

Constructing a Health Management Model of “Constitution-Based Dietary Education” for 3–6-Year-Old Children in Kindergartens Based on TCM Constitution Theory

Nianci Xue*, Suhui Liu, Wenquan Li

Guangdong Mechanical & Electrical Polytechnic, Guangzhou, Guangdong, China

**Corresponding Author*

Abstract: The problem of constitution imbalances among preschool children is becoming increasingly prominent. Traditional Chinese Medicine (TCM) constitution theory provides a theoretical framework of “classifiable constitutions, constitution–disease association, and modifiable constitutions” for children’s health management. In recent years, numerous practical experiences have emerged across China in innovating health management models in kindergartens, which have supplied an institutional foundation and operational references for integrating TCM constitution-based dietary education into kindergartens. Based on a systematic review of children’s TCM constitution identification tools and the distribution characteristics of preschool children’s constitutions, and in combination with the latest practical trends in kindergarten health management, this paper proposes the construction of a “Constitution-Based Dietary Education” health management model. The model uses TCM constitution identification as its foundation, personalised dietary regulation as its core, and a four-party collaboration of “kindergarten–college–family–medical institution” as its safeguard, forming a closed-loop management process of “identification–intervention–evaluation–follow-up”. At the same time, it advocates offering TCM constitution enlightenment courses in kindergartens, thereby integrating health management with cultural heritage. This provides a theoretical framework and practical pathway for children’s health management in kindergartens.

Keywords: TCM Constitution Theory; Preschool Children; Constitution-Based Dietary Education; Health Management Model; Kindergarten

1. Introduction

Children are the future of a nation and the hope of its people. The preschool period (3–6 years old) is a critical stage for children’s physical and mental development. During this period, constitution is most malleable, making it an important window for regulating constitution and promoting health. However, current kindergarten dietary management generally remains at the general level of “balanced nutrition”, neglecting the profound influence of individual constitution differences on dietary needs.

TCM constitution theory offers a theoretical tool to address this dilemma. Professor Wang Qi, a master of Chinese medicine, proposed the three theories of TCM constitution: “classifiable constitutions, constitution–disease association, and modifiable constitutions”. Zhao Haihong and WANG Ji further pointed out that infancy and early childhood are the stages with the strongest constitution plasticity and are crucial periods for regulating constitution and promoting health [1]. In recent years, research on children’s TCM constitution has made considerable progress, with increasingly abundant studies on preschool children’s constitution scales, distribution surveys, and dietary interventions. At the same time, extensive practical explorations have been carried out across the country in kindergarten health management models – such as the “four daily inspections” health management process, the closed-loop management system of “monitoring–assessment–feedback–intervention–safeguard”, and smart-platform-enabled home–kindergarten co-education – which have provided feasible operational paths for introducing TCM constitution-based dietary education into kindergartens. However, most existing studies focus on family or hospital settings, and few have systematically integrated

TCM constitution identification and dietary health care into the daily health management of kindergartens.

Therefore, this paper aims to construct a “Constitution-Based Dietary Education” health management model for 3–6-year-old children in kindergartens, grounded in TCM constitution theory, based on a systematic review of relevant literature and practical experiences.

2. Literature Review

2.1 Tools and Standards for Children’s TCM Constitution Identification

Preschool children are in a physiological stage of “delicate zang-fu organs and immature qi and form”, and their constitutions are characterised by susceptibility, variability, and plasticity [1]. In terms of identification tools, the Constitution Identification Scale for Children in Guangdong Province, developed by Liu Zhuoxun, Yang Jinghua, and their team, classifies children’s constitutions into seven types: balanced, qi-deficiency, yang-deficiency, yin-deficiency, phlegm-dampness, damp-heat, and qi-stagnation. Validated with 668 samples, the test-retest reliability Kappa value ranged from 0.508 to 0.889, and the corrected Cronbach’s α coefficient of the total scale was 0.834, indicating good reliability and validity [2]. The TCM Classification and Diagnostic Criteria for Children’s Constitutions, led by Zhao Xia et al., further standardised the age-stratified classification and criteria for children’s constitutions, specifying that for children aged 4–6 years, a conversion score of ≥ 41 points for a biased constitution indicates that constitution type [3]. These studies provide scientifically sound and operable tools and standards for conducting constitution identification in kindergartens.

2.2 Distribution of Constitutions among Preschool Children

Large-scale epidemiological surveys have revealed the seriousness of constitution imbalances among preschool children. XU Jin et al. surveyed 15,059 children aged 3–6 years from Zhengzhou and Nanyang in Henan Province and Xianyang in Shaanxi Province, and found that the top five constitutions among sub-healthy children were yang-deficiency (22.7%), food-stagnation (18.5%), qi-deficiency (17.7%), liver-fire (10.6%), and

phlegm-dampness (7.9%) [4]. The Lingnan region has distinctive geographical characteristics. MA Shuge et al. investigated 1,000 children in Guangzhou and found that mixed constitutions accounted for 85.6%, among which spleen-deficiency with liver-hyperactivity (33.7%) and qi-yin deficiency (24.1%) were the most common, and the proportion of spleen-deficiency with liver-hyperactivity in children over 3 years old was significantly higher than that in children under 3 years old [5].

2.3 Recent Practical Trends in Kindergarten Health Management Models

In recent years, numerous innovative explorations have emerged in kindergarten health management models, providing important practical references for this study.

In terms of process-oriented management, Zheng Jufei proposed a “four daily inspections” health management process for kindergartens, covering key aspects such as morning check-ups, outdoor activities, meal times, and nap times, and achieving closed-loop health management through “three-standard processes” (training standards, operation standards, and evaluation standards) [6]. In terms of dietary education curriculum, Xu Jiayao proposed four-dimensional curriculum objectives of “food interest, food manipulation, food knowledge, and food etiquette”, integrated dietary education activities into the daily curriculum system of kindergartens, and established dietary education environments such as planting gardens, dietary education workshops, and 24-solar-term themed walls [7]. In terms of constitution monitoring, Ma Jie and Cui Zhilei proposed a closed-loop management system of “monitoring–assessment–feedback–intervention–safeguard”, establishing individual constitution health records and databases for children through routine constitution monitoring [8]. In terms of integration of sports and medicine, Xu Qiao pointed out that kindergartens face challenges such as traditional thinking limitations between sports and medical sectors and the lack of specialised institutions for integration, and proposed practical pathways including “government-coordinated promotion, creating new educational forms, relying on community platforms, and establishing exercise prescription databases” [9]. In terms of home–kindergarten collaboration, Ning

Yangjing, based on the “hierarchical hypothesis of preschool children’s health behaviour development”, proposed implementing targeted home-cooperation strategies according to different levels of children’s health behaviours (primary: needing help or reminders from others; intermediate: self-effort; advanced: automation) [10]. LIU Lijuan explored a new ecosystem of smart-platform-enabled kindergarten safety and health management, using a parent-exclusive App to share real-time health data such as morning check-ups, water intake, and nap records, thereby achieving information exchange and collaborative co-education between home and kindergarten [11].

The above practices indicate that kindergarten health management is shifting from “fragmented experience-based operations” to “systematic institutionalised management”, with “process-oriented management”, “digital empowerment”, “home–kindergarten collaboration”, and “integration of medical and educational resources” becoming common trends. These provide a mature institutional framework and operational experience for integrating TCM constitution-based dietary education into the daily management of kindergartens.

3. Construction of the “Constitution-Based Dietary Education” Health Management Model

3.1 Basic Framework of the Model – “Four-Step Closed Loop”

Based on the above literature review, this paper proposes a “Constitution-Based Dietary Education” health management model for 3–6-year-old children in kindergartens. The model is guided by TCM constitution theory, takes the constitution characteristics of children in the Lingnan region as its regional basis, and constructs a closed-loop management system of “identification–intervention–evaluation–follow-up” (Figure 1).

3.1.1 Constitution identification module

The Constitution Identification Scale for Children in Guangdong Province is used as the identification tool [2]. Trained health teachers or health management professionals conduct constitution information collection through parent interviews. Constitution determination follows the criteria for children aged 4–6 years (biased constitution conversion score ≥ 41 points)

as specified in the TCM Classification and Diagnostic Criteria for Children’s Constitutions [3].

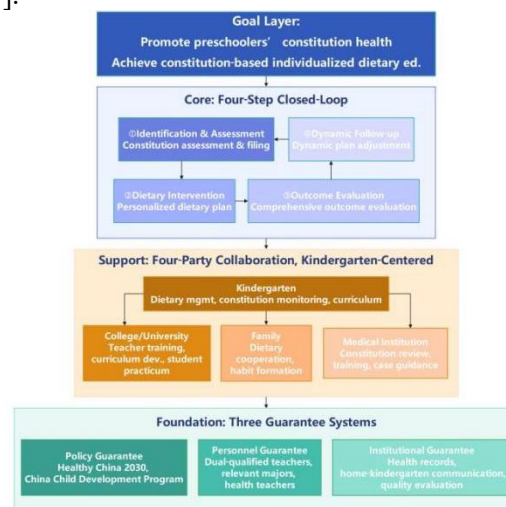


Figure 1. Health Management Model of “Constitution-Based Dietary Education” for 3–6-Year-Old Children in Kindergartens

3.1.2 Dietary intervention module

Individualised dietary education plans are formulated according to the seven constitution types. Based on the existing kindergarten recipes, individual adjustments are made following the principle of “selecting foods according to constitution; treating cold with heat, heat with cold, deficiency with tonification, and excess with reduction”. Drawing on XU Jiayao’s experience of “systematising dietary education curriculum”, constitution-based dietary education can be integrated into the daily curriculum system of kindergartens [7].

3.1.3 Outcome evaluation module

Comprehensive evaluation is conducted from three dimensions: improvement in constitution (changes in conversion scores on the constitution scale), growth and development indicators (height and weight), and health status (frequency of illness). Referring to the closed-loop management model of “monitoring–assessment–feedback–intervention–safeguard” by MA Jie and CUI Zhilei, an “one-child-one-file” electronic health record is established [8].

3.1.4 Dynamic follow-up module

A constitution re-evaluation is conducted every semester, and dietary plans are dynamically adjusted according to constitution changes, forming a closed-loop management. The experience of “three-standard processes” by ZHENG Jufei can be adopted to establish a routine follow-up mechanism [6].

3.2 Implementation Mechanism of “Kindergarten–College–Family–Medical Institution” Four-Party Collaboration

The implementation of this model relies on a four-party collaborative mechanism of “kindergarten–college–family–medical institution”.

“Kindergarten” is the core implementer. It should employ health teachers trained in TCM constitution identification, establish a child health record management system, integrate constitution-based dietary education into daily dietary management processes, and simultaneously offer TCM constitution enlightenment courses. Referring to ZHENG Jufei’s “four daily inspections” process, constitution-based dietary education can be embedded into all aspects of daily health management [6].

“College” (higher vocational colleges) is the intellectual supporter. Teachers from health management and preschool education programmes can regularly visit kindergartens to provide training and curriculum guidance; students can use kindergartens as internship bases, engaging in practical activities such as constitution identification and dietary plan formulation in real-world settings. This not only solves the problem of insufficient professionals in kindergartens but also achieves the talent cultivation goal of “industry–education integration” in vocational education.

“Family” is the collaborative partner. Parents need to understand their children’s constitution types and dietary taboos, and continue the concept of constitution-based dietary education at the family dining table. Drawing on NING Yangjing’s “hierarchical hypothesis of preschool children’s health behaviour development”, targeted guidance can be provided according to parents’ level of knowledge about constitution-based dietary education [10]. At the same time, leveraging the experience of LIU Lijuan’s smart platform, digital tools can be used to achieve real-time sharing of health information between home and kindergarten, providing a basis for family dietary coordination [11].

“Medical institution” is the technical guide. Following the idea of “integration of sports and medicine” by XU Qiao, TCM medical institutions can assign professionals to serve as kindergarten health consultants, regularly

conducting constitution identification reviews, dietary plan audits, and guidance on complex cases [9].

3.3 Design of TCM Constitution Enlightenment Courses in Kindergartens

Offering TCM constitution enlightenment courses in kindergartens has dual value: health promotion and cultural heritage. The curriculum design should follow these principles:

First, the principle of life-oriented learning. Integrate TCM constitution knowledge into children’s daily life by observing tongue coating and facial complexion to understand constitution characteristics, and by identifying the properties and flavours of common ingredients to understand “food and medicine share the same origin”. Drawing on XU Jiayao’s experience of “creating a dietary education environment”, an immersive health learning atmosphere can be created through seasonal fruit and vegetable displays, 24-solar-term themed walls, and planting gardens [7].

Second, the principle of gamification. Adopt forms suitable for young children’s cognitive characteristics, such as stories, nursery rhymes, drawing, and role-playing. Drawing on the idea of MA Jie and CUI Zhilei of “designing sports games around constitution test items”, integrate TCM constitution awareness into fun games [8]. Following NING Yangjing’s recommendations, children at the primary level of health behaviour should be given more demonstrations and reminders, those at the intermediate level should be encouraged to persist and overcome difficulties, and those at the advanced level should have their habits consolidated [10].

Third, the principle of gradual progression. For the junior class, focus on recognising common ingredients and simple health knowledge; for the middle class, introduce initial concepts of constitution; for the senior class, conduct simple self-health management practices.

Through TCM constitution enlightenment courses, children can develop an awareness of “constitution differentiation” from an early age, which not only facilitates the implementation of constitution-based dietary education but also subtly fosters their appreciation of traditional Chinese culture.

4. Discussion and Prospects

The construction of the “Constitution-Based Dietary Education” health management model

addresses three practical needs: firstly, it responds to the health needs arising from the high prevalence of constitution imbalances among preschool children; secondly, it responds to the contemporary trend of transforming kindergarten health management from “experience-based” to “institutionalised”; and thirdly, it responds to the need for cultural inheritance through the introduction of TCM culture into schools.

The advantages of this model are: it provides a scientific individualised basis through TCM constitution theory; it responds to the current practical trends of “integration of medical and educational resources” and “home–kindergarten collaboration” through the “kindergarten–college–family–medical institution” collaboration; and it achieves the organic integration of health management and cultural heritage through TCM constitution enlightenment courses.

However, the promotion of this model still faces several challenges: first, the TCM knowledge base of kindergarten health teachers needs strengthening; second, parents’ awareness and cooperation regarding constitution-based dietary education vary considerably; and third, there is currently a lack of unified operational guidelines for constitution-based dietary education for children. Future research can delve into the following directions: developing practical guidelines for constitution-based dietary education applicable to kindergartens; conducting multi-centre, large-sample intervention effect validation; and exploring the application of digital tools in constitution identification and health management.

In summary, TCM constitution theory offers a new theoretical perspective and practical tools for kindergarten children’s health management. The construction of the “Constitution-Based Dietary Education” health management model is expected to advance kindergarten dietary education from “eating enough and eating safely” to “eating rightly and eating well”, from “group-based balance” to “individual-based precision”, thereby exploring a pathway with TCM characteristics for improving the health level of preschool children.

Acknowledgments

This paper is supported by the 2023 Teaching and Research Project of Guangdong Mechanical & Electrical Polytechnic (High-Level Talents

Program) (No. Gccrcxm-202315) and the 2026 Institutional Continuing Education Quality Improvement Project of Guangdong Mechanical & Electrical Polytechnic (Construction Category): “Digital Intelligence Empowering Grassroots Livelihood Services: Innovative Practice of Non-Academic Continuing Education Skill Improvement for Community Workers.”

References

- [1] Zhao H H, Wang J. Research progress on the three theories of TCM constitution in infants and young children and their empirical studies. *Chinese Journal of Traditional Chinese Medicine*, 2023, 38(4): 1711-1713.
- [2] Liu Z X, Yang J H, Xu Y J, et al. Reliability and validity study of the Constitution Identification Scale for Children in Guangdong Province. *World Science and Technology – Modernisation of Traditional Chinese Medicine*, 2021, 23(7): 2492-2498.
- [3] Zhao X, Li M. TCM classification and diagnostic criteria for children’s constitutions. *Journal of Nanjing University of Traditional Chinese Medicine*, 2023, 39(11): 1134-1142. DOI:10.14148/j.issn.1672-0482.2023.1134.
- [4] Xu J, Li H, Yuan F, et al. Investigation and study on sub-health constitutions of 15,059 preschool children from multiple regions. *Chinese Journal of Traditional Chinese Medicine*, 2023, 38(4): 1787-1791.
- [5] Ma S G, Chen F M, Deng X M, et al. Investigation on TCM constitutions of 1,000 children in Guangzhou. *Journal of Nanjing University of Traditional Chinese Medicine*, 2015, 31(1): 87-89. DOI:10.14148/j.issn.1672-0482.2015.0087.
- [6] Zheng J F. Practical exploration of process-oriented health management in kindergartens. *Oriental Baby – Childcare and Education*, 2025, (3): 48-50.
- [7] Xu J Y. Nourishing childhood with food, cultivating wellness – Practical research on dietary education for kindergarten children. *Education and Equipment Research*, 2021, 37(11): 24-26.
- [8] Ma J, Cui Z L. Practical exploration and optimisation path of routine constitution monitoring in promoting preschool children’s physical health. In: *Proceedings of the 5th National Academic Conference*

- on “Scientific Exercise for National Fitness” and International Forum on Sports and Health. Jiangxi Sports Science Society, School of Physical Education and Health, East China Jiaotong University, 2025: 326-327.
DOI:10.26914/c.cnkihy.2025.061641.
- [9] Xu Q. Research on collaborative innovation of sports-medicine integration in kindergartens under the Healthy China background. Sichuan Sports Science, 2023, 42(6): 127-131.
DOI:10.13932/j.cnki.sctyx.2023.06.27.
- [10] Ning Y J. Strategies for cultivating children’s self-health management ability under the home-kindergarten cooperation model. Journal of Fujian Institute of Education, 2025, 26(9): 103-106.
- [11] Liu L J. Exploration of a new ecosystem of smart-platform-enabled kindergarten safety and health management. Management Scientist, 2026, 25(1): 46-48.