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### Retraction

# Retracted: Application of "TCM + Smart Elderly Care" in the Medical-Nursing Care Integration Service System

### **Journal of Sensors**

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Manipulated or compromised peer review

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

### References

[1] X. Wang, H. Shi, G. Lu et al., "Application of "TCM + Smart Elderly Care" in the Medical-Nursing Care Integration Service System," *Journal of Sensors*, vol. 2022, Article ID 5154528, 7 pages, 2022. Hindawi Journal of Sensors Volume 2022, Article ID 5154528, 7 pages https://doi.org/10.1155/2022/5154528



### Research Article

### Application of "TCM+Smart Elderly Care" in the Medical-Nursing Care Integration Service System

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As a country with the fastest population aging rate in the world, China's existing elderly care and medical resources are not enough to meet the growing and complex needs of elderly care and health services. The Chinese government is actively promoting the integrated development of medical and elderly care institutions, but it has yet to give full play to the inexpensive and existing advantages of traditional Chinese medicine in the treatment of diseases and rehabilitation of the elderly, by sorting out the advantages of "TCM + intelligent pension" in medical expenses, pension costs, disease prevention, intelligent pension services, and so on. In view of the current problems existing in China's pension, this paper mainly proposes to solve the pension dilemma in China from several aspects: improving the supervision and evaluation system, increasing capital investment, building a unified digital medical and pension service platform, and strengthening the talent training in the field of traditional Chinese medicine integration. The application of the "TCM + smart elderly care" system into the medical and elderly care service system is promoted to effectively improve the operation efficiency of the whole medical and elderly care service system and the satisfaction of elderly families.

#### 1. Introduction

With the aging of China's society, people's health awareness has also been greatly improved. The development of the current healthy aging strategy must solve the problems of elderly care and medical care, which is also the key to the implementation of the current strategy. The normalization of chronic diseases in the elderly and the increase of the average life expectancy of the population are also the threshold of the current pension construction. China has the largest elderly population in the world and is one of the fastest

population aging countries in the world. The existing elderly care and medical resources are not enough to meet the growing and complex needs of elderly care and health services. On one hand, there is a relative lack of medical and health professionals in the existing institutions providing elderly care services, and the cost of medical services is high. On the other hand, the integrated development of existing medical and elderly care service institutions has not been realized, which is not only reflected in the lack of legal support in the policies and regulations of medical and elderly care service institutions, but in the allocation of medical and

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elderly care service resources as well. In China, traditional Chinese medicine has a thousand-year-long cultural foundation and robust mass recognition, and it also has a unique role and advantages in elderly care. Life quality of the elderly can be improved utilising the unique advantages in medical treatment, elderly care, and disease prevention, especially in the treatment of chronic disease treatment. Thus, development of medical-nursing care integration and further development of elderly care could be realized. With the development of modern Internet technology and big data analysis, a proposal that Chinese governments at all levels and relevant departments promote the advantages of traditional Chinese medicine, apply "TCM + Smart Elderly Care" system into the medical and elderly care service system, and improve the work efficiency and satisfaction of the elderly is proposed. Therefore, the development of medical and nursing services can effectively solve the problems of high cost of elderly care services and low TCM nursing ability. It is also proposed to promote the application of "TCM + intelligent pension" in medical care from four aspects: improving the supervision and evaluation system, increasing capital investment, building a unified digital medical and pension service platform, and strengthening the talent training of TCM integration of elderly care.

### 2. The Obvious Population Aging Trend in China

By the end of 2021, there were 267.36 million people aged 60 or above in China, accounting for 18.90% of the total population, with 20.56 million people aged 65 or above, accounting for 14.2% of the total population. It is estimated that by 2050, the elderly population in China will reach a peak of 487 million, accounting for 34.9% of the total population [1]. For the first time in China, the number of people aged 60 and above surpasses that of those aged 0-15. According to the prediction of the United Nations, the period from 2000 to 2050 will be the stage of rapid aging of the population structure in China, which can be roughly divided into three stages: in the first stage, the proportion of the population aged 65 and above will rise from 6.97% in 2000 to 11.7% in 2020, a rise of only 4.63% in 20 years. The second stage is the period of rapid aging from 2020 to 2040, when the proportion of the population aged 65 and above will rise from 11.7% in 2020 to 21.8% in 2040, an increase of 10.1% in 20 years. The third stage is the peak plateau period from 2040 to 2050. This stage will be the serious stage of China's population aging, but the rate of population aging will begin to decline, and there will be only 1% increase in 10 years in the proportion of elderly population. China Elderly Care Financial Development Report (2016) pointed out that it is estimated that by 2030, the population over 65 years old in China will reach 280 million, accounting for 20.2% of the total population. In 2055, the elderly population will reach its historical peak, exceeding 400 million with a proportion rising to 27.2%. During this period, the aging rate before 2040 is the highest with the proportion increasing by 0.5% per year on average [2].

### 3. Current Status of Elderly Care in China

Developed countries in Europe and the United States become aging society when their per capita GDP is 5000-10000 USD, while China becomes aging society with a per capita GDP of 1000 USD [3-5]. According to the results of the seventh Chinese national census, there are over 260 million people aged 60 and above in China, accounting for 18.70% of the total population. More than 90% of the elderly are taken care of at home. However, the home-based elderly care service is still in its infancy in China. According to the survey conducted by Qiao Xiaochun, professor of Population Institute of Peking University, the proportion of home-based elderly care in Beijing is over 98% [6, 7]. Home and community elderly care systems at all levels in China are in the process of construction, but the system design requires to be perfected, and there is a lack in professional elderly care service institutions and nursing personnel.

In sharp contrast to China's huge elderly population, China's social elderly care service supply is seriously insufficient. Either the elderly care service institutions and facilities or professional medical and nursing service practitioners and management personnel are insufficient to meet the realistic needs in China. Nowadays, China's elderly care service personnel training is insufficient, high-quality medical care management personnel is in shortage, seriously restricting the development of China's social elderly care service. At present, China's county-level nursing homes are generally small in scale, with few beds, incomplete functions, and limited service capacity. The size of common elderly care service institutions is generally small, most of which are rebuilt from other facilities, with low professional service level and lack of professional service personnel. Some also have hazard in fire and food safety.

At present, China's elderly care system is based on the "9073" model, which is based on home care, supported by community care and supplemented by institutional care. That is, 90% of the elderly are taken care of at home, 7% are supported by community elderly care services, and 3% are taken care of in elderly care institutions.

According to the 2021 Blue Book on Pension Risks for the Middle Class in Large and Medium-sized Cities, jointly released by AIA and the World Social Security Research Centre of the Chinese Academy of Social Sciences, among the survey samples of more than 5,000 urban residents with annual incomes of 100,000 yuan or more in 10 cities, 70% of them have not participated in any annuity or commercial insurance plan, and the replacement rate of social pension income is only about 35% [8, 9]. Different from developed countries in Europe and the United States, China faces the dilemma of "the higher the income, the lower the pension replacement rate." The second and third pillars did not compensate well, and the participation rate of this survey sample was only 20%.

According to the Report of High Quality Development of Yangtze River Delta Elderly Care Finance, jointly released by Changjiang Endowment and First Finance and Economics, by the end of 2019, as the first pillar of elderly care finance, the basic endowment insurance fund and the

national social security fund took up a proportion of 71.7%, enterprise annuity and occupational pension combined as the second pillar accounted for 22.4%, while in the third pillar, the income of commercial pension insurance and institutional individual tax deferred commercial pension insurance only accounted for 5.9%, far lower than the United States (the proportion of the third pillar reached 31.3% in 2019) and other developed countries [10].

### 4. Advantages of "TCM + Smart Elderly Care" in Medical-Nursing Care Integration

4.1. Advantages in Medical Expense. According to statistics from the National Health Commission, stroke, hypertension, diabetes, chronic obstructive pulmonary disease, and other chronic diseases have become the main health problems of Chinese residents [11, 12]. The elderly with gradual degradation of body function and imbalance of Yin and Yang and five elements is a group with high incidence of chronic disease. The unique advantages of the overall concept of TCM and balance of Yin and Yang and five elements can be utilised in treatment. The pathogenesis of diseases in the elderly can be understood through diagnosis methods of TCM. The use of internal and external treatment, acupuncture, massage, cupping therapy, and other TCM therapies can achieve the balance of Yin and Yang, replenish Qi, increase blood, delay aging, and play an obvious role in the treatment of chronic diseases of the elderly.

4.2. Advantages in Elderly Care Expense. TCM plays a unique role in chronic disease therapy and health care for the elderly. As Su Wen: Shang Gu Tian Zhen Lun said, "Understand the law of Yin and Yang. Follow the correct method of preserving health. Eat meals regularly. Do your exercise properly." Self-health care can be achieved by develop a reasonable diet habit, standardize the daily life work and rest schedule, and adjust personal mood properly [13]. Regarded as the achievement of Chinese people's wisdom, TCM after thousands of years of development formed the Chinese herbal medicine therapy of both internal and external medication, ointment, fumigation, pesticide, and other nondrug therapy such as seasonal diet, exercise, acupuncture, and massage. In such way, meridians can be activated, Qi and blood regulated, body strengthened, physical fitness of the elderly improved and is essential for elderly health care. The effect of TCM therapy is basically the same as that of aromatherapy widely used in European and American countries in the prevention and rehabilitation of diseases for the elderly. The elderly health care method of TCM is the inheritance and development of the concept of keeping healthy in China for two thousand years. It contains excellent Chinese traditional culture spirit and has obvious advantages in technology and cost in the elderly care service.

4.3. Advantages in Disease Prevention. The elderly is a group with high incidence of chronic diseases. Effective disease prevention methods can reduce the occurrence of chronic diseases and play a great role in improving the quality of life of the elderly. As is said in Huang Di Nei Jing, "the sage does

not cure disease but prevent disease, does not cure disorder but prevent disorder." The concept of "prevent" in TCM runs through the whole cycle of disease cure from disease prevention to recurrence prevention after recovery [14, 15]. The concept of "prevent" is based on the diagnosis method of "look, listen, question and feel the pulse" of TCM to effectively intervene in people's physical health, and at the same time, with the help of the principle of emotion regulation of TCM, to carry out psychological counselling and disease decompression training for the elderly, so as to maintain a good state of mind and mood. Also, with the help of emotion regulation, reasonable diet, regular sleep, and Ba Duan Jin and Tai Chi exercise, it is realized to prevent diseases before occurrence, play an important role in the treatment of chronic diseases, improve the quality of life of the elderly, and meet the elderly care demand of preventing diseases and pursuing health better.

4.4. Technical Advantages of Smart Elderly Care. "Internet + TCM + Smart Elderly Care" can effectively integrate online and offline resources and expand the application of information technology in the field of elderly care services. The data collected by a unified comprehensive information platform for elderly care can be shared and exchanged between the national medical care integrated information system and the "Healthy Fujian" platform and promote information sharing, in-depth development, and rational utilization of health information and elderly care service information of the elderly. The elderly can obtain personal health and disease diagnosis information through various terminals. Government elderly care service regulation departments can achieve supervision of the whole process of services, including the latest epidemic situation, institution rating, service quality, beds subsidy, combined punishment, and elderly care service personnel management. Information regarding the elderly can be shared among government elderly care and health service departments and elderly care service and supervision can be promoted.

## 5. SWOT Analysis of the "Traditional Chinese Medicine + Intelligent Pension" Mode

SWOT analysis is also known as situation analysis, in which "SWOT" represents advantage (strength), disadvantage (weakness), opportunity (opportunity), and threat (threat), respectively. This part conducts a systematic evaluation of four aspects of TCM AI development through SWOT analysis (Table 1).

5.1. Advantage. Artificial intelligence has two obvious advantages of assisting clinical medical activities and realizing dynamic health management. Experts point out that TCM intelligence cannot replace doctors, but it can be used as the assistant to doctors, and the preview function helps doctors and patients save time and assist the clinical diagnosis of TCM; experts also believe that TCM intelligence can realize dynamic health management, disease warning, especially in remote mountainous areas and other health stations and backward medical suburbs.

TABLE 1: SWOT analyzes the four aspects of the development of "Traditional Chinese medicine + intelligent pension	TABLE 1: SWOT analyzes the four aspects of the developme	ent of "Traditional Chinese medic	ine + intelligent pension
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Superiority-S	Weakness-W	Opportunity-O	Challenge-T
Assist in clinical	The algorithm design and model	The introduction of relevant	Technical standards are difficult to be
medical activities;	construction are unreasonable; lack of	policies; progress in computer	unified; poor equipment use
realize dynamic health	professional personnel; lack of	technology; market demand is	experience; database establishment
management	humanistic care	wide	faces a bottleneck

- 5.1.1. Assisted Clinical Medical Activities. Through comprehensive and objective data collection, mining, and in-depth analysis, TCM AI forms patients' electronic medical records to help clinicians to understand patients' current disease status and past diagnosis and treatment history, provides an objective reference basis for clinical diagnosis, and reduces the probability of misdiagnosis and missed diagnosis. At the same time, the prediagnosis and pre-examination function of TCM artificial intelligence can help patients to understand the development of their own disease in advance, help patients to choose the right way to seek medical treatment, and save patients' time and money costs.
- 5.1.2. Realization of Dynamic Health Management. Traditional wearable health management devices stay at the level of data collection and prediction. Users can only obtain their own health status, but they cannot obtain correct and reasonable health management measures. However, in dealing with subhealth states, crude data analysis and prediction will no longer be used. Therefore, the analysis and mining of massive big data have become the breakthrough point to solve this problem. Intelligent wearable devices can use big data analysis technology to help users to identify their physical fitness and provide appropriate health management solutions. However, the government and health service agencies can derive the diseases and health characteristics of people in different regions, generate disease profiles, timely identify high-risk groups, and carry out effective intervention measures.
- 5.2. Disadvantages. At present, the "TCM + intelligent pension" mode still has the following problems: the development of TCM AI has disadvantages such as unreasonable algorithm design and model construction, lack of TCM AI composite talents, and lack of humanistic care.
- 5.2.1. Algorithm Design and Model Construction Are Unreasonable. At present, many AI devices excessively isolate the relationship between diagnosis and diagnosis. In the face of diseases with a single condition and a clear diagnosis, AI devices can still provide better diagnosis plans, but in the face of more complex cases, the lack of diagnostic flexibility and flexibility will be highlighted. Moreover, many devices lack the ability of independent learning and cannot carry out independent learning and judgment based on probability theory. As the collected data continues to accumulate, the work of improving the later optimization and upgrading still needs to be completed manually, which increases the maintenance cost of intelligent devices.

- 5.2.2. Lack of TCM AI Talents. According to the Global AI Talent Report, there are only over 50,000 AI talents in China, with only one-tenth of those working in the medical sector, while even fewer talents in TCM. At present, most of the scientific research units in the development of TCM AI equipment are TCM universities, and there is a relatively long-term gap between compound talents in the two fields of TCM and artificial intelligence.
- 5.2.3. Lack of Humanistic Care. Although the diagnosis and treatment of artificial intelligence brings great convenience to medical activities, it cannot give humanistic care to patients. In addition to enduring the physical pain caused by the diagnosis and treatment process, patients are also under huge psychological pressure. Doctors need to give humanistic care to patients, not just as "machines waiting for repair." In addition, patients are often unable to accurately describe their condition due to great psychological stress and lack of expertise, or to illness limitations. Because to this ambiguous or distorted information, AI instrument applicability will be severely challenged.
- 5.3. Opportunities. In recent years, TCM AI has welcomed many opportunities. First, the introduction of relevant policies can provide a more appropriate environment for the development of AI; second, the progress of computer technology can promote the improvement of TCM AI algorithm; and third, the market demand is extensive, so that TCM AI can alleviate the uneven distribution of medical resources in China.
- 5.3.1. Introduction of Relevant Policies. With the rapid development of artificial intelligence and people's growing demand for health, the Chinese government and relevant departments also attach great importance to the combination of artificial intelligence and medical and health care and have successively issued a number of policies to encourage and guide the development of intelligent medical care. The opinions on promoting the development of "Internet + Medical and Health" issued in 2018 also introduced AI technology into the field of TCM, emphasizing the development and application of the intelligent auxiliary system for TCM syndrome differentiation and treatment and creating a new environment for the development of TCM AI.
- 5.3.2. Progress in Computer Technology. Basic computer technologies such as computing power, algorithm model, data resources, and microsensors are becoming increasingly mature and perfect, which provides the possibility to fill the algorithm loopholes of TCM intelligent devices.

5.3.3. Extensive Market Demand. In 2018, China made more than 8.3 billion visits to medical treatment, with 6.0 visits per person, compared with 2.59 doctors per 1,000 people. In addition, the distribution of medical resources in China is uneven in China. High-quality medical resources are mainly concentrated in economically developed cities such as Beijing, Shanghai, and Guangzhou, while TCM resources in rural and remote areas with underdeveloped economy and inconvenient transportation are lacking. The imbalance has led to large numbers of patients flocking to big hospitals in big cities and overloading local healthcare workers. Therefore, the development of auxiliary diagnosis and treatment and preexamination system can effectively relieve the pressure of outpatient and emergency hospitals and also promote the implementation of three-level diagnosis and treatment.

5.4. Challenge. At present, TCM AI faces two challenges. First, the establishment of a TCM large database faces a bottleneck. In the interview process, experts pointed out that most of the databases used by intelligent devices are collected independently by the development units, which is difficult to realize data interaction and establish a big data network with a wide range of application. Second, the current utilization rate of TCM intelligent equipment is not high, and the experience sense is not strong.

5.4.1. The Establishment of a TCM Large Database Faces a Bottleneck. There is no unified standard for the establishment of TCM database, which is the main difficulty in establishing a consistent TCM database. According to the interview experts, due to the different understanding of diseases and diagnosis and treatment methods, the language description is also controversial, which makes a large number of incomplete data and missing data in the TCM database, leading to a bias in the analysis and utilization. However, the state has not issued personal privacy security and other issues in the process of data collection without relevant laws and regulations. In the process of data collection, it is a key problem to clarify the ownership of the rights and responsibilities of information collection, storage, management, sharing, and use.

5.4.2. Poor Equipment Use Experience. At present, the utilization rate of TCM intelligent equipment is not high, and the experience sense is not strong. There are three reasons for this phenomenon: first, the current use experience of TCM artificial intelligence, the intelligent equipment cannot cope with the complex and changeable conditions, and the operation is complicated and inefficient; second, the quality of TCM medical staff is generally inefficient; third, TCM intelligent equipment maintenance and update, equipment upgrading, and data maintenance, the high cost affects the popularization of TCM intelligent equipment at the grassroots.

### 6. Existing Problems

6.1. Multiple Government Department Management and Imperfect Supervision Evaluation System. The Chinese government has introduced many policies to benefit the people in order to support the development of the TCM model of

combining medical care with elderly care. But this model involves the human resources and social security department, health department, civil administration department, TCM management department, medical insurance management department, finance department, big data management department, and other concerning departments. As a result, department functions and responsibilities are still unclear, for instance, health and elderly care resource integration lags behind caused by multiple management of medical insurance expense reimbursement, effective cohesion, and deep integration is absent, resulting in the fragmentation of elderly care funds, due to the imperfection, ineffective implementation, or unstable implementation of the supervision and evaluation system, elderly care service level of various medical, and nursing institutions varies.

6.2. High Elderly Care Expense and Imperfect Medical Insurance Policies. To establish the TCM medical and elderly care service system requires a large amount of money to introduce professional medical personnel and increase infrastructure. As investment costs increase, elder care expense will also increase, and full payment will bring burden to most families. At present, the market of medical and elderly care service system is not mature, the market access mechanism is not perfect, and the high risk of social investment leads to low investment enthusiasm. In addition, the oldage medical insurance system is not perfect, and the TCM diagnosis and treatment, nursing, massage, and other expenses of medical and nursing institutions are either not all included in the medical insurance reimbursement policy or the reimbursement ratio is low, which will become a key factor affecting the development of TCM medical and elderly care service system.

6.3. Serious Shortage of Medical and Elderly Care Service System Professionals and Insufficient TCM Elderly Care Capacity. The insufficiency of TCM elderly care professionals seriously affects the development of TCM medical and elderly care service system. At present, there is not enough attention to the elderly care service in the TCM education system. There are few universities and professional training and education institutions offering TCM elderly care specialty, and the professional supply obviously lags behind the elderly care demand. At the same time, factors such as high intensity of elderly care work in TCM institutions, low payment, and difficulty in promotion make relevant professionals reluctant to work in elderly care institutions. Most of the medical service staff are retired people or domestic service staff with junior and senior high school degrees, while few of them are highly educated and have certificates.

6.4. Lack of High-Level TCM Talents. At present, China has not yet established a sound and perfect TCM medicine and health service system, especially the lack of relevant professional and technical personnel, pension institutions are often at a disadvantage compared with hospitals, and talents have become the bottleneck of the sustainable development of pension institutions. In addition, due to the limited development space provided by pension institutions, those high-

quality talents are unwilling to be limited by the limited development space and difficult to guarantee the salary, which further hinders the implementation of the combination of medical care and nursing care in pension institutions. Second, most traditional Chinese medicine doctors have been working in western medicine in social health centers for a long time, and the concept of traditional Chinese medicine has gradually weakened. Therefore, it is necessary to strengthen the training of TCM talents, such as organizing TCM skill training courses, signing TCM technical support agreements with superior TCM hospitals, and increasing the introduction of TCM talents.

6.5. Lack of Standardization of Resource Allocation. The existing nursing institutions have little allocation of TCM resources, and many nursing institutions do not even have TCM nursing services. Without the management and guidance of standardized documents, community health service centers and elderly care institutions cannot reasonably plan the allocation of TCM resources, which is bound to not give a place to TCM nursing. Related elderly care institutions are more powerless in promoting the combination of TCM nursing and elderly care services. Although TCM nursing services have a large demand and involve a wide range of areas, if good planning cannot be carried out and corresponding standards are formulated before the implementation, the implementation plan may not be systematic, and it will face many difficulties in the process of promotion, which ultimately makes it difficult to carry out various TCM nursing projects smoothly.

### 7. Recommended Solutions

7.1. Continue to Strengthen Government Guidance and Improve the Supervision and Evaluation System. First of all, it is of vital importance to define the government department responsibility, establish the interdepartment coordination mechanism, break departmental administrative barriers, sort out department responsibilities, gradually straighten out policies to promote the development of medical and elderly care service system, and ensure the effective interdepartment connection and collaboration of policy. Full use of Internet technology system and the urban cloud platform should be made. Additionally, it is effective to utilise the special advantage of TCM in medical and elderly care service system. A sound cooperation mechanism should be established between TCM and recuperation institutions; more medical and nursing resources should be provided to rural areas, communities, and families; and deep integration of medical resources, elderly care institutions resources, and TCM resources should be promoted. Second, the government should strengthen the evaluation, supervision, and management of TCM elderly care service institutions; improve the information monitoring system; establish the elderly care demand assessment system; ensure policy effective implementation; and form a long-term and stable TCM "medical and elderly care integration" elderly care model. Third, the comprehensive security system for long-term care should be thoroughly studied; policy support for the handicapped elderly and their families should be increased; and the effective supply of quality elderly care services should be taken seriously.

7.2. Increase Capital Input and Give Full Play to the Role of Medical Insurance. Due to the high construction cost of TCM medical and elderly care service institutions, government should set up special funds to increase financial support, lower the threshold of social access, relax policy support restrictions, and encourage social capital to actively participate in the construction of TCM medical and elderly care service institutions. At the same time, government should formulate medical insurance policies that accord with the characteristics of TCM, promote eligible elderly care services of TCM and TCM materials into the scope of medical insurance coverage, increase the old-age service reimbursement ratio, and promote multi-cooperation to fully utilise medical insurance so as to ease pressure of the high cost of elderly care services, provide affordable medical and elderly care services to the elderly, and promote better benefits to people of TCM.

7.3. Build a Unified Digital Medical and Elderly Care Service Platform and Utilise the Efficacy of Big Data. Digital platforms should be established to link government service with market service and to provide convenient services of elderly care policies, public service, and public welfare services for all users. It should be aimed to realize that in one platform can elderly care service supply be provided, with one set of data can elderly care service resources be controlled, on one mobile phone can elderly care services be handled, on one map can elderly care service situation be shown, with one set of algorithms can elderly care intelligence decision be assisted. Big data, IoT, and blockchain should be utilised to strengthen the support of science and technology, make elderly care services more convenient, and make government subsidies more targeted. Health care consortium should be utilised in mechanism integration and resource integration to provide high-quality health care services for the elderly.

7.4. Strengthen Personnel Training in the Field of TCM Integration in Medical and Elderly Care. Strengthening the training of TCM professionals is the key driving force to promote the development of TCM medical and elderly care system. To start with, TCM elderly rehabilitation, TCM elderly nursing, and other relevant majors could be set up in colleges and universities. Professionals can be introduced to TCM elderly care institutions through special training and specialised training. In addition, personnel training system should be improved according to the service demand; training of TCM theory, knowledge, and skills should be strengthened; assessment criteria should be standardized; qualification access should be set up; and personnel vocational level of TCM in the medical and elderly care service industry should be improved constantly. Last but not the least, an evaluation and incentive system should be established and perfected, salary and compensation system should be optimised, basic salary of nursing staff should be

raised, and professionals of TCM medical and elderly care services should be retained.

### 8. Conclusion

At the National Health and Health Conference, Xi Jinping stressed the need to "focus on the community level, take reform and innovation as the driving force, put prevention first, place equal emphasis on traditional Chinese medicine and western medicine, integrate health into all policies, and be jointly built and shared by the people." Health management with Chinese characteristics to "cure" as the main content, using the theory and method of management through the individual or group health and health risk factors for comprehensive detection, evaluation and intervention, carrying artificial intelligence cloud platform, build "multi-link cut + state adjustment + linear intervention," "based on home endowment, community endowment, institutional pension support" new mode of TCM health management, will effectively promote the health of the full health, but our country's pension and medical service is serious shortage, difficult to meet the growing demand for pension in our country. TCM has a very obvious trend in the disease prevention and health of the elderly, such as cost and efficiency. Therefore, promoting the application of "TCM + intelligent pension" in medical care has a very positive significance to solve the current pension needs in China.

### **Data Availability**

The data used to support the findings of this study are included within the article.

### **Conflicts of Interest**

The authors declare that they have no competing interest.

### **Authors' Contributions**

Guo Lu and Yidan Zhang contributed equally to this work. Xuanxuan Wang, Huaiying Shi and Guo Lu are co-first authors.

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### References

[1] http://www.nhc.gov.cn/lljks/pqt/202110/ c794a6b1a2084964a7ef45f69bef5423.shtml. [2] Office of the National Working Council on Aging, "China pension financial development report," 2016, http://www.cncaprc.gov.cn/channels/2.html.2016-11-03.

- [3] H. Yameng, "Research on the model of combining medical care with elderly care and its development constraints," *Modern Education Forum*, vol. 8, pp. 103–105, 2020.
- [4] Y. Quan, H. X. Yuan, and Z. X. Yan, "SWOT analysis of TCM participation in combination of medical care from the perspective of healthy aging," *Journal of Tianjin University*, vol. 22, no. 3, pp. 282–286, 2020.
- [5] H. L. Liu, "The development trend of population aging in the world and China," *Research on Aging*, vol. 9, no. 12, pp. 1–16, 2021.
- [6] X. C. Qiao, "Estimation of the future demand for elderly care in China," *Population and Development*, vol. 27, no. 1, pp. 105–116, 2021.
- [7] Q. I. A. O. Xiaochun, *Analysis on the Overall Situation of Pension Related Resources in Beijing*, Hua Ling Publishing House, Analysis series of Pension Situation in Beijing, 2018.
- [8] C. M. Zhu, Study on Population Aging and Countermeasures in China's Modernization Process, Jilin university, 2021.
- [9] AIA Group, World Social Security Research Center, Chinese Academy of Social Sciences, and Tencent News, Blue Book on Pension Risk of Middle Class in Large and Medium-sized Cities, Gold net, 2021.
- [10] Changjiang Pension and China Business News, Report on the High-Quality Development of Old-Age Finance in Yangtze River Delta, Bank of China Banking and Insurance News network, 2020.
- [11] Y. Wang, Y. Xu, M. Wang, J. Wei, A. Yin, and J. She, "Research on the cognition status of elderly residents on the combination of traditional Chinese medicine and nursing in community in Beijing," *Chinese Journal of Traditional Chinese Medicine*, vol. 34, no. 11, pp. 5463–5465, 2019.
- [12] Y. W. Pei, X. Yaqing, C. Yuan et al., "Prevalence and self-care ability of elderly patients with multiple chronic diseases," *Modern Preventive Medicine*, vol. 48, no. 14, pp. 2590–2593.
- [13] S. Fuchun, S. Xuejie, G. Yan et al., "Research of traditional," *Chinese Medicine*, vol. 29, no. 8, pp. 13–15, 2016.
- [14] X. Zhenfang, Z. Peng, L. Shengli, and L. V. Wenliang, "Analysis on the current situation of traditional Chinese medicine "combination of medical and nursing" pension taking Hubei province as an example," *Zhenguo Medicine and Traditional Chinese Medicine*, vol. 29, no. 12, pp. 3064–3067, 2018.
- [15] J. I. N. Qin, D. Qing, H. Youjuan, L. Lang, X. Lili, and Z. Yin, "Disease prevention thought and application in Huangdi Neijing," *Yunnan Journal of Traditional Chinese Medicine*, pp. 99– 101, 2022.