress [8].

Musculoskeletal, Neurological, and Other Conditions

Emerging evidence supports benefits for older adults, including improved balance, muscle strength, and reduced fall risk. Studies also suggest positive effects on knee osteoarthritis symptoms, chronic low back pain, and post-stroke rehabilitation, though dedicated large-scale meta-analyses are fewer for these areas. No serious adverse events are typically reported; mild issues such as transient muscle soreness occur infrequently.

Discussion: Limitations and Future Directions

Most included RCTs are conducted in China, feature relatively small samples, and have short-to-medium durations (often 8-24 weeks). Risks of performance and detection bias exist due to challenges in blinding. Heterogeneity is moderate to high in some pooled analyses, and long-term data on hard clinical endpoints (e.g., cardiovascular events, mortality) remain limited. Generalizability to diverse ethnic groups or patients with advanced disease requires further investigation.

Conclusion

Accumulated evidence from systematic reviews and meta-analyses positions Baduanjin as a safe, effective, and accessible mind-body exercise with moderate benefits for hypertension, type 2 diabetes, COPD, mental health, and functional status in chronic conditions. It serves well as a complementary therapy, promoting both physical and psychological resilience, especially in aging populations. Clinicians may consider recommending standardized Baduanjin protocols alongside conventional treatments. High-quality, international, long-term RCTs with objective biomarkers are essential to elevate the evidence base and support broader clinical integration.

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