

Analysis of Research Progress on Medical Service Satisfaction

Yihan Xu*

School of Renji College of Wenzhou Medical University, Wenzhou325000, China

2768676233@qq.com

Abstract. As the importance of medical service satisfaction surveys grows in China's healthcare sector, coupled with an increasing public emphasis on health, enhancing medical service satisfaction has become a key area of research. This systematic literature review examines domestic Chinese journals from 1999 to 2025, employing CiteSpace software for data analysis. The findings reveal several trends: the volume of publications fluctuates; leading research institutions are primarily located in Shanghai, Beijing, and Wuhan; and keyword clustering identifies key themes such as influencing factors, healthcare services, and nursing services. Based on these insights, this paper proposes targeted strategies to improve satisfaction, offering valuable references for enhancing patient satisfaction with medical services.

Keywords: Medical service satisfaction; influencing factors; improvement strategies; research progress.

1. Introduction

Healthcare is a fundamental and strategic issue that significantly impacts national development and people's livelihoods, making it a central concern in China's social progress. The report from the 20th National Congress of the Communist Party of China explicitly emphasizes prioritizing the protection of public health, advocating for a shift in medical services from mere expansion to a focus on quality improvement, with the goal of establishing a high-quality and efficient healthcare system. General Secretary Xi Jinping further underscored at the National Health and Wellness Conference that the quality of medical services is vital for the high-quality development of healthcare, directly influencing the public's sense of well-being and happiness. In this context, medical service satisfaction serves as a key metric for assessing healthcare quality; it not only evaluates the effectiveness of healthcare reforms but also provides a scientific foundation for optimizing resource allocation and informing health policy.

In recent years, research on medical service satisfaction has deepened, with broad recognition of its critical role in evaluating healthcare quality. Measuring medical service satisfaction can reveal gaps between patients' experiences and expectations, offering valuable data for healthcare institutions to identify service shortcomings and develop improvement strategies. Policymakers can analyze satisfaction data to accurately assess public healthcare needs, drive supply-side reforms, and ensure the rational distribution and efficient use of medical resources. Consequently, scientifically and systematically measuring medical service satisfaction has become an essential approach to enhancing healthcare quality and advancing the goals of a Healthy China.

However, existing research still exhibits notable discrepancies and limitations regarding the determinants and measurement methods of medical service satisfaction. On one hand, studies from different regions and cultural contexts have yet to reach a consensus on the key factors influencing patient satisfaction. Some emphasize the professionalism of technical services, while others highlight the importance of humanistic care, leading to a lack of universally applicable conclusions. On the other hand, the diversity and non-standardization of measurement tools complicate effective comparisons across regions and cultures, and a unified assessment framework has yet to be established globally. This theoretical and practical dissonance restricts the scientific rigor of healthcare quality evaluations, underscoring the urgent need for a measurement system that combines theoretical depth with practical applicability.

In this context, this paper aims to analyze the current research progress on medical service satisfaction through a systematic literature review, exploring optimization pathways for the

assessment system to enhance overall capabilities. The study will investigate advancements and influencing factors related to medical service satisfaction while considering the unique characteristics of China’s healthcare services and policy directions. Ultimately, it seeks to develop a satisfaction assessment framework that aligns with local needs, providing theoretical support and practical references for improving healthcare quality and refining medical policies.

2. Research Methods and Data Sources

This study employs a systematic literature review methodology, using the China National Knowledge Infrastructure (CNKI) as the primary database for literature retrieval, supplemented by CiteSpace software for data analysis and visualization. The search focuses on the keyword “medical service satisfaction”, with a time frame from 1999 to 2025, encompassing nearly 26 years of research progress. The retrieved literature includes sources from key databases such as the Peking University Core Journals (PKU), CSCD, WJCI, CSSCI, and AMI. After screening and verification, non-research publications (including news articles, calls for papers, conference announcements, book reviews, interviews, and documents clearly unrelated to the topic of “medical service satisfaction”) were manually excluded. Ultimately, a total of 207 valid research articles were included in the analysis.

3. Analysis of Research Progress

CiteSpace, a scientific knowledge mapping software, effectively reveals the emerging trends and developmental context of research topics. This paper employs CiteSpace to analyze the progress of research on medical service satisfaction, focusing on specific results regarding publication volume, research institutions, and keywords.

3.1 Publication Volume Statistics

As illustrated in Figure 1, the statistical analysis reveals that academic output in this field has undergone significant fluctuations, with a peak in publication volume occurring between 2017 and 2018. The sustained rate of publications highlights the vitality and academic significance of research in this area.

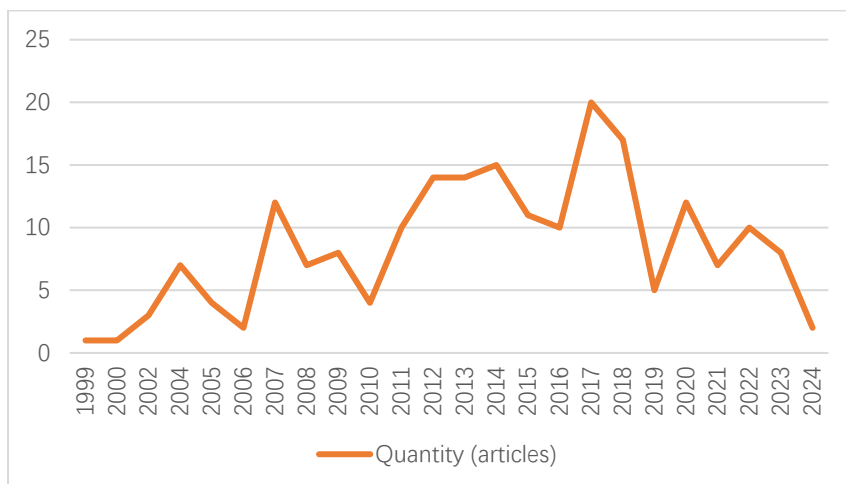


Figure 1. Publication Volume Statistics Map

3.2 Analysis of Research Institutions

Figure 2 provides a visual representation of research institutions in the healthcare sector. A total of 156 institutions are involved in this network, which features 88 collaborative connections, resulting in an overall network density of 0.0073. This indicates relatively loose collaboration among the institutions.

The figure clearly shows that institutions such as the Shanghai Health Promotion Association, the Shanghai Municipal Health and Family Planning Commission, Fudan University, Shanghai Jiao Tong University, Peking University, and Huazhong University of Science and Technology have larger nodes. These institutions not only rank high in publication volume and academic output but also occupy central positions within the collaboration network. Numerous connection lines extend from these institutions to others, indicating their greater engagement in academic collaborations compared to their peers, and highlighting their strong relationships in advancing research exchanges and cooperative initiatives in this field.



Figure 2. Analysis of Research Institutions

3.3 Journal Publication Volume Statistics

This paper analyzes the journals where the sampled research literature has been published, with results illustrated in Figure 3. The analysis reveals significant disciplinary distributions and hierarchical differences in academic output. Statistical data indicate that *Chinese Hospital Management*, *Chinese Journal of Health Management*, and *Chinese Health Statistics* serve as the primary academic platforms in this field. Notably, the interdisciplinary aspects related to health management and sociology are reflected in the consistent publication volume of humanities and medical journals such as *Medicine and Society* and *Medicine and Philosophy*.

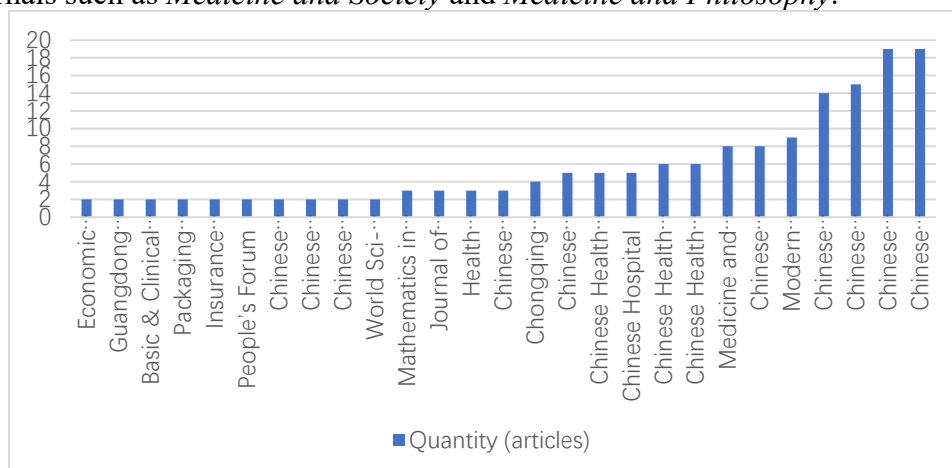


Figure 3. Journal Publication Volume Statistics

Note: Only journals with more than two publications are presented.

3.4 Analysis of Author Publication Volume and Collaboration

Figure 4 illustrates the collaboration network among authors. A total of 293 authors are included in this analysis. From this group, we identified core authors based on publication volume, defined as those with more than three publications, resulting in 9 core authors, which represents approximately

3.1% of the total. The authors are interconnected, forming 441 collaboration links, with a network density of 0.0103. This metric quantifies the collaborative relationships among authors, indicating a relatively loose network of cooperation and providing insights into the structural characteristics of the academic collaboration network. Notably, the author with the highest publication volume, Xue Di, is a scholar in public health and health management, primarily focusing on hospital management and operations.

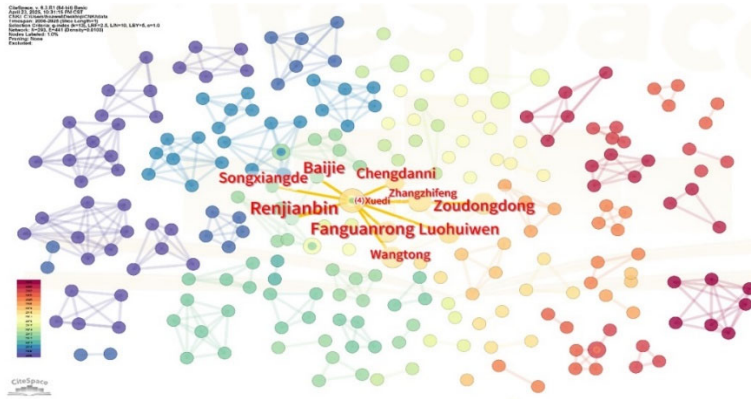


Figure 4. Analysis of Author Publication Volume and Collaboration

3.5 Analysis of High-Frequency Terms and Keywords

The generated keyword co-occurrence map reveals a rich and interconnected array of research themes within the field of medical services. “Medical Service” serves as the core keyword, centrally positioned in the map and closely linked with numerous other keywords, underscoring its pivotal role in the study of medical service satisfaction. Several important research directions emerge around this core concept.

“Satisfaction” is a high-frequency and central keyword, closely associated with terms such as “outpatient patients” and “inpatient patients”. This indicates that patient satisfaction, as the primary audience for medical services, is a key focus of research. Scholars aim to explore patients’ experiences and perceptions during the delivery of medical services, analyzing the factors that influence satisfaction to identify effective strategies for enhancing service quality. “Influencing factors” also represent a crucial node, closely related to both “satisfaction” and “medical service”. This highlights the importance of investigating various elements that affect patient satisfaction. Numerous studies examine these factors from multiple dimensions, including medical technology levels, service attitudes, healthcare environments, and costs, providing a theoretical foundation for targeted improvements in medical services. Furthermore, keywords such as “nursing services”, “health services”, and “service models” occupy significant positions in the map. “Nursing services”, which frequently interact directly with patients, have a substantial impact on patient satisfaction and encompass research on nursing skills and compassionate care. “Health services” pertain to the broader healthcare system, addressing issues like resource allocation and accessibility, both of which influence patient satisfaction. Meanwhile, “service models” focus on how different healthcare delivery models (such as tiered diagnosis and treatment or Internet-based healthcare) affect patient satisfaction, exploring pathways to optimize these models to enhance overall satisfaction.



The Table 1 below presents keywords and statistical data related to research in the healthcare sector. It includes studies from various years, with each row representing a specific study that details an identification number, publication count, centrality, year, and keywords (LSI), which reflect the core focus of the research. The centrality values differ across studies; for instance, the centrality value for 2013 is the highest in recent years, highlighting strong connections among the keywords “nursing services” and “prevention”, indicating a concentrated research focus. In 2019, studies related to “influencing factors” had a centrality of 0.904, with most values exceeding 0.9, suggesting a broader range of keywords and more dispersed associations. Earlier research likely concentrated on surveys of satisfaction and the current state of medical services, while later studies increasingly integrated analyses of influencing factors and the application of new research models. This evolution reflects the ongoing expansion of research depth and breadth over time, closely tied to advancements in the healthcare industry, shifts in societal needs, and improvements in research methodologies.

Table 1. Statistical Data Analysis of Research

No.	Publications	Centrality	Year	Keywords (LSI)
0	40	1	2017	(9.61) Satisfaction; (4.32) Bidirectional Referral; (4.32) Village Doctors; (4.32) Current Situation
1	23	0.892	2015	(9.81) Medical Services
2	10	0.904	2019	(12.97) Influencing Factors
3	9	0.958	2013	(11.17) Patients
5	6	0.952	2016	(4.32) Nanjing
7	6	0.984	2013	(4.32) Nursing Services; (4.32) Prevention
9	4	0.983	2019	(1) Elderly Care Services; (1) Urban Seniors; (1) Satisfaction; (1) Community Home Care; (1) Aging
13	3	0.973	2022	(1) Clinical Pathways; (1) Physician Perspective; (1) Quality of Medical Services; (1) Work Performance; (1) Satisfaction
14	3	0.985	2015	(1) Satisfaction; (1) Patients; (1) Community Residents

Combining insights from the keyword prominence map in Figure 5, we can clearly observe shifts in research interest for various keywords over specific time periods. The keyword “influencing factors” has a prominence score of 1.43 from 2013 to 2025, indicating it has consistently garnered significant attention. This suggests that over more than a decade, scholars have continually explored new factors and changes impacting medical service satisfaction, evolving from a focus on basic elements such as medical infrastructure and staff numbers to softer aspects like doctor-patient communication and the level of healthcare informatization. The keyword “medical institutions” emerged prominently in 2021 and 2022, with a score of 1.2. This reflects a growing interest during this period in the management, operational models, and inter-institutional cooperation and competition of healthcare facilities, marking them as new focal points in the study of medical service satisfaction. As healthcare reforms progress, the comprehensive capabilities, service quality, and positioning of medical institutions within the healthcare system have become closely linked to patient satisfaction, attracting substantial research attention. The keyword “aging” achieved a prominence score of 1.1 from 2019 to 2021. With the acceleration of societal aging, the elderly patient population has expanded significantly, and their unique medical needs and health conditions distinctly influence service satisfaction. Research has centered on how to meet the healthcare demands of older adults and enhance their medical service experiences, encompassing areas such as the development of geriatric specialties and long-term care services. The keyword “discharged patients” reached a prominence score of 1.03 from 2015 to 2017. During this period, research primarily focused on the continuity of medical services for discharged patients, including the effects of post-discharge rehabilitation guidance and follow-up services on patient satisfaction. This underscores the importance of extending medical care beyond the inpatient treatment phase to prioritize health management and support after discharge.

Top 4 Keywords with the Strongest Citation Bursts



Figure 5. High-Frequency Terms and Keyword Map

3.6 Detailed Discussion of Various Research Themes

3.6.1 Influencing Factors

In the study of medical service satisfaction, the influencing factors identified in existing research can generally be classified into two main categories: patient-related characteristics (such as waiting time) and healthcare provider-related determinants. The latter can be further divided into medical hardware facilities (including relevant medical institutions and environmental conditions) and medical software facilities (which encompass healthcare personnel attitudes, hospital improvement strategies, service efficiency, and doctor-patient communication). Regarding “waiting time” as a patient-related characteristic, scholars such as Kong Jinsong argue that unavoidable processes like commuting, waiting, and reimbursement significantly increase the likelihood of dissatisfaction. When discussing healthcare provider-related determinants, it has been noted that “the establishment of relevant medical institutions can impact medical service satisfaction”. Researchers like Yuan Can advocate for strengthening the humanistic aspects of healthcare institutions by promoting a noble professional spirit, firmly establishing a patient-centered service philosophy, standardizing service language and behaviors, enhancing communication awareness and skills, and fostering harmonious

doctor-patient relationships to create a more compassionate healthcare environment. Additionally, concerning medical software facilities, it has been suggested that “the attitudes of healthcare personnel can influence medical service satisfaction”. Scholars like Kang Yun, in their grounded theory research on patient satisfaction with triage services, indicate that “in certain urgent situations, the attitude of healthcare personnel affects medical service satisfaction with a likelihood of 95%”. Regarding “the improvement strategies implemented by some hospitals that can influence medical service satisfaction”, Wang Heng and colleagues highlight that “centering on the needs and interests of patients” is a fundamental factor affecting satisfaction. They propose six improvement strategies, which are establishing a patient-centered service model, continuously enhancing healthcare personnel attitudes, effectively and promptly addressing complaints, consistently creating and maintaining a high-quality hospital environment, significantly improving services in diagnostic departments, and proactively informing patients about medical costs and available benefits.

3.6.2 Outpatient Patients

In the study of medical service satisfaction, outpatient patients make up the largest group of service recipients within the healthcare system, and their satisfaction directly reflects the quality of services provided by medical institutions and the overall patient experience. Due to their large numbers and diverse characteristics, outpatient satisfaction differs significantly from that of inpatient satisfaction. Existing research indicates that the core factors influencing outpatient satisfaction focus on service efficiency, doctor-patient communication, environmental conditions, and cost transparency. For instance, scholars such as Lang Xiaoling have suggested integrating value-based healthcare principles into outpatient services at a tertiary hospital in Sichuan Province to enhance patient satisfaction and improve the quality of diagnostic services. Additionally, researchers like Zou Dongdong conducted a survey of public medical institutions in Shanghai from 2021 to 2022, finding that while overall satisfaction remained high, improvements were needed in areas such as waiting times, the healthcare environment, service attitudes, communication, and age-friendly services.

3.6.3 Health Services

Health service satisfaction is a key indicator of healthcare system performance, encompassing dimensions such as accessibility, service quality, equity, and health outcomes. A review of the literature reveals that most scholars focus on primary healthcare, particularly in rural and remote areas, as well as among elderly populations and community residents. For example, researchers Li Liqing and Qu Xiaoting analyzed surveys from grassroots medical institutions in Jiangxi Province, concluding that chronic disease patients with lower annual household incomes reported relatively high satisfaction with referral services. They recommend strengthening trust between patients and healthcare providers, establishing a patient-centered healthcare system, enhancing the comprehensive skills of general practitioners, and improving chronic patients’ satisfaction with referral services. Similarly, Kong Jinsong’s research on healthcare satisfaction among residents in the Qinghai-Tibet Plateau identified unique factors affecting satisfaction, such as mobile medical services, language communication, and cultural customs. They suggest enhancing mobile healthcare services to improve accessibility and optimizing the layout of medical facilities to further boost satisfaction among residents.

3.6.4 Service Models

The model of medical services is a critical factor influencing patient satisfaction. Different service models (such as traditional outpatient services, tiered diagnosis and treatment, multidisciplinary collaboration, and telemedicine) show significant differences in service efficiency, doctor-patient interaction, and patient experience. In recent years, as healthcare demands have diversified and technological innovations have emerged, optimizing service models has become a key research focus for enhancing satisfaction. For instance, scholar Yang Lihua noted that “integrating medicine enhances hospitals’ comprehensive treatment capabilities”. For complex diseases (such as tumors and chronic illnesses), multidisciplinary collaboration integrates resources from various specialties to

provide personalized treatment plans, significantly improving patient satisfaction with the quality of care. Ouyang Wumin and colleagues studied satisfaction factors related to online medical service platforms, concluding that digital healthcare models (such as online consultations and remote monitoring) improve satisfaction by enhancing accessibility and convenience, particularly for follow-up patients and those in remote areas.

3.6.5 Nursing Services

Nursing services are a core component of the medical experience, directly influencing patient adherence to treatment, recovery outcomes, and overall satisfaction. Research indicates that nursing service satisfaction is primarily affected by factors such as professional skills, humanistic care, communication abilities, and the nursing environment.

3.6.6 Digital Healthcare

Moreover, key technologies in digital healthcare provide new pathways for enhancing service quality and patient satisfaction. Artificial intelligence (AI) diagnostic technologies enable rapid and accurate analysis of medical images (such as CT and MRI scans), assisting doctors in optimizing diagnostic decisions, reducing misdiagnosis rates, and shortening the time it takes for patients to receive results, thereby significantly enhancing satisfaction during the diagnostic phase. Telemedicine technologies overcome geographical barriers, allowing patients in remote areas or those with mobility issues to access quality medical resources conveniently through video consultations and remote monitoring. This alleviates the need for long travels and wait times, greatly increasing the convenience and accessibility of healthcare, which in turn improves overall patient satisfaction. Electronic Health Record (EHR) technologies facilitate the digital integration and sharing of patient health information, enabling doctors to quickly access patient histories and test results, ensuring continuity and accuracy in care. Patients benefit from the efficient and comprehensive treatment process, leading to increased satisfaction. These technologies optimize processes and enhance efficiency and quality, positively impacting digital healthcare satisfaction from multiple dimensions and laying a solid foundation for creating an exceptional medical experience.

4. Conclusion and Discussion

Medical service satisfaction is a critical indicator of healthcare quality, integral to patient experience and the sustainable development of the healthcare system. Through a comprehensive analysis of research related to medical service satisfaction, the following insights were gained: (1) Publication Trends: Statistical analysis of publications from 1999 to 2025 reveals significant fluctuations in academic output in this field; (2) Research Institutions: Studies on medical service satisfaction are predominantly concentrated in cities such as Shanghai, Beijing, and Wuhan; (3) Journal Contributions: Key journals like *Chinese Hospital Management*, *Chinese Health Statistics*, and *Chinese Health Service Management* serve as the main academic platforms in this area, contributing valuable research findings; (4) Author Collaboration: The analysis shows a tightly connected core group of authors within the broader research community, indicating strong collaborative relationships; (5) Influencing Factors: The influencing factors can be categorized into patient-related characteristics (such as waiting time) and healthcare provider-related determinants, which can further be divided into medical hardware facilities (relevant institutions and environmental conditions) and medical software facilities (including healthcare personnel attitudes, hospital improvement strategies, service efficiency, and doctor-patient communication). Moreover, this study reveals the complexity and multidimensional nature of evaluating healthcare quality. Research indicates that patient satisfaction is influenced not only by the level of medical technology but also profoundly by aspects such as humanistic care and the quality of communication during the service process. While overall outpatient service satisfaction in the country shows an upward trend, significant regional disparities, long waiting times, insufficient communication, and challenges faced by elderly patients in adapting to digital services remain pressing issues.

From this series of studies, we can analyze and discuss the findings. The fluctuations in publication volume, particularly the decline observed since 2020, suggest that research on medical service satisfaction has not received as much attention in recent years compared to other topics. However, this issue is crucial for enhancing patient experiences and improving healthcare services, warranting further theoretical investment. Given that major research institutions are concentrated in cities like Shanghai, Wuhan, and Beijing, it is essential to advocate for increased attention to medical service satisfaction studies in both large and smaller cities, as this is vital for improving the overall quality of healthcare services nationwide. The interdisciplinary characteristics of the journals should be actively encouraged; collaboration with other fields can further enhance healthcare quality, optimize patient experiences, and ensure the sustainable development of the healthcare system. The interconnectedness of authors reflects the extent of collaboration, and we should strongly promote this. Understanding and collaborating across diverse perspectives is essential for advancing academic progress. Additionally, both the hardware and software aspects of hospitals must be addressed. While promoting digital advancements in hardware, attention must also be given to humanistic care and communication quality. Only by establishing a scientific and systematic satisfaction management system can we further enhance healthcare quality, optimize patient experiences, and ensure sustainable development of the healthcare system, driving medical services toward a more human-centered, efficient, and scientific approach.

References

- [1] Liu Bo, Zhang Xianfeng, Wang Chao, et al. Practical Research on Improving Citizen Satisfaction with Hotline Appeals in a Certain Tertiary Hospital in Beijing. *Chinese Hospitals*, 2023, 27(9): 95-97.
- [2] Zou Dongdong, Zhang Yizhong, Yu Zhuowei, et al. Survey on Outpatient Patient Satisfaction in Public Healthcare Institutions in Shanghai in 2020. *Chinese Health Resources*, 2022, 25(2): 160-162, 171.
- [3] Li Liqing, Yuan Shiyi, Huang Xiaoyi, et al. Analysis of Community Residents' Satisfaction with Primary Healthcare and Its Influencing Factors in Jiangxi Province. *Chinese Health Economics*, 2021, 40(12): 55-59.
- [4] Cheng Zhihong, Li Yanwu. Survey and Analysis of Marketing for Specialized Medical Services. *Chinese Journal of Hospital Management*, 2004, 20(10): 625-627.
- [5] Li Yanning, Feng Qiming, Luo Hongye, et al. Survey of Family Satisfaction with Medical Services for Patients with Schizophrenia in Rural Areas. *Modern Preventive Medicine*, 2016, 43(11): 1955-1958, 1966.
- [6] Qin Jiangmei, Huang Changhui, Rui Dongsheng, et al. Analysis of Residents' Responsiveness and Satisfaction with the Health System in Xinjiang Pastoral Areas. *Chinese Health Service Management*, 2009, 26(11): 776-778.
- [7] Zhang Yizhong. Satisfaction and Evaluation Methods for Discharged Patients in Public Healthcare Institutions in Shanghai.
- [8] Ma Chengyu, Zhang Yingyu, Chen Xihua, et al. Research on User Experience and Satisfaction with Online Medical Service Platforms. *Chinese Journal of Hospital Management*, 2018, 38(4): 47-49.
- [9] Zhang Qi. Empirical Study on the Influencing Factors of Medical Service Satisfaction.
- [10] Wang Heng, Su Weiling, Chi Keqiang. Research on Influencing Factors and Improvement Strategies of Medical Service Satisfaction. *Chinese Hospitals*, 2023, 27(5): 47-50.
- [11] Zhang Wenhan, Zhao Jianlin, He Guixiang. Utilization and Satisfaction of Smart Healthcare Services among the Elderly in Xinjiang. *Chinese Health Resources*, 2023, 26(5): 521-526.
- [12] Du Tianyi, Fan Guanrong, Wang Tong, et al. Study on Patient Satisfaction Assessment Scale for Quality of Medical Services in Public Hospitals. *Chinese Journal of Hospital Management*, 2015, 35(12): 10-12.
- [13] Kong Jinsong, Cheng Yang, Tao Zhuolin. Study on Medical Service Satisfaction and Influencing Factors among Residents of the Qinghai-Tibet Plateau. *Chinese Health Service Management*, 2023, 40(7): 520-525.
- [14] Yuan Can. Satisfaction and Influencing Factors of Medical Services under the Background of Group Assistance to Tibet.

- [15] Kang Yun, Shao Yan, Liu Jiamin, et al. Grounded Theory Study on Patient Satisfaction with Triage Services. *Journal of Nursing*, 2024, 39(5): 48-52.
- [16] Lang Xiaoling. Enhancing Outpatient Services Based on Value-Based Healthcare: A Case Study of a Tertiary Hospital in Sichuan Province.
- [17] Ni Yuan. Study on Inpatient Medical Service Satisfaction Among Low-Income Patients: A Case Study of a Charity Hospital in Xinjiang.
- [18] Yang Lihua. The Story Behind the Top Satisfaction Ranking: A Documentation of Actions to Improve Medical Services at Xin Hospital.
- [19] Li Chao, Zhou Huan, Wan Jun, et al. Research on the Relationship Among Perceived Value, Satisfaction, and Behavioral Intentions of Patients in a Mobile Healthcare Environment. *Chinese Health Service Management*, 2021, 38(05): 334-338.
- [20] Wang Tong, Chen Dani, Fan Guanrong, et al. Analysis of Outpatient Patient Satisfaction and Its Influencing Factors in Public Medical Institutions in Shanghai. *Chinese Health Resources*, 2017, 20(6): 460-463, 480.
- [21] Ouyang Wumin, Yang Jing. Study on Factors Influencing Satisfaction with Online Medical Service Platforms. *Packaging Engineering*, 2024, 45(S1): 30-37.