

# Innovative Exploration of Tai Chi in Health Management and Care Models

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**Abstract:** This study focuses on the application value of Tai Chi in the field of health management and care, and systematically analyzes its core advantages and innovative application scenarios. With the core philosophy of “overcoming rigidity with softness and balancing yin and yang,” Tai Chi exerts a synergistic regulatory effect on three dimensions: physical health, mental health, and social adaptability, which is highly aligned with the modern health management concept of “prevention is better than treatment.” Empowering health management and care models through Tai Chi promotes the transformation of care models from “passive medical treatment” to “active health maintenance,” facilitates the dissemination of traditional Chinese culture, and provides a new solution for the innovation of health management and care models.

**Keywords:** Tai Chi; Health management; Holistic care

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## 1. Introduction

As a representative of traditional Chinese martial arts, Tai Chi boasts profound cultural heritage, unique technical characteristics, and rich social value. Guided by the core philosophy of “overcoming rigidity with softness and balancing yin and yang,” it emphasizes the coordinated unity of physical movement and mental regulation.

With the shift of modern health management from “disease treatment” to “prevention-intervention-rehabilitation,” Tai Chi, leveraging its characteristics of low intensity, easy popularization, and simultaneous physical and mental regulation, has gradually transcended the traditional scope of fitness. It has demonstrated multi-dimensional innovative value in health management and care models, offering new solutions for chronic disease prevention and control, mental health maintenance, and elderly health care <sup>[1-5]</sup>.

## 2. Tai Chi, health management, and care models

### 2.1. The philosophy of Tai Chi

The main schools of Tai Chi took shape in the late 19th and early 20th centuries, with “overcoming rigidity with

softness” as the core of its techniques. During the Republic of China period, Tai Chi experienced its first major development, gaining popularity among the public for its “martial art of winning with skill rather than brute force.” After the founding of the People’s Republic of China, Tai Chi gradually evolved into the world’s most popular fitness activity due to its health-preserving value, ushering in a second phase of significant development.

Today, Tai Chi is widely disseminated globally. According to incomplete statistics, it has spread to more than 150 countries and regions, and over 80 countries and regions have established Tai Chi organizations. On December 17, 2020, Tai Chi was inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity. Among the numerous schools, Chen-style, Yang-style, Wu-style, Wu (another character)-style, and Sun-style Tai Chi have been inherited and developed through generations, becoming the mainstream schools of Tai Chi.

Tai Chi embodies rich philosophical thoughts, among which the Taoist theory of “yin and yang” and the Confucian concept of “the mean” (*zhongyong*) serve as its important foundations. Taoism holds that all things in the universe are formed by the interaction of yin and yang forces, and the balance and harmony between yin and yang are the basis for the stable development of things. Tai Chi takes the theory of yin and yang as its core, integrating martial principles with the laws of nature. The movements of Tai Chi are replete with the unity of opposites of yin and yang, such as movement and stillness, substantiality and insubstantiality, opening and closing, and hardness and softness. In the transition of movements, there is movement accompanied by stillness—movement is yang, while stillness is yin; in the shift of body weight, there is substantiality along with insubstantiality—a substantial step is yang, while an insubstantial step is yin; in the execution of moves, there is opening paired with closing—opening is yang, while closing is yin; in the exertion of force, there is hardness combined with softness—hardness is yang, while softness is yin. This mutual transformation and balance of yin and yang enable practitioners to achieve harmony between the body and mind during practice, conform to the laws of nature, and achieve the goal of health preservation and physical fitness.

The Confucian concept of “the mean” emphasizes that all things should pursue a state of appropriate balance and harmony, avoiding excess or extremism. This concept is fully reflected in the practice of Tai Chi. Tai Chi movements emphasize being unbiased and appropriate—whether it is the height of posture, the range of movement, or the intensity of force, moderation and harmony are stressed. When practicing Tai Chi, practitioners must maintain an upright and comfortable body posture, avoiding poor postures such as slanting or twisting, to ensure the coordinated movement of all parts of the body. Meanwhile, in exerting force, practitioners must grasp the proper measure—neither too weak nor excessively fierce. Instead, they should pursue a force-exerting effect that combines hardness and softness in an appropriate manner. The adherence to “the mean” makes Tai Chi not only a martial art skill but also a method of physical and mental cultivation imbued with profound philosophical wisdom, helping practitioners maintain a calm and steady mindset in life and pursue balance and harmony in things.

Tai Chi also maintains a close connection with TCM (Traditional Chinese Medicine) theory, with the meridian theory and qi-blood theory running through its practice. TCM holds that the human meridian system is the channel for the circulation of qi (vital energy) and blood. Unobstructed meridians ensure the harmonious flow of qi and blood, normal functions of zang-fu organs (internal organs), and overall physical health. Tai Chi movements emphasize “guiding qi with the mind and driving the body with qi.” Through slow, gentle, and coherent movements, practitioners guide the flow of qi in the body along the meridian routes, promoting the circulation of qi and blood. For example, the practice of “sinking qi to the dantian” (lower abdomen) in Tai Chi

involves guiding qi to the dantian area in the lower abdomen through specific breathing methods and movement coordination, enriching the qi in the dantian and thereby promoting the circulation of qi and blood throughout the body. Additionally, various Tai Chi movements, such as rotation and winding, can stimulate meridians and acupoints, playing a role in dredging meridians and regulating qi and blood.

Furthermore, Tai Chi focuses on the holistic regulation of the body and mind, which is consistent with the holistic concept of TCM. TCM emphasizes that the human body is an organic whole, and all zang-fu organs, tissues, and organs are interconnected and interdependent. The practice of Tai Chi not only exercises physical strength and flexibility but also regulates breathing, relieves emotions, and enhances mental adjustment ability, achieving comprehensive exercise and maintenance of the body and mind. When practicing Tai Chi, practitioners concentrate on movements and breathing, eliminate distracting thoughts, and achieve deep relaxation and rest of the body and mind. This helps relieve stress, improve sleep quality, enhance immunity, and promote the overall improvement of physical health.

## **2.2. The goals of health management**

Health management refers to a proactive and scientific approach to health maintenance that centers on the individual. It involves assessing and monitoring an individual's health status through scientific methods and formulating personalized health plans to prevent diseases, promote health, and improve the quality of life.

The goals of health management are multi-dimensional. The primary goal is disease prevention, which involves identifying and intervening in potential health risk factors at an early stage to reduce the incidence of diseases. For instance, for individuals with a family history of hypertension, health management can help prevent the onset of hypertension by regularly monitoring blood pressure and providing guidance on diet and exercise. Secondly, it aims to control the progression of diseases. For patients already suffering from chronic diseases such as diabetes and cardiovascular diseases, health management can develop personalized treatment and management plans to help patients control their conditions, reduce the occurrence of complications, and improve their quality of life. Meanwhile, health management is also committed to promoting health, enhancing an individual's physical fitness and mental adjustment ability, and improving the overall health level. For example, by providing nutritional advice and exercise recommendations, it helps individuals develop healthy lifestyles and enhance immunity.

In addition, health management strives to reduce medical costs. Through effective prevention and management measures, it reduces the occurrence and progression of diseases, thereby lowering the consumption of medical resources and alleviating the medical burden on society and individuals.

In the modern medical system, health management plays a crucial role. It compensates for the inadequacy of the traditional medical model, which focuses primarily on disease treatment, by shifting the focus to disease prevention and health maintenance. Health management can integrate multi-disciplinary resources in medicine, health care, nutrition, and psychology to provide comprehensive and systematic health services for individuals. Through health management, individuals can better understand their own health status, enhance their awareness of self-care, and actively participate in their own health management. At the same time, health management helps optimize the allocation of medical resources, improve the efficiency and quality of medical services, and promote the development of the medical system towards a greater emphasis on prevention and health promotion.

## **2.3. The transformation of care models**

The early care model was mainly function-oriented, where nurses primarily executed medical orders and routine

care tasks. This model focused solely on the disease itself, with little consideration for the patient's psychological state or the impact of social factors on the patient's health.

To better meet patients' needs, systematic holistic care emerged. Centered on the patient, guided by modern care concepts, and based on the nursing process as a basic framework, this model systematically applies care content to clinical practice, providing patients with optimal care that addresses their physical, mental, social, and cultural needs. It realizes the transformation of care models from being purely disease-centered and patient-centered to being centered on the holistic health of the individual.

The current care model not only emphasizes holistic care but also highlights humanistic care and personalized care. Nurses are required to pay attention to the individual differences and special needs of patients and provide more humanized care services. With the rapid development of the modern economy and the formation of a multicultural social system, nursing work also presents multicultural characteristics. Nurses are required to update their care concepts, master the connotation of new cultural knowledge, and transform their roles to develop in a diversified manner to meet the needs of different patients. At the same time, nursing work is no longer confined to hospitals but gradually extends to communities and families. The scope of nursing functions has further expanded to include treatment, prevention, health care, and rehabilitation, endowing nurses with more responsibilities such as education, management, and research. This places higher demands on the professional literacy and comprehensive capabilities of nurses.

### **3. Core advantages of integrating Tai Chi into health management and care**

The core advantage of Tai Chi over other fitness methods lies in its synergistic regulatory effect on the three-dimensional health of "physical-mental-social," which is highly consistent with the modern health management concept of "prevention is better than treatment" and lays a foundation for the innovation of care models.

#### **3.1. Physical regulation dimension**

Tai Chi exerts a positive promoting effect on the cardiovascular system. Most Tai Chi movements are slow, gentle, and whole-body exercises. During practice, muscles contract and relax rhythmically, acting like a "muscle pump" to promote blood circulation and ensure smoother blood flow to all organs and tissues of the body. Meanwhile, Tai Chi emphasizes the coordination of breathing and movements. Through deep breathing, it increases oxygen intake and improves cardiopulmonary function. Studies have shown that long-term Tai Chi practice can lower blood pressure, improve blood lipid levels, and reduce the risk of cardiovascular diseases.

In terms of the musculoskeletal system, Tai Chi movements involve the coordinated movement of joints and muscles throughout the body, which can effectively enhance muscle strength and improve joint flexibility and stability. Tai Chi movements take the waist as the axis, driving the limbs to perform various movements such as rotation, flexion, extension, and winding, which exert a good exercise effect on the muscles of the waist, hips, legs, and arms. Long-term Tai Chi practice can increase the cross-sectional area of muscle fibers and improve muscle endurance and explosive power. For osteoporosis, a common problem among the elderly, Tai Chi also has a certain preventive and improvement effect. The movement stimulation of Tai Chi can promote bone metabolism, increase bone mineral density, and reduce bone loss. A study on the elderly found that elderly individuals who persisted in practicing Tai Chi for more than one year had significantly higher bone mineral density than their peers who did not practice, along with stronger muscle strength and balance ability, effectively reducing the risk of falls.

The regulatory effect of Tai Chi on the immune system should not be overlooked. The immune system is an important line of defense for the human body against diseases. Tai Chi practice can enhance the function of the immune system through multiple pathways. On the one hand, Tai Chi exercise promotes blood circulation and metabolism in the body, enabling immune cells to reach all parts of the body more quickly and promptly eliminate pathogens and abnormal cells. On the other hand, Tai Chi focuses on the relaxation and regulation of the body and mind, which can relieve stress and anxiety. Long-term stress and anxiety, however, can inhibit the function of the immune system. When the body is in a relaxed state, the immune system can function more effectively.

Studies have found that in populations who practice Tai Chi for a long time, the level of immunoglobulin in their bodies increases, the activity of white blood cells is enhanced, and their resistance to diseases is significantly improved<sup>[3,4]</sup>.

### **3.2. Psychological intervention dimension**

In modern society, people face various pressures, such as work pressure, life pressure, and interpersonal relationship pressure, which easily lead to the emergence of negative emotions such as anxiety and depression. As a form of exercise that cultivates both the body and mind, Tai Chi has a significant effect on relieving pressure and regulating mental state.

Tai Chi practice emphasizes “guiding qi with the mind and driving the body with qi,” requiring practitioners to eliminate distracting thoughts during exercise and focus on the coordination of breathing and movements. This state of high concentration of the body and mind enables practitioners to temporarily forget the troubles and pressures of the outside world, shift their attention to their internal feelings, and thus achieve the goal of relaxing the body and mind. When practitioners focus on each move of Tai Chi, their brains enter a state of tranquility and peace, similar to the effect of meditation, which helps relieve tense nerves and reduce anxiety.

Long-term adherence to Tai Chi practice can also improve sleep quality. Sleep problems are one of the common psychological issues among modern people. Long-term pressure and anxiety often lead to sleep disorders such as insomnia and dreaminess. By regulating the state of the body and mind, Tai Chi fully relaxes the body and mind, which is conducive to improving sleep. After practicing Tai Chi, physical fatigue is relieved, psychological pressure is reduced, and the excitability of the nervous system is lowered, making it easier to enter a deep sleep state. Many practitioners report that after persisting in Tai Chi practice for a period of time, it becomes easier to fall asleep, sleep depth increases, and they feel more energetic after waking up.

### **3.3. Social adaptation dimension**

#### **3.3.1. Core mechanism of action**

Group practice scenarios can promote interaction among practitioners and reduce loneliness, which is particularly effective for the elderly and empty-nest groups. Learning the cultural connotation of Tai Chi can enhance practitioners’ sense of self-worth and social belonging.

#### **3.3.2. Health management value**

It makes up for the lack of “social support” in modern health management and improves the compliance and sustainability of health management.

## **4. Innovative application scenarios of Tai Chi in health management and care models**

Based on the health needs of different populations, Tai Chi is being integrated into the entire cycle of health management in a “personalized, scenario-based, and collaborative” manner, promoting the transformation of care models from “passive medical treatment” to “active health maintenance.”

### **4.1. From “medication control” to “exercise intervention + self-management”**

In the long-term management of chronic diseases, “insufficient self-management ability of patients” is a core pain point. With its characteristics of “low threshold and easy persistence,” Tai Chi has become an important means of auxiliary intervention for chronic diseases, forming a collaborative model of “medical intervention + Tai Chi exercise.”

**Hypertension management:** Tai Chi is incorporated into the “health management for hypertensive patients.” Through the model of “doctor guidance + coach-led practice,” patients are helped to regulate blood pressure through exercise and reduce medication dosage.

**Diabetes management:** The “slow movements + breathing coordination” of Tai Chi can promote the absorption of glucose by muscles and reduce postprandial blood glucose fluctuations. The formulation of a dual-intervention plan of “Tai Chi exercise + diet” can improve the rate of reaching the standard for blood glucose control in patients.

**Osteoarthritis care:** Patients with knee osteoarthritis often dare not exercise due to pain, leading to muscle atrophy and worsening of the condition. The “arc-shaped movements” of Tai Chi can move the knee joints without weight-bearing, enhance the strength of the quadriceps femoris, and relieve pain.

### **4.2. From “disease care” to “function maintenance + fall prevention”**

With the intensification of population aging in China, problems such as “decreased muscle strength, reduced balance ability, and high fall risk” among the elderly have become prominent. The movement system of Tai Chi, designed according to the physical characteristics of the elderly, has become an innovative carrier for elderly health care.

**Fall prevention intervention:** The core cause of falls in the elderly is the decline in balance ability. Tai Chi movements such as “center of gravity shift” and “single-leg support” can activate the vestibular system and enhance proprioception. The incidence of falls among elderly individuals who persist in practicing Tai Chi can be significantly reduced.

**Cognitive function maintenance:** Tai Chi requires “synchronization of movements and breathing” and “memory of movement sequences,” which can stimulate the prefrontal cortex of the brain (responsible for attention and memory) and delay cognitive decline. The combination of “movement memory + mental games” can improve the memory of elderly individuals with mild cognitive impairment.

### **4.3. From “psychological counseling” to “physical and mental co-regulation + emotional release”**

In modern society, psychological problems such as anxiety and depression are highly prevalent. Traditional psychological care mostly relies on “verbal counseling,” while Tai Chi, with its characteristic of “regulating mental state through physical movement,” has formed an innovative model of “physical intervention + psychological counseling.”

Auxiliary treatment for anxiety disorders: Patients with anxiety disorders often exhibit “sympathetic nerve excitement (rapid heartbeat, rapid breathing).” The “abdominal breathing + slow movements” of Tai Chi can activate the parasympathetic nerve, lower heart rate and cortisol (stress hormone) levels. Some mental health centers have incorporated Tai Chi into the “anxiety disorder rehabilitation program,” combining it with cognitive behavioral therapy to improve treatment effects.

Postpartum depression care: Postpartum women are prone to depressive emotions due to hormonal changes and role transitions, and their bodies are weak after childbirth, making them unsuitable for high-intensity exercise. The “gentle movements” of Tai Chi can help postpartum women restore their posture, and at the same time, relieve anxiety through the practice of “focusing on the present.” Some maternal and child health care hospitals have set up “postpartum Tai Chi training camps,” which cooperate with psychological counselors to provide “exercise + psychological support” and reduce the incidence of postpartum depression.

Psychological stress reduction for workplace groups: Workplace groups are prone to “physical and mental fatigue” due to high work pressure and prolonged sitting. Practicing simplified Tai Chi movements for 15–20 minutes can help workplace individuals relax their bodies and minds and improve work efficiency.

## **5. Innovative paths for Tai Chi health management and care models**

To realize the large-scale application of Tai Chi in health management and care, it is necessary to break through the limitation of “fragmented practice” and build a systematic innovative path of “policy guidance–professional support–scenario integration–technological empowerment.”

### **5.1. Building a standard system for “Tai Chi Health Services”**

Incorporation into public health programs: Promote the inclusion of Tai Chi in the key recommended sports programs of the “Healthy China 2030” Initiative. Establish “Tai Chi Health Service Stations” in community health service centers and township health centers, and include Tai Chi practice in the health management service packages for the elderly and chronic disease patients.

Formulation of professional standards: Collaborate with the National Health Commission and the General Administration of Sport to formulate the Standards for Tai Chi Health Management Services, which clarify Tai Chi practice plans (movement selection, duration, frequency) for different populations (such as hypertensive patients, the elderly, and postpartum women). At the same time, standardize the qualification certification of “Tai Chi health instructors” to avoid sports injuries caused by unprofessional guidance.

### **5.2. Building a “Medical-Sports-Health Care” integrated service model**

Cross-field cooperation mechanism: Promote the establishment of a collaborative mechanism among hospitals (rehabilitation departments, endocrinology departments, psychiatry departments), sports institutions (Tai Chi associations), elderly care institutions, and community health service centers. For example, hospitals are responsible for “health assessment + formulation of personalized plans,” sports institutions for “professional teaching + daily guided practice,” and communities for “venue provision + crowd organization,” forming a closed-loop management of “assessment - intervention - follow-up.”

Innovation in talent training: Add a “Tai Chi Health Care” module to the courses of nursing and rehabilitation therapy majors to cultivate compound talents who understand both medical care and Tai Chi teaching. At the same

time, conduct Tai Chi skill training for community doctors and elderly care workers to enable them to have the ability to guide different populations in practice.

### **5.3. Promoting the intelligent upgrading of Tai Chi health management**

Generation of personalized plans: Develop a “Tai Chi Health Management App.” After users input their age, health status (e.g., whether they have hypertension or arthritis), and exercise ability, the app generates personalized practice plans through algorithms (e.g., recommending the “24-Style Simplified Tai Chi” for the elderly and an “adapted version without squatting movements” for individuals with knee discomfort).

Exercise monitoring and feedback: Combine wearable devices (such as smart bracelets and motion sensors) to monitor users’ heart rates in real-time during practice, and provide feedback through the app (e.g., “Your breathing is too shallow; deepen your breathing in coordination with movements” or “The angle of your knee joint is too large; pay attention to protection”), reducing the risk of sports injuries.

Remote guidance and management: Provide remote teaching for home-bound populations through live courses and pre-recorded courses. At the same time, set up a “health record” module, allowing doctors to view users’ practice data and adjust intervention plans remotely, realizing the integrated management of “online + offline.”

## **6. Challenges and prospects**

Currently, the application of Tai Chi in health management and care still faces several challenges: first, “insufficient evidence-based evidence”—some application scenarios lack large-scale and long-term clinical research data support; second, “low standardization”—there are significant differences in movements among different Tai Chi schools, making it difficult to form a unified intervention plan; third, “uneven population acceptance”—young people still perceive Tai Chi as an “elderly sport” and have low willingness to participate.

In the future, breakthroughs need to be made in three aspects: first, strengthen clinical research on the “health effects of Tai Chi,” and carry out multi-center trials in collaboration with universities and hospitals to accumulate evidence-based evidence; second, promote the “standardized adaptation of Tai Chi movements” and design exclusive versions for different populations (such as adolescents, workplace individuals, and chronic disease patients) to break the “age limitation”; third, reshape the “healthy and trendy” image of Tai Chi through “innovative cultural communication” to attract more people to participate.

In general, the innovative exploration of Tai Chi in health management and care models is not only the modern transformation of traditional health-preserving culture but also the practice of the concept of “centering on people’s health.” With the advancement of systematic construction, Tai Chi will become an important link connecting “traditional health preservation” and “modern care,” providing a unique Chinese solution for building a full-cycle and all-population health management system.

## **Disclosure statement**

The authors declare no conflict of interest.

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