

Community Hospital Satisfaction Analysis Based on Structural Equation Model: A Primary Medical Service Survey in China

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Abstract:

The rural population accounts for 80 percent in China. The government should attach great importance to people's demand for medical care and ensure that the medical achievements of socialist construction benefit the common people and fulfil the grand goal of building a healthy China. Based on customer behavior theory, this study investigates community hospitals, and analyzes the influence of community patient satisfaction, aiming to explore ways to improve patient satisfaction. This research adopts the method of questionnaire survey. Totally 1000 community hospital patients participated in this survey on the attitude of patient toward community hospitals, and 826 valid questionnaires were collected. Structural equation model is adopted to explore 8 latent variables including medical environment, supplementary services, medical configuration, service quality, health care costs, perceived value, patient complaints, patient recognition that affect patient satisfaction mechanism, and the direct effect and indirect effect are analyzed. Finding that among the 8 latent variables, patient complaints and perceived value have the greatest impact on the patient's satisfaction. In addition, solving patient complaints also significantly influence patients' recognition of hospitals. This paper discusses the results of the research, and proposes methods and measures to improve patient satisfaction in community hospitals. The data of this research were directly collected from patients in community hospitals, which is of great practical significance in improving the medical service of community hospitals in China, and provides important solutions to the problem of improving the competitiveness of community hospitals compared with large hospitals.

Keywords: *Community hospitals, Structural equation model, Competitive advantage theory Patient satisfaction, Chinese Context.*

I. INTRODUCTION

In order to alleviate the crowding of high-quality medical resources and maintain the healthy life of community residents, hierarchical diagnosis and treatment has become the main trend of health service reform. Residents can decide the level of medical institutions according to the severity and urgency of their illness. China has defined the functions of diagnosis and treatment services at all levels, strengthened the capacity of community health services, and improved the service level of medical workers, striving to

achieve the goal that "the proportion of consultations in primary-level medical and health institutions accounts for 65% in the total number", and "Improving the proportion of residents' first choice of primary health care institutions for illness within 2 weeks" [1]. These sub-targets are key to building a healthy China. Patient satisfaction is a subjective psychological state to measure patients, which is often adopted to describe patients' subjective evaluation of medical product quality or medical service quality in the medical commercialization society. It means that when patients' effective needs are met, the pleasure generated is the matching relationship between expectation and actual utility before seeking medical treatment. The matching degree is depicted by numbers, which shows the connotation of satisfaction and the basic condition of patient loyalty [2]. Investigation of patient satisfaction in primary community hospitals is conducive to grasping the current situation of patient satisfaction and helping community hospitals focus their limited medical resources on the most important aspects, thus the patient loyalty can be enhanced and patients' willingness to seek medical treatment again can be retained. It can help community hospitals find out service shortcomings, analyze patients' perceived value, and realize the priority allocation of limited resources to the patients in need. It is urgent and important to study the gap between patients' expectations and the service standard, service process as well as service delivery of community hospitals, find out patients' concerns and service shortcomings, and provide corresponding suggestions for decision-makers to make improvement on these issues. Therefore, it is of great significance to explore the impact of community hospitals on patient satisfaction.

II. LITERATURE REVIEW

Due to the imbalance of regional economic development in China, it is difficult to have a unified standard for the guarantee system of primary medical and health services. At present, despite that the supervision departments have some instructions and suggestions, the way of measuring the satisfaction of patients to the township hospitals and community hospitals is still a problem and one of the important subjects in the study of public health management. Currently many countries and government departments design the main industry customer satisfaction index based on the features of the industry and consumers, from the perspective of the economic and social security development. Then the comprehensive satisfaction index is obtained through weighted calculation according to situations including product's market share, regional population, consumption, etc. to guide the industry competition and promote the management of the government. America's system of satisfaction index (ACSI) is the most widely adopted index [3]. It is a kind of the macroeconomic indicators of quality of economic output, and is based on the process of consumer products and services, and comprehensive evaluation index on four levels including customer satisfaction, industry satisfaction, state satisfaction, department satisfaction index, enterprise satisfaction index. It is now one of the national customer behavior theory models that has the most complete system and the best application effect. ACSI is a customer satisfaction index model created by Fornell, Johnson, Anderson, Cha and Bryant [4] on the basis of the Swedish customer satisfaction index model (SCSB) [5].

In the ACSI model, the overall satisfaction is placed in a causal interaction system with mutual influence and correlation. Researchers use the consumer cognition process to explain the relationship between the consumption process and the overall satisfaction, which can indicate the consequences of the degree of

satisfaction, thus giving the overall satisfaction the characteristic of forward expectation. There are six structural variables in this model, among which customer satisfaction is the final objective variable, and expected quality, perceived quality, perceived value are the causal variables of customer satisfaction. The selection of six structural variables in the model is based on the customer behavior theory, and each structural variable contains one or more observation variables, which are obtained by collecting data through actual surveys.

Customer behavior theory is the theoretical basis of this study on the construction of patient satisfaction. The social security system in developed and developing countries started relatively early, which provides a realistic research basis for the generation and improvement of medical satisfaction. Among the scholars, Jaipaul and Rosenthal [6] analyzed a number of factors influencing patient satisfaction on the basis of customer satisfaction and combined them with the industry characteristics of medical and health services. These influencing factors mainly include: doctor-patient relationship, medical technical condition, service attitude and quality, accessibility of health facilities, economics of diagnosis and treatment, therapeutic effect, continuity of diagnosis, treatment and service, hospital hygiene and hardware environment, and diagnostic practicality. Elwyn, Edwards, Wensing, Hood, Atwell and Grol [7] collected and sorted out the order of importance of the problems considered by patients seeking medical treatment in the past: humanitarianism, medical skill and accuracy, patients' right to participate in decisions, time of care, patients' right to know, attention paid to patients' needs, communication and exchange between doctors and patients, feasible special services, and the importance of these factors on patient satisfaction is decreasing. In addition, patient satisfaction is influenced by their own characteristics. Patient expectation of medical treatment is the primary factor influencing satisfaction, and the comparison between expectation and reality constitutes satisfaction, thus Coțiu [8] believe that people' expectation of health is very important. Secondly, the demographic and social characteristics of patients, such as age, race, occupation, education level, income level, insurance status, health status, private doctor ownership, will affect the satisfaction of patients [9]. Moreover, patient satisfaction varies with departments even in the same hospital. Based on previous studies as well as detailed induction and summary, Markey, Gowan J, Hanks (2000) hold that the influencing factors of patient satisfaction can be divided into three points. First, there is a direct relationship between the patient's previous experience and the patient's perceived satisfaction. Second, the relationship between doctors and patients, the information of medical treatment process, and the ability and quality of medical technology are the most important influencing factors. Third, the patient's choice of treatment is also a key factor that directly affects satisfaction [10].

In the study of patient satisfaction, the design of assessment tools is needed, and the research on assessment tools is relatively mature in foreign countries. This study divides it into two categories according to its index dimension and number of purposes. 1. Multi-dimensional index system. This kind of assessment tool was widely adopted in the 1990s, and the Patient Satisfaction Questionnaire(PSQ) designed by Ware et al. is the most representative type of questionnaire [11]. The Ware scale measures patient satisfaction from eight dimensions, including convenience of medical service, treatment cost, availability of resources, continuity of medical service, professional quality and attitude of medical staff, humanitarian spirit, total satisfaction, and effectiveness of health care. There are more than a dozen secondary indicators under each

dimension. This scale has a wide range of content and has strong reference value for resource allocation and management of the whole health system. Chengyu zhang [12] designed a measurement scale with 8 dimensions and 2-5 three-level indicators in each dimension according to the real situation in China, among which the second-level indicators include: medical environment, service skills, service attitude, service items, service process, service results, complaint handling and treatment costs. This scale is characterized by its detailed content and comprehensive grasp of hospital service quality. However, the cost of investigation is too high, the statistics are complicated, and the accuracy is relatively low. 2. Less dimensional indicator system. It is mainly represented by the SERVQUAL evaluation tool, which is a service satisfaction assessment tool that has been more popular in the world in recent 20 years. The SERVQUAL scale was originally used for retail service industry such as satisfaction measurement. In 1995, Anderson introduced it to the field of medical services from five dimensions including tangibility, reliability, responsiveness, assurance and empathy, and a total of 22 tertiary indicators [13]. Due to the scale's non-neutral dimension and lack of adaptability to the general industry, it needs to be improved when introducing to the medical service assessment. Li Lin et al. (2009) modified it for medical services, and built up four dimensions (environment facilities, medical auxiliary service, diagnosis and treatment process as well as medical service quality). Therefore, on the basis of Li Lin et al.'s research, this study constructed a model of patient satisfaction with the service level of community hospitals in Guangxi, China.

III. THE CONCEPTION OF COMMUNITY HOSPITAL SATISFACTION MODEL

In 2000, a special research group set up by China standardization research center studied and obtained the Chinese customer satisfaction index model of China (CCSI) based on China's specific national conditions, combining the construction ideas and advantages of the ACSI model. CCSI model was constructed with the consideration of six structural variables, including Perceived quality, Perceived Value, Customer Satisfaction, Customer Loyalty, and Brand image, Expected quality. By embedding the concept of satisfaction into the medical field, we can analyze this subjective psychological sense of medical services from the perspective of patients. Among all the definitions in existing studies, Fornell, Johnson, Anderson, Cha and Bryant [4] viewpoint is most typical: patient satisfaction refers to people's expectation of health care services based on requirements in health, disease, quality of life, etc., and is a measurement of the health care services they experience [14]. However, other scholars put forward different views. Up to present, a unified definition of patient satisfaction has not been reached, and we can only simply classify and describe its content, which mainly fall into two categories: the first is that a patient defines the size of the utility and value from the perspective of medical consumer behavior, and whether the sickness treatment and physical and mental rehabilitation effect are matched with the cost and the psychological expectations, including the use of advanced instruments and equipment in the course of treatment, diagnosis and treatment technology that is easy to observe and perceive. It is called a dominant service satisfaction. Second, the patient's overall service feeling and attitude towards the medical staff during the treatment, which is called implicit service satisfaction.

3.1 Model Construction

3.1.1 Medical environment

The medical environment refers to a series of perceptions of the convenience of medical treatment, the feeling of the environment, the comfort and the safety of patients in the process of medical treatment, which are multidimensional comprehensive indicators. Hong [15] also designed the medical environment index when measuring the patient satisfaction of practical outpatient service, the main content of which is the internal hardware environment of outpatient departments, and the research target is large hospitals. Since this study focuses on community hospitals, in addition to the part of Li's model, we mainly design the model from the hardware, software, and a more macro perspective, including access to the location of the community hospital, medical personnel's satisfaction with the overall hospital environment, medical equipment, hospital disinfection norms, the hygiene standards of environment, and comprehensive hospital security plan and safeguard measures. It highlights the index of "the satisfaction of medical staff to the unit" of community hospitals, emphasizes the importance that community hospitals attach to their own cultural value and cohesion, and reflects the requirements of community hospitals for their own brand construction. The design of other indicators highlights the high standard requirements on hardware, adapts to the trend of high-quality requirements on medical services after the improvement of residents' health knowledge, and also reflects the basic routine requirements of the state on the continuous improvement of medical industry standards for various types of hospitals [16].

3.1.2 Supplementary services

Supplementary medical service refers to other auxiliary services related to medical treatment in addition to core services such as examination, diagnosis and treatment [17]. It mainly includes: (1) the service attitude of the consultants; (2) the soundness of the system of the hospital director's visiting; (3) the convenience and rapidity of the connection with the big hospitals; (4) the comprehensiveness of rehabilitation and nursing services for the aged and children as well as special care; (5) the scientificity and compactness of the waiting for registration, payment and waiting time arrangement. Previous studies have presented and explained the attitude of all kinds of service personnel in hospitals in detail, which result in many problems with this index. In the fitting process of index, the calculation amount is increased, and the accuracy of latent variable fitting is also checked [18]. This indicator increases the classification treatment of docking, the elderly and children rehabilitation nursing measure of the business and time cost, anastomosed the patients' needs and community hospital diagnosis of business requirements [19].

3.1.3 Medical configuration

The medical configuration mainly involves the advancement and completeness of the hardware construction such as the technical equipment of community hospitals. Whether the technical capacity of the hospitals can meet the needs of daily and common diseases diagnosis and treatment should be considered [20]. This index also starts from the hardware construction of community hospitals, which can be divided

into (1) the completeness of department configuration (2) the completeness of daily drug types (3) the selectivity of similar drugs, and (4) the completeness and advancement of basic medical instruments and inspection equipment. Chinese research on the evaluation of medical services seldom focuses on the indexes system design, the content involves the construction of medical hardware, mostly about classification and other indicators, thus this article aims to refine medical configuration, which can reflect that the progress of medical technology plays a more important role on patients' health, and can also reflect the hospital technology investment scale and the size of the market competitiveness, which plays an important guiding role to attract patients to visit doctors. In the index, "the completeness of departments" indicates the technical scale of the hospital and the degree of doctor configuration perfection. Despite that the positioning of doctors in community hospitals is general practitioners, and surgery is specialized, the more comprehensive the guarantee for the diagnosis and treatment of patients is, the stronger the satisfaction and trust of patients will have. "The completeness and selectivity of drugs" means that whether the hospital reduce relevant expenses to the largest extent considering patients' medical treatment cost, on the premise of ensuring the treatment effect, thus the burden on families can be reduced. "The completeness and advancement of medical enterprises and equipment" indicates the level of diagnosis, treatment and testing in hospitals [21].

3.1.4 Service quality

Quality of medical service is the core variable that determines patient satisfaction. According to previous research and the characteristics of community hospitals, it can be divided into the following aspects: (1) doctors' protection of the patient privacy (2) clarity of doctors' explanation on conditions and their psychological comfort (3) common disease, common chronic diseases diagnosis accuracy and timeliness (4) the function and usage of drugs and answers to health care questions (5) health care with patience. The assessment of the indicators is mainly from the perspective of soft power including the service ability, attitude and quality of medical personnel. Specifically, the first is the disease of patients should be strictly protected by medical personnel. Infringement should be resolutely prohibited. This issue not only involves the doctors' professional ethics, but also relates to the hospital brand effect. Secondly, behavioral indicators such as doctors' interpretation of patients' diseases, patience and comfort are used to measure doctors' professional quality and professional skills [22]. Qualified doctors are not only required to have exquisite diagnosis and treatment techniques, but also have a good temper and treat patients like family members, which is the direct expression of doctors' humanitarian quality. Thirdly, the accuracy and timeliness of doctors' diagnosis are the core of the competitiveness of community hospitals, which can be used to measure the patients' trust in doctors and are also the most direct factors affecting the indicators such as perceived value and satisfaction [23].

3.1.5 Health care costs

Medical expenses are the core content of China's medical security reform, which is closely associated with the core interests of patients and families, thus the core content of the construction and competitiveness improvement of community hospitals is the reform of medical expenses. Therefore, it is natural for this paper to take medical expenses as an important factor to study patient satisfaction. It is also the essence of the

consumer surplus theory [24]. We refined the previous indicators as follows: (1) the scientificity and rationality of drug pricing; (2) the transparency of diagnosis and treatment expenses; (3) the timeliness of the notification of temporary expenses for treatment and surgery; (4) the rationality of the deductible amount and proportion of reimbursement. The drug price is the main component of treatment costs. In China's medical system, hospitals and doctors are supported through selling drugs, which to a large extent leads to collusion among drug companies, drug manufacturers and hospitals to drive up drug prices, resulting in excessive medical treatment and heavy burden on patients. Drugs are essential for patients, and in the end, it is the patients who afford the fluctuating prices, while hospitals suffer little. Therefore, from the rationality of drug prices, we can analyze the perceived value and satisfaction of patients seeking medical treatment. The information grasped by the doctors and that by the patients is asymmetric, thus patients are in a passive position. If the hospitals do not timely explain for inform to the patients, it will affect the patients' trust and satisfaction toward the hospitals, which even causes medical disputes [25].

3.1.6 Perceived value

Patients' perceived value means that during the process of medical treatment, whether patients believe that their cost and doctors' energy input are matched, and whether the medical process achieves their psychological expectations. Spiteri, as the representative and supporter of the theory of tradeoff, adopted empirical analysis to analyze the multi-dimensional factors influencing customers' value perception. He points out that the perceived value should be composed of product quality and product price [26]. In terms of community health services, we can use the difference between the total value and the total cost of the treatment services received by patients. The total value mainly includes a series of monetary values such as economic and psychological value for pain relief or relief expected in the treatment process, while the total cost includes time cost, economic cost, delay cost, etc. The above measures of perceived value focus on the form of price, which is more suitable for ordinary goods. Despite that health services also have prices; the cost and benefit theory cannot measure the value of health and longevity. Therefore, the perceived value of health services from the perspectives of health maintenance and improvement as well as psychological security can be described as: community hospitals improve the convenience of family visits, increase residents' health knowledge and health maintenance skills, enhance families' health security, and improve residents' health conditions [27].

3.1.7 Patient satisfaction

Patient satisfaction is a patient's comprehensive emotional judgment of various medical and health service environments and treatment results encountered during medical treatment under the constraints of family wealth, social capital, local medical insurance system and their own social occupational conditions. It is a strong subjective judgment and it is difficult to grasp the measurement index of it. The measurement methods adopted by different scholars vary significantly in the research process. At present, the popular way to measure satisfaction is "perceived performance", which describes the degree of satisfaction through the ordinal method [28]. In this paper, the measurement of patient satisfaction is discussed from three aspects: patient satisfaction with the treatment effect, patients' satisfaction with the treatment expectation, and patient

satisfaction with the cost performance of community hospitals [29].

3.1.8 Patient complaints

Patient complaints refer to patients' feeling that there is a gap between the cost of treatment in community hospitals and the experience of treatment process and environment involving all aspects of hospital hardware and software construction and that the cost performance is not high, which is expressed through the words of consumers [30]. This kind of complaint is also the subjective judgment that can be affected by multidimensional factors in psychology, through which patients can vent and express their inner dissatisfaction, expecting to attract the attention of administrative departments to solve the problems, make improvement and respect their demands. Due to the asymmetric information between doctors and patients, it is difficult for the patients to obtain effective solutions and compensation for the average patient complaint behavior. They always think that there is a natural relationship of interests between hospitals and government departments. This informal psychological expression is an ordinary consumption behavior, which is an important manifestation of emotional expression. In terms of product, they believe that the service provider should provide free quality inspection results. In this study, the indicator design contains both formal complaints and informal complaints, mainly including: (1) whether hospitals are satisfied with the response to the patients' formal complaints; (2) whether the informal complaints can be satisfied with the solution, and (3) whether the complaint handling efficiency of relevant departments is satisfactory [31].

3.1.9 Patient recognition

The recognition degree of patients refers to the patient's high recognition of the brand, reputation and technical ability of a medical institution. In general, the patients accept the services provided by the medical institution, and they are willing to introduce this institution to his relatives and friends [32]. Although the health service of community hospitals is a necessity, patients still have certain right to choose, thus obtaining the recognition of patients is essential to community hospitals. In view of the comprehensiveness of the index, two points were adopted to express the index in this study: first, the willingness to seek medical treatment in community hospitals for a long time; second, the degree of recommendation to family and friends [33].

3.2 Assumptions

The theoretical model of patient satisfaction constructed in this study mainly includes five first-order latent variables, including medical environment [34], supplementary services, medical configuration, service quality [22] and health care costs. In community hospitals, medical environment, supplementary services and medical configuration of the hospitals are the most perceptible aspects for the patients. The better these factors are, the higher their satisfaction with community hospitals will be [35]. When patients recover, they will have deeper impression of service quality and health care costs of community hospitals, which will impact the perceived value of patients to community hospitals and can further enhance their satisfaction. Higher health care costs will decrease the satisfaction of patients [36]. Patient satisfaction has a

direct impact on patient complaints, which means that the higher the satisfaction is, the less complaints they will have, thus the patient recognition will be improved [37]. In the same way, patient satisfaction will enhance patient recognition [38]. Figure 1 shows the mechanism of action among the indicators in detail. Based on the research on influencing factors of medical service satisfaction, such as the research of Li Lin [39], considering the national conditions of hierarchical diagnosis and treatment in China and the actual situation of the construction of community hospitals, the relevant hypotheses affecting patient satisfaction constructed in this study are as follows:

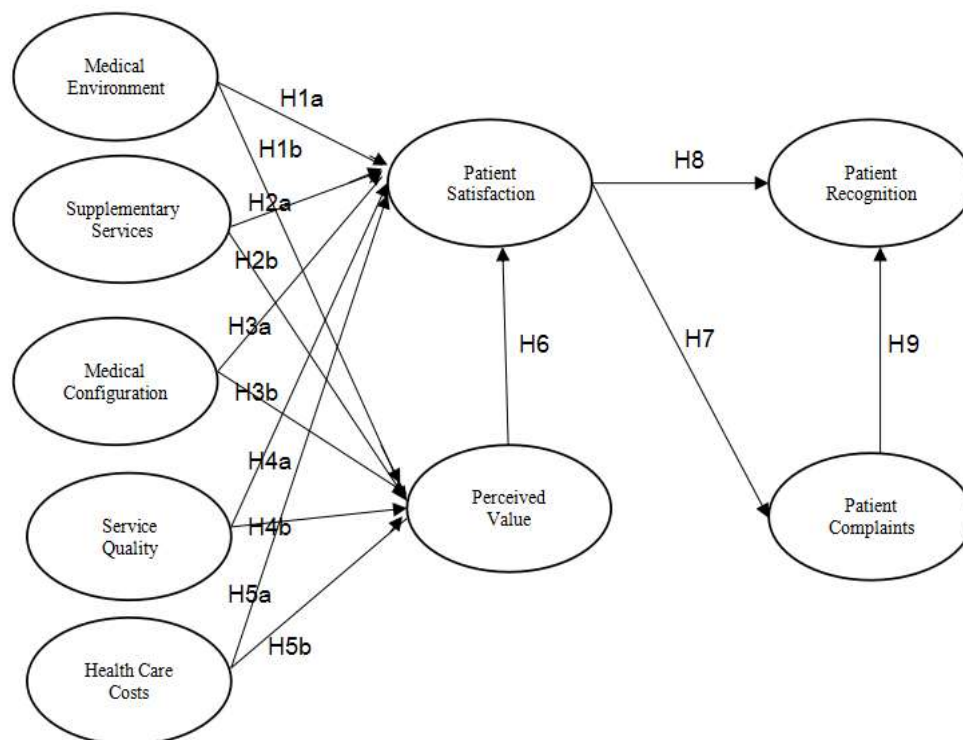


Fig 1: Medical satisfaction model of community hospitals based on customer behavior theory

- H1a: Medical environment has a positive impact on patient satisfaction;
- H1b: Medical environment has a positive impact on perceived value;
- H2a: Medical supplementary services have a positive impact on patient satisfaction;
- H2b: Medical supplementary services have a positive impact on perceived value;
- H3a: Medical configuration has a positive impact on patient satisfaction;
- H3b: Medical configuration has a positive impact on perceived value;
- H4a: Service quality has a positive impact on patient satisfaction;
- H4b: Service quality has a positive impact on perceived value;
- H5a: Health care costs have a negative impact on patient satisfaction;
- H5b: Health care costs have a negative impact on perceived value;
- H6: Perceived value has a positive impact on patient satisfaction;

- H7: Patient satisfaction has a negative impact on timely resolution of patient complaints;
H8: Timely resolving patient complaints has a positive impact on patient recognition;
H9: Patient complaints have a negative impact on the patient recognition.

IV. METHODOLOGY

4.1 Design and Data Collection of Questionnaires

In order to verify the above hypothesis, this study conducted a questionnaire survey among patients in more than 30 community hospitals, which was approved by the Medical Ethics Committee of Youjiang Medical University for Nationalities to investigate the satisfaction of community residents to the local community hospitals.

4.2 Design of Questionnaire

Statistics from China's health yearbook show that in 2019 Guangxi has 168 community health service centers, 142 community health service stations, 1,264 township health centers, 20,409 village health clinics and 251 outpatient departments [40], among which community hospitals are mainly distributed in cities. Based on the preliminary survey conducted in this study before and combined with the design of the patient satisfaction scale at home and abroad, the initial questionnaire was first designed, which mainly included two aspects, the first one of which is the demographic, economic and social characteristics of the individuals and families of the interviewees, while the second is the satisfaction survey of community hospitals, namely the satisfaction of the nine factors in the aforementioned theoretical model. On the basis of the previous studies and quantitative analysis of influencing factors of patient satisfaction, the 9 variables in the model were further subdivided into 35 measurement indicators, as shown in TABLE I. In terms of the quantitative dimension of satisfaction, the popular five-level Likert numerical value was adopted in this study, containing "very dissatisfied, not satisfied, it doesn't matter, satisfied and very satisfied". The five levels of indicators which correspond 1 point, 2, 3, 4, 5 points, respectively in order to ensure the accuracy, which can greatly reduce computation complex degree, and improve the working efficiency.

Patient satisfaction of community hospital model was constructed on the basis of other scholars' research. Medical environment, medical supplementary service, and medical configuration are explicit indicators, service quality and health care costs are hidden indicators, and perceived value, patient satisfaction, patient complaint, and patient recognition are advanced recessive influencing factors. The specific model and questionnaire are shown in the following table:

TABLE I. Variables and components that affect patient satisfaction

Factors	Questions	Question coding	Authors
Medical environment	Convenience of location of community hospitals	Q1	Amankwah, Weng-Wai and Mohammed [16]
	Overall satisfaction of medical staff with the development environment of the hospital	Q2	
	Specification and safety of disinfection of medical devices	Q3	
	Hospitals and departments are clean and standardized	Q4	
	The safety prevention and security measures of the hospital are comprehensive	Q5	
Supplementary services	The service attitude of the consultants	Q6	Blumenstock, Balke, Gibis, von Stillfried, Walter and Selbmann [19]
	The system of the President's rounds and visits is sound	Q7	
	The convenience and rapidity of docking with big hospitals	Q8	
	Comprehensive nursing service and special care for the elderly and children	Q9	
	The reasonable time management for waiting for registration, payment and waiting time	Q10	
Medical configuration	The completeness of department configuration	Q11	Moret, Nguyen, Volteau, Falissard, Lombrail and Gasquet [21]
	A wide variety of daily drugs	Q12	
	Similar drugs are optional	Q13	
	The completeness and advancement of basic medical instruments and medical check equipment	Q14	
Service Quality	Doctors' protection of patients' privacy	Q15	Chang, Chen and Lan [22]
	The clarity and psychological comfort of the doctor's explanation	Q16	
	Accuracy and timeliness of diagnosis and treatment of common diseases and chronic diseases	Q17	
	A medical explanation of the action and use of drugs	Q18	
	The degree of doctors' patience to answer the patient's questions	Q19	
Health care costs	The scientificity and rationality of drug pricing	Q20	Serup-Hansen, Wickstrom and
	Transparency of medical expenses	Q21	

	Timely notification of temporary costs of treatment and surgery	Q22	Kristiansen [25]
	The rationality of reimbursement starting point and proportion	Q23	
Perceived value	Community hospitals have increased the convenience of home visits	Q24	Moliner [27]
	Community hospitals improve residents' health knowledge and skills	Q25	
	Community hospitals enhance the health security of families	Q26	
	Community hospitals improve the health of residents	Q27	
Patient satisfaction	Patients' satisfaction with the treatment effect	Q28	Jackson, Chamberlin and Kroenke [29]
	Satisfaction with patients' expectation of treatment	Q29	
	Satisfaction of cost-effectiveness of community hospitals	Q30	
Patient complaints	Whether the hospitals make satisfactory response to the patient's formal complaints	Q31	Salge, Antons, Cichy, Foege, Hannen and Huetten [31]
	Whether the informal complaints be satisfactorily resolved	Q32	
	Whether the complaint handling efficiency of relevant departments is satisfactory	Q33	
Patient recognition	Willingness to stay in the community hospitals for a long time	Q34	Steis, Penrod, Adkins and Hupcey [33]
	Recommendation to family and friends	Q35	

4.3 Data Collection

This study collected the data from 168 community hospitals in Guangxi. Due to the large sample size and wide distribution, this study randomly selected 30 community hospitals for the survey of patient satisfaction. This study recruited 1000 patients, among which 960 were collected and 826 were valid, and the rate of effective questionnaire was 82.6%. Strong support was provided by the Community hospitals, sub-district offices and neighborhood committees on the questionnaire survey.

V. RESULTS AND DISCUSSION

5.1 Demographic Characteristics of the Sample

According to the survey results, in terms of the gender of the respondents, "female" accounts for 76.15%, which is the highest proportion. In terms of age, the age group of "18~25" is relatively large in the samples,

accounting for 93.34%. 92.37% of the samples have "university" education level. The income distribution result shows that respondents whose monthly income is "less than 1000 yuan" account for 78.21%. With regards to the distance between home and community hospitals, "walking within 10 minutes" accounts for 34.87%. Those who visit doctors "for colds and fevers" occupy the highest percentage of 73.37%. In addition, 50.12% of the respondents have taken the vaccination. 49.27% of the respondents consider that community hospitals are "good, and can solve most of the needs of patients". 73.37% of the respondents recognize the competence of community doctors, and 80.39% recognize the service quality of community hospitals. 58.35% of the respondents consider community hospitals as their first choice, while 75.91% choose to go to big hospitals when "the illness is severe".

5.2 Descriptive Statistics of Structural Variables

Descriptive analysis describes the overall situation of the data through the mean or median. There are no outliers in the current data, thus descriptive analysis can be conducted directly against the average. The mean value is between 3-4 points, which indicates that the service of community hospitals can only reach the level of basic satisfaction of patients, being consistent with the information collected in the interview. Therefore, it can be concluded that the service quality of community hospitals needs to be greatly improved. The standard deviations of all data ranged from 0.783 to 0.948, indicating that there is little difference in patients' opinions on community hospital services. In addition, the mean and standard difference of the total satisfaction of the questionnaire are 3.548 and 0.827, respectively, indicating that the overall satisfaction of the patients with community hospital services is good and their opinions are basically the same. From the perspective of the mean value of hidden variables, the value of service quality is the highest, reaching 3.585, followed by the satisfaction value of medical expenses, which is 3.529, and the perceived value, which is 3.544. The values of the remaining variables are: 3.563 for medical configuration, 3.539 for medical environment, 3.550 for patient complaints, 3.573 for patient satisfaction, 3.514 for medical auxiliary services, and 3.510 for patient recognition. The results show that the medical configuration of community hospitals can basically meet the daily needs of community patients, and the basic medical equipment is relatively complete. The state has formulated favorable policies to support community hospitals, and attached more importance to the basic medical security of community residents. The community medical treatment can basically meet the needs of patients. In addition, the satisfaction value of service quality is also relatively good. Overall, patients are satisfied with the quality of medical service. However, in regard to the timely resolution of patient complaints, medical auxiliary service and patients' recognition of the hospitals, low scores are presented. Some residents have the idea of moving the sites of medical institutions, and believe that medical auxiliary service will increase the cost. Patients' willingness to visit a doctor, recognition of community hospital and recommendations are at medium level, but lower scores are shown in the latent variables. The health and medical service quality of the corresponding community hospitals need to be improved.

5.3 Reliability and Validity Test of Indicators

In order to measure the reliability of the latent variables that were initially constructed in this study, internal consistency was adopted for the analysis. The reliability measurement is mainly applied in testing

the internal consistency of the questionnaire, which is measured by Cronbach's coefficient. The closer the coefficient is to 1, the higher the index reliability is. This study adopts SPSS22.0 software to measure the reliability, with the results shown in TABLE II:

TABLE II. Cronbach reliability analysis

Variables	Variance	Factor loading	Factor	α	AVE
Q1	0.899	0.800	Medical environment	0.944	0.771
Q2	0.763	0.834			
Q3	0.705	0.844			
Q4	0.664	0.849			
Q5	0.707	0.843			
Q6	0.778	0.831	Supplementary services	0.953	0.804
Q7	0.700	0.874			
Q8	0.724	0.895			
Q9	0.716	0.894			
Q10	0.698	0.866			
Q11	0.745	0.892	Medical configuration	0.969	0.887
Q12	0.712	0.906			
Q13	0.720	0.904			
Q14	0.710	0.908			
Q15	0.658	0.84	Service Quality	0.960	0.829
Q16	0.683	0.907			
Q17	0.650	0.911			
Q18	0.649	0.903			
Q19	0.727	0.895			
Q20	0.722	0.883	Health care costs	0.955	0.844
Q21	0.684	0.878			
Q22	0.638	0.896			
Q23	0.662	0.872			
Q24	0.624	0.918	Perceived value	0.969	0.886
Q25	0.640	0.928			
Q26	0.651	0.911			

Q27	0.618	0.93			
Q28	0.628	0.932	Patient satisfaction	0.968	0.911
Q29	0.612	0.921			
Q30	0.614	0.927			
Q31	0.624	0.928	Patient complaints	0.967	0.908
Q32	0.626	0.917			
Q33	0.657	0.902			
Q34	0.679	0.901	Patient recognition	0.957	0.918
Q35	0.704	0.898			

The Cronbach coefficient of the overall scale of the data measured in the above table is 0.992, and the Cronbach coefficient of all variables is greater than 0.9, indicating that the internal reliability of the questionnaire is very high, and the items measured in the questionnaire are reasonable, which passes the consistency test (in TABLE III).

TABLE III. Discriminant validity: Pearson correlation with AVE square root value

	1	2	3	4	5	6	7	8	9
Medical environment 1	0.878								
Supplementary services 2	0.802	0.897							
Medical configuration 3	0.873	0.805	0.942						
Service Quality 4	0.862	0.895	0.903	0.911					
Health care costs 5	0.817	0.856	0.854	0.907	0.919				
Perceived value 6	0.844	0.884	0.884	0.910	0.912	0.942			
Patient satisfaction 7	0.836	0.873	0.869	0.906	0.899	0.940	0.955		
Patient complaints 8	0.83	0.864	0.854	0.885	0.884	0.923	0.933	0.953	
Patient recognition 9	0.801	0.837	0.847	0.851	0.847	0.896	0.909	0.93	0.958

Note: The diagonal number is the AVE square root value

In the index commonality test, SPSS 22 software is adopted to measure the common degree of variables. The common degree of indicator variables refers to the part explained by each factor in the variance of variables. In general, in the analysis of the degree of commonality, we determined that the variable greater

than 0.6 was valid, while the variables less than 0.6 were eliminated. It can be observed from the results in the above table that the common degree of all indexes is above 0.6, and all indexes have passed the common degree test. Therefore, all indexes were retained and no variable was eliminated.

In regard to the observation of initial model fitting results, this study selected eight indexes as the observation indexes to check whether they are in the standard range. The results are shown in TABLE IV:

TABLE IV. The modified patient satisfaction model is adopted to fit the indicators

Indicators	χ^2	df	p	χ^2/df	GFI	RMSEA	RMR	CFI	NFI	NNFI
Indicator value	-	-	>0.05	<3	>0.9	<0.10	<0.05	>0.9	>0.9	>0.9
Test value	2456.561	524	0	4.688	0.901	0.067	0.012	0.96	0.95	0.954
Other Indicator	TLI	AGFI	IFI	PGFI	PNFI	SRMR	RMSEA 90% CI			
Indicator value	>0.9	>0.9	>0.9	>0.9	>0.9	<0.1				
Test value	0.954	0.92	0.96	0.907	0.916	0.017				

5.4 Effect Analysis

Effects refer to the effects between variables [41]. In order to provide theoretical foundation for the community hospital patient satisfaction, this study only analyzes the path among the latent variables, which cannot fully reflect the impact of medical environment, supplementary service, health service quality, health care costs, and perceived value on patient satisfaction. Therefore, this study conducts direct, indirect and total effect analysis on all latent variables.

5.4.1 Direct effect

The direct effect is the magnitude of the direct influence value of the cause variable on the result variable, which is the path coefficient between the cause variable and the result variable. From the output results in the following TABLE V, it can be seen that the path coefficient from the medical environment to patient satisfaction is 0.035, thus the direct effect of the medical environment on patient satisfaction is 0.035.

TABLE V. Summary of model regression coefficients

X	->	Y	Unstandardized path coefficients	z	SE	p	Standardized path coefficients	Hypothesis	Result
Medical environment	->	Patient satisfaction	0.035	0.813	0.043	0.416	0.036	H1a	
Supplementary services	->	Patient satisfaction	-0.011	-0.182	0.063	0.856	-0.011	H2a	
Medical configuration	->	Patient satisfaction	-0.031	-0.748	0.041	0.454	-0.033	H3a	
Service Quality	->	Patient satisfaction	0.205	3.091	0.066	0.002*	0.186	H4a	√
Health care costs	->	Patient satisfaction	-0.11	-1.925	0.057	0.054	-0.111	H5a	
Medical environment	->	Perceived value	-0.018	-0.379	0.047	0.705	-0.019	H1b	
Supplementary services	->	Perceived value	0.179	2.643	0.068	0.008*	0.181	H2b	√
Medical configuration	->	Perceived value	0.118	2.651	0.045	0.008*	0.128	H3b	√
Service Quality	->	Perceived value	0.144	1.96	0.073	0.050*	0.134	H4b	√
Health care costs	->	Perceived value	0.551	11.679	0.047	0.000*	0.570	H5b	
Patient satisfaction	->	Patient recognition	0.177	2.336	0.076	0.019*	0.169	H8	√
Patient satisfaction	->	Patient complaints	0.969	57.515	0.017	0.000*	0.969	H7	
Perceived value	->	Patient satisfaction	0.941	15.122	0.062	0.000*	0.920	H6	√
Patient complaints	->	Patient recognition	0.839	10.957	0.077	0.000*	0.802	H9	

Note: -> represents the path influence relationship

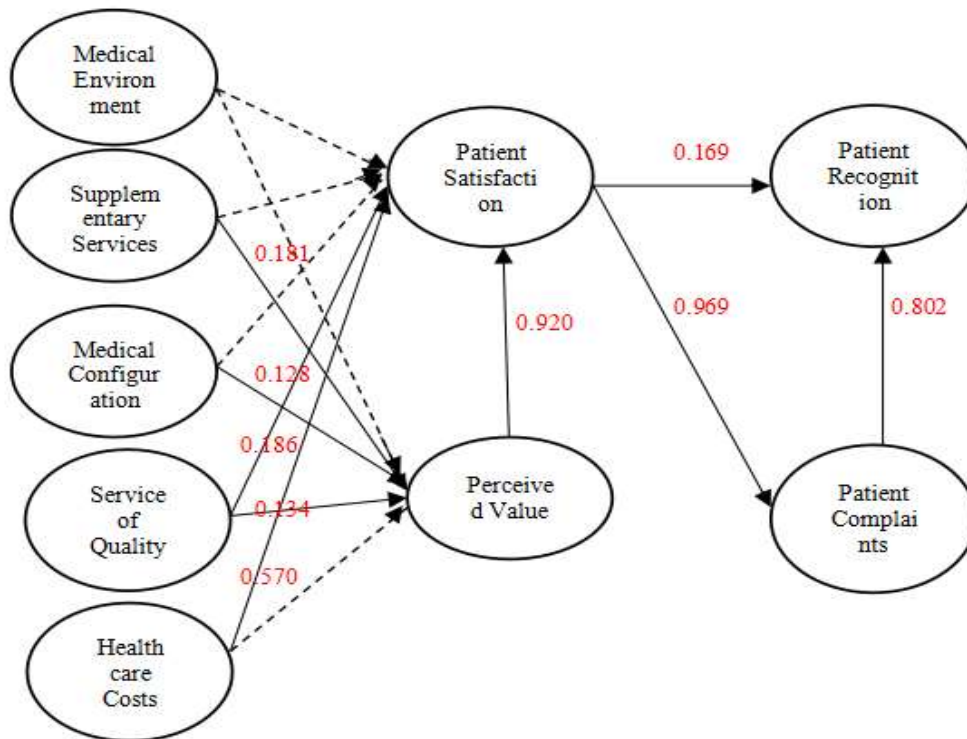


Fig 2: Model measurement results

5.4.2 Indirect effect

Indirect effect is the effect of the cause variable on the outcome variable through one or more mediation variables. The magnitude of the indirect effect is the product of the two path coefficients between the cause-mediation variables and the outcome variable. For example, for the variable of "service quality", the path coefficient between service quality and patient satisfaction is 0.186, and the path coefficient between perceived value and patient satisfaction is 0.920. Therefore, the indirect effect of service quality on patient satisfaction is $0.186 \times 0.920 = 0.171$, which means that the indirect effect of service quality on patient satisfaction is similar to the direct effect. Others in the same way.

5.4.3 Total effect

The total effect is the sum of direct effect and indirect effect. As can be seen from the table, the effect of latent variables on patient satisfaction, including medical environment, medical auxiliary services, medical configuration, service quality, medical cost and perceived value, are 0.036, -0.011, -0.033, 0.186, -0.111 and 0.920, respectively, thus the total effect is $0.036 - 0.011 - 0.033 + 0.186 - 0.111 + 0.92 = 0.987$

VI. ANALYSIS

Service quality has a significant influence on patient satisfaction, for the reason that the community hospital service quality directly affects the community residents' evaluation of community hospitals. For the covariance of the relationship between service quality and patients' satisfaction (relationship), the standardized path coefficient value is $0.186 > 0$, and the path presents a significance of 0.05 level ($z = 3.091$, $p = 0.002 < 0.01$). The service quality and patient satisfaction has significant positive covariance correlation.

Similarly, there are also significant positive relationships between supplementary services and perceived value, medical configuration and perceived value, service quality and perceived value, health care costs and perceived value, patient satisfaction and patient recognition, patient satisfaction and patient complaints, perceived value to patient satisfaction, patient complaints to patient recognition. In particular, health care costs have no negative impact on patient satisfaction, indicating that medical costs have been controlled in primary community hospitals in China. Surprisingly, medical environment does not affect the patient satisfaction and perceived value at all. The specific internal influencing mechanism is shown in Fig2.

VII. CONCLUSION AND APPLICATION

The model constructed in this study presents a lot of information related to the improvement of community hospitals. This article extracts the significant correlation between several potential variables, and the methods and measures to improve the satisfaction of patients in community hospitals are concluded.

7.1 Measures to Improve Patient Recognition by timely Resolving Patient Complaints

First of all, in community hospitals, whether the medical staff can timely solve the complaints of patients is one of the most important ways to improve patient recognition. The supervision and management system of community hospitals should be improved to resolve patient complaints. Considering the problem faced by community hospitals, the relevant government departments should first examine the management and supervision mechanism, scientifically regulate the responsibility and amount of financial allocation on the basis of dynamically establishing the development plan of hospitals. They should take on the responsibility rather than focusing on grasping power to enhance the health service capacity of communities hospitals [42]. Secondly, special agencies, departments and special personnel should be organized to collect all kinds of formal and informal complaints from patients, especially medical complaints. Timely public response should be made according to the situation and prevaricating, disputes and negative treatment should be forbidden so as to relieve the conflicts between doctors and patients. Thirdly, a third-party institution should be established for public arbitration and appeal, which is responsible for determining whether the patients' formal and informal complaints are solved or not, and whether the complaint handling efficiency of relevant departments is satisfactory or not.

Fourthly, the communication ability of medical staff should be improved. The services quality, attitude and professional skills of doctors should be enhanced. Doctors should provide professional guidance and psychological comfort for the patients and pay attention to details to eliminate the misunderstanding and disputes between patients and doctors. Trust should be established between patients and doctors to develop a harmonious doctor-patient relationship. Therefore, doctors and nurses need to improve their communication skills with community residents and patients, seriously respond to the formal and informal complaints made by community patients, and timely and reasonably solve the complaints of patients.

7.2 Perceived Value Significances to Patient Satisfaction

Perceived value also has significant impact on patient satisfaction. For community hospitals, the improvement of patients' experience of treatment enables patients to obtain the perceived value, which is also of significant value in improving patients' satisfaction [43]. The key to the successful implementation of hierarchic diagnosis and treatment in China is that community hospitals can meet people's daily treatment and health care, and their value can only be reflected through the subjective perception of patients and their families, which is the premise for the survival of community hospitals. Therefore, to evaluate the perceived value of community hospitals, the first point that should be considered is that whether it improves the convenience of residents. The initial reason of hierarchic diagnosis and treatment is to prevent overcrowding and unfairness in large hospitals and improve the efficiency of medical treatment. Therefore, improving the convenience of medical treatment has become one of the original intentions of the construction of community hospitals. Second, community hospitals are responsible for the publicity and basic education of health care. Improving residents' health knowledge can improve the national physical quality, strengthen the stock of the human capital, and is also an important guarantee to realize national health strategy, so to promote residents' health care knowledge and skills is an important content of the construction of the perceived value of the community hospitals. Thirdly, the establishment of community hospitals and the increasing perfection of their functions have brought a certain sense of security to the residents in the local areas. The efficiency of diagnosis and treatment of conventional diseases, emergency treatment and first aid of unexpected diseases in community hospitals are directly related to the degree of patients' trust and dependence. The perceived value provides residents with a sense of security. Fourth, through good medical service, health knowledge lectures, interactive and efficient communication, such as family follow-up, community hospitals can improve the emotional relationship between doctors and patients, establish the good enterprise image, and effectively enhance the quality of the residents' health, increase hospital perceived value, realize national macro health plans from a microscopic perspective, thus the perceived value of patients can be improved.

7.3 Patient Complaints Significantly Impact Patient Recognition

It is also of great importance to solve the complaints of patients in a timely manner to gain the recognition of patients. The functional orientation of community hospitals is to serve the residents in the area and facilitate their medical care. Therefore, when selecting the location of community hospitals, the local government departments should first consider the population density, structure and residential space

distribution of the surrounding area, and pay full attention to the convenience of doctors, to make the construction scale and service capacity of hospitals match the scale of residents within their respective residential areas [44]. Secondly, we should attach great importance to the humanistic environment construction of the hospitals, including compensation, promotion, organization care, such as software development, to improve the medical staff's loyalty to the hospitals, which can promote them to pursue the upgrading of professional skills, stimulate the interactions between individuals and organizations, and in the meantime improve the performance of hospital management. In this way, the medical staff's career planning can be effectively guaranteed, which lays the foundation for improving the patients' satisfaction, otherwise the environmental construction of hospital and patient satisfaction are difficult to improve. Thirdly, the construction and operation of the medical and health industry should be strictly in accordance with the behavior management and business operation norms of medical, nursing and service personnel to maintain a neat, clean and friendly appearance. In addition, the use, disinfection and testing of medical devices should be institutionalized, routine and strict, eliminate any operations of "saving", improve business safety and ensure the effective protection of patients' health and rights. Fourth, the security system of the hospitals should be strictly implemented to reduce the probability of various risks, including medical and personal safety of patients, safety of hardware facilities, safety of personal finance and vehicles, prevent theft and all kinds of personal attacks, create a good security environment, and improve the sense of belonging and recognition of patients.

The service quality of community hospitals determines the market competitiveness and brand awareness of hospitals. Community hospitals, therefore, should first strengthen the quality management of doctors' practice, especially the construction of medical ethics. They should take on the responsibilities for maintaining and promoting people's health. Professional activities not only require the exquisite professional skills, but also require professional ethics, high sense of responsibility and humanitarian spirit.

VIII. LIMITATION

Since this study only focuses on data collection and analysis, rather than making any predictions, the fitting degree of repeated measurements also needs to be tested to verify the robustness and stability of the index. In addition, this study mainly investigates community hospitals from the perspective of questionnaire survey, thus the on-site interview results should also be considered to verify the data and results. However, the in-depth interviews of induction and data integration have been refined, especially the nine indicators in the model for explanation and extension of patient satisfaction. Further introduction and data mining should be conducted to represent realistic significance, and the customer behavior theory should be combined with the research results to make further explanation.

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REFERENCES

- [1] YUANYUAN K, SHENG L, LIANG D. Comparative Analysis of Graded Diagnosis(2015-2017) in China; proceedings of the Proceedings of the 2nd Symposium on Health and Education 2019 (SOHE 2019), F 2019/05, 2019. Atlantis Press.
- [2] SUN X L, LIU R H, LU R X. Overview on Research of Customer Satisfaction Degree; proceedings of the Exchange Conference on International Marketing Science and Information Technology, Changsha, PEOPLES R CHINA, F Jun 02-03, 2012. St Plum-Blossom Press Pty Ltd: HAWTHORN EAST, 2012.
- [3] HSU S H. Developing an index for online customer satisfaction: Adaptation of American customer satisfaction index. *Expert Syst Appl*, 2008, 34(4): 3033-42.
- [4] FORNELL C, JOHNSON M D, ANDERSON E W, et al. The American Customer Satisfaction Index: Nature, Purpose, and Findings. *Journal of Marketing*, 1996, 60(4): 7-18.
- [5] DENG W J, YE H M L, SUNG M L. A customer satisfaction index model for international tourist hotels: Integrating consumption emotions into the American Customer Satisfaction Index. *Int J Hosp Manag*, 2013, 35: 133-40.
- [6] JAIPAUL C K, ROSENTHAL G E. Are older patients more satisfied with hospital care than younger patients?. *J Gen Intern Med*, 2003, 18(1): 23-30.
- [7] ELWYN G, EDWARDS A, WENSING M, et al. Shared decision making: developing the OPTION scale for measuring patient involvement. *Qual Saf Health Care*, 2003, 12(2): 93-9.
- [8] COȚIU M-A. A CRITICAL ANALYSIS OF PATIENT SATISFATION WITH DIABETES CARE. *Annals of the University of Oradea*, 2015, 24: 135-6.
- [9] AMANI UWAJENI A, MSHANA J, KIPRONO S, et al. Acne at the Regional Dermatology Training Centre (RDTC), Tanzania: clinical, social and demographic characteristics of patients with focus on severity factors. *Journal of the European Academy of Dermatology and Venereology*, 2018, 32(12): 451-3.
- [10] MARKEY DW M G J, HANKS JB. The effect of clinical pathway implementation on total hospital costs for thyroidectomy and parathyroidectomy to my patients. *The American Surgeon*, 2000, 66(6): 533-8.
- [11] KONERDING U, BOWEN T T, LKHUIZEN S, et al. Development of a universal short patient satisfaction questionnaire on the basis of SERVQUAL: Psychometric analyses with data of diabetes and stroke patients from six different European countries. *PLoS ONE*, 2019, 14(10).
- [12] CHENGYU ZHANG Z Z, RONG JIANG. Study on the index system of outpatient satisfaction evaluation. *Acta Univ Med Second Shanghai J Shanghai Second Med Univ Acta Universitatis Medicinalis Secundae Shanghai*, 2003, (1): 107-9.
- [13] WENHU; JUNLI J C. Study on the application of Servqual measurement in medical service quality evaluation. *Chinese general practice*, 2006, (17): 1476-8.
- [14] ZHOU LVLIN Z T, WANG SEN. Study on the relationship between medical service quality and patient satisfaction. *Chinese Health Service Management*, 2014, 31(1): 14-7.
- [15] HONG L C. Development of practical measurement tool for outpatient satisfaction. *Clinical medicine practice*, 2009, (08).

- [16] AMANKWAH O, WENG-WAI C, MOHAMMED A H. Modelling the Mediating Effect of Health Care Healing Environment on Core Health Care Delivery and Patient Satisfaction in Ghana. *Environ Health Insights*, 2019, 13: 14.
- [17] BHANBHRO S, DRENNAN V M, GRANT R, et al. Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of literature. *BMC Health Serv Res*, 2011, 11: 10.
- [18] COOPER R, ANDERSON C, AVERY T, et al. Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *J Health Serv Res Policy*, 2008, 13(4): 215-21.
- [19] BLUMENSTOCK G, BALKE K, GIBIS B, et al. Statutory Ambulatory Medical Care through the Eyes of the Health Insurance Beneficiaries - Methods and Results of the 2006 NASHIP Health Insurance Beneficiary Survey: Care Utilisation, Primary Care, and Emergency Medical Services. *Gesundheitswesen*, 2009, 71(2): 94-101.
- [20] TONGJI; XUKE T S G. Measure of equalization level of medical and health resources allocation in China. *Statistics and Decision*, 2019, 35(24): 42-6.
- [21] MORET L, NGUYEN J M, VOLTEAU C, et al. Evidence of a non-linear influence of patient age on satisfaction with hospital care. *Int J Qual Health Care*, 2007, 19(6): 382-9.
- [22] CHANG C S, CHEN S Y, LAN Y T. Service quality, trust, and patient satisfaction in interpersonal-based medical service encounters. *Bmc Health Services Research*, 2013, 13: 11.
- [23] CAI TONGSHAN Z D, ZHANG HAILIN. Promote medical risk management to improve the quality of medical services. *PLA hospital management journal*, 2001, (05): 342-3.
- [24] XIN G. Global trends in healthcare reform. *Chinese Social Sciences*, 2005, (06): 121-8.
- [25] ERUP-HANSEN N, WICKSTROM J, KRISTIANSEN I S. Future health care costs - do health care costs during the last year of life matter?. *Health Policy*, 2002, 62(2): 161-72.
- [26] A.DION. J M S P. Customer value, overall satisfaction, end-user loyalty, and market performance in detail intensive industries [M]. *Industrial Marketing Management*, 2004.
- [27] MOLINER M A. Hospital perceived value. *Health Care Manage Rev*, 2006, 31(4): 328-36.
- [28] LANE S K J. Housing tenure status and housing satisfaction. *Journal of consumer affairs*, 1980, 14(2): 341-65.
- [29] JACKSON J L, CHAMBERLIN J, KROENKE K. Predictors of patient satisfaction. *Social Science & Medicine*, 2001, 52(4): 609-20.
- [30] HUANG CHENGQIN F C. Cause analysis and countermeasures of inpatient complaints. *Journal of Clinical Pulmonary Medicine*, 2007, (04): 421-2.
- [31] SALGE T O, ANTONS D, CICHY P, et al. Giving voice to all patients: On patients at the margins and their intention and perceived ability to complain. *Health Care Manage Rev*, 2018, 43(2): 126-37.
- [32] CHEN LI G S, ZHANG QINGLING. A survey on the acceptability and demand of outpatient patients for hospital signs. *Journal of Nursing Science*, 2016, 31(06): 66-7.
- [33] STEIS M R, PENROD J, ADKINS C S, et al. Principle-based concept analysis: recognition in the context of nurse-patient interactions. *Journal of Advanced Nursing*, 2009, 65(9): 1965-75.
- [34] AMANKWAH-AMOAHA J, DANSO A, ADOMAKO S. Entrepreneurial orientation, environmental sustainability and new venture performance: Does stakeholder integration matter?. *Business Strategy and the Environment*, 2019, 28(1): 79-87.
- [35] BACON C T, MARK B. Organizational effects on patient satisfaction in hospital medical-surgical units *J Nurs Adm*, 2009, 39(5): 220-7.
- [36] WACHTER R M, KATZ P, SHOWSTACK J, et al. Reorganizing an Academic Medical Service Impact on Cost, Quality, Patient Satisfaction, and Education. *JAMA*, 1998, 279(19): 1560-5.
- [37] SITZIA J, WOOD N. Patient satisfaction: A review of issues and concepts. *Social Science & Medicine*, 1997, 45(12): 1829-43.

- [38] MERCER M P, HERNANDEZ-BOUSSARD T, MAHADEVAN S V, et al. Physician Identification and Patient Satisfaction in the Emergency Department: Are They Related?. *The Journal of Emergency Medicine*, 2014, 46(5): 711-8.
- [39] LI LIN Z Z. On the reform of hospital accounting system under the background of new medical reform. *Communication of Finance and Accounting*, 2009, 1(1): 50-1.
- [40] COMMISSION N H. *China health statistics yearbook 2019*. Peking union medical college press, 2019.
- [41] WU C-Y. Analysis on the macro effect of Internet finance. *Modern marketing (information edition)*, 2020, (02): 23.
- [42] FENG W. Analysis on the effect of fine management on improving patient satisfaction in high quality nursing demonstration ward. *World's latest medical information digest*, 2016, 16(83): 244-5.
- [43] DONG QINGXING Z X, MAO FENGHUA, ZHANG BIN. The research on users' willingness to use online health community is based on the theory of perceived value. *Modern Information*, 2019, 39(03): 3-14+156.
- [44] JUAN L. Study on improvement of service quality in HP traditional Chinese medicine hospital based on patient satisfaction; Northwest university of China, 2018.