

Assessing Hospitalized Cancer Patients' Satisfaction by Using Servqual Model: A Case Study of Guizhou Cancer Hospital, Guizhou Province, China

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ABSTRACT

The purpose of this study is to understand the evaluation and satisfaction of medical services for hospitalized cancer patients in poor areas, and to summarize the ways to improve the communication efficiency between medical staff and patients. This study used mixed methods including qualitative and quantitative studies. For quantitative research, the questionnaire was constructed using the Servqual model and 271 respondents were surveyed. For qualitative research, 12 patients were interviewed in depth using open questions. The data of the questionnaire were analyzed by using the gap analysis of expectation and perception, and the answers of the in-depth interviews were summarized. Evaluation of hospitalized medical services for hospitalized cancer patients were summarized as follows: In terms of Physical facilities, there were insufficient facilities for a lot of cancer patients. In terms of Reliability, have had more senior physicians than young doctors. In terms of Responsiveness, the medical staff's response to the patient's needs have had not timely and comprehensive enough because the cancer patients have had a plenty of patients and not enough hospital resources to service. In terms of Security, the communication and collaboration of medical staff themselves have not had effective yet because their staff worked very hard and not enough too. In terms of Emotional input, besides the treatment, the medical staff have not intended in Psychiatric Consultation of the patient's emotional investment enough because they may have more time to do enough. To improve the hospitalization experience of cancer patients in poor areas, patients, medical staff, hospitals, and government agencies all need to be upgraded.

Keywords: Patients' satisfaction, Medical service, Servqual model

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Introduction

Satisfaction with medical services includes meeting the social, psychological, and disease-related needs of patients. Patient assessment of health care services can help decision makers plan effectively while reducing the cost of these services and monitoring the health care performance of healthcare professionals [1] to understand medical care through patient satisfaction and treatment success rates The quality of the service. Satisfaction is a key factor in achieving optimal patient outcomes and preventing disease outcomes. In addition, it is one of the main goals of treatment activities and an important indicator of the quality of care. Patient satisfaction brings benefits such as improved interaction between doctors and patients, providing the information needed to strengthen health care plans, gaining patient feedback on the performance of medical staff, increasing patient referrals and improving the financial status of health organizations [2].

The purpose of evaluation is to make judgments about a program, to improve its effectiveness, and to inform programming decisions [3]. Get feedback from patients and engage them to highlight and address all aspects of the health-care experience that need improvement and monitor performance in delivering patient outcomes. As part of system measurement and performance monitoring in the health-care environment, measurements of the “overall” patient experience will be significantly improved and will enhance our understanding of the patient experience and the different environments [4].

Servqual theory is: $\text{Servqual score} = \text{actual feeling score} - \text{expected score}$. Servqual divides the quality of service into five levels: physical facilities, reliability, responsiveness, security, and emotional input. Each level is subdivided into several questions. The core is the “quality of service gap model.” In this study, the quality of service depends on the degree of difference between the level of service perceived by the patient and the level of service expected by the patient. Qin and Prybutok (2009) mentioned all the five dimensions of the service quality in SERVQUAL instrument are significant and reliable in a health care setting [5]. Patient expectations are a prerequisite for quality service, and the key to providing quality service is to exceed patient expectations. Through questionnaires, patients are asked for each problem. The expected value, the actual perceived value, and the lowest acceptable value is scored. It is illustrated by the 22 specific factors that establish it. Then, through questionnaires, patient scoring, and comprehensive calculations, the score for quality of service is obtained.

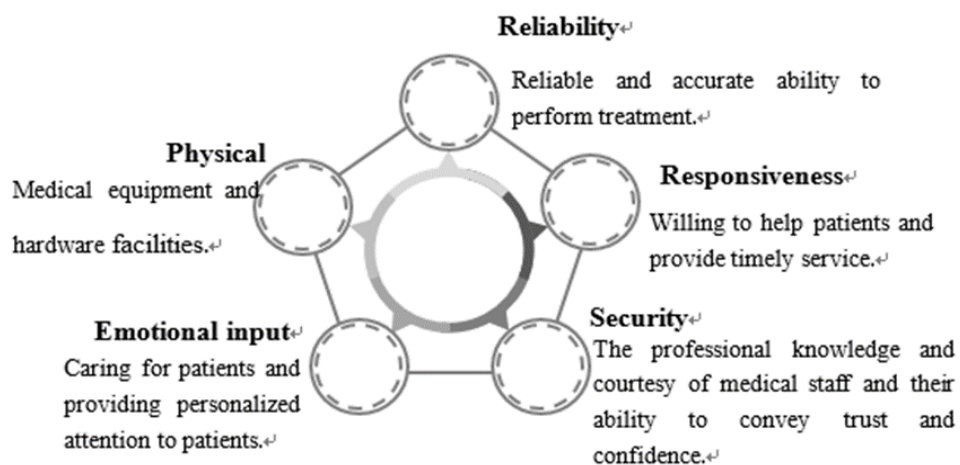


Figure 1 Factors in Servqual model

Source: Qin & Prybutok (2009)

Objectives of the study

To understand the assessment and satisfaction of medical services for hospitalized cancer patients in poor areas, and to summarize ways to improve communication efficiency between medical staff and patients.

Methodology

The research design of this study is a single-site case study focused on Guizhou Cancer Hospital and the cancer patients. The research method used is a mixture of quantitative and qualitative research

The study plans to collect 267 questionnaires and actually collect 290 questionnaires, including 271 valid questionnaires, with an effective rate of 93.45%. Among them, 148 were male respondents which accounting for 54.61%, and 123 were female respondents which accounting for 45.39%.

According to the Servqual model, this study divides the patient's evaluation of hospital services into five parts. The evaluation method of this study is to use the 5-point Likert scale to divide the expectations and perceptions of the respondents on the medical services into five grades from the range 1 (not good) to 5 (very good), and the service quality is calculated as the gap between the perception and the expectation for each dimension [6].

According to Yin [7], case study is suitable for investigating community participation as well as for examining the organization, individuals and ongoing events because it helps to gain in-depth understanding of the phenomenon and context. A case study is an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evidence, and it relies on multiple sources of evidence.

Results

Analysis of questionnaires

Table 2 Physical Facilities SERVQUAL Score

Factors under Physical facilities	Mean Expectation	Mean Perception	Mean gap score
Evaluation of the cleanliness and comfort of the ward	4.31	3.55	-0.76
Evaluation of the integrity of the ward facility	4.12	3.69	-0.43
Evaluation of the availability of clean water	4.43	3.64	-0.79
Evaluation of the integrity, readiness and cleanliness of the medical device	4.05	3.74	-0.31
Evaluation of the procedure	3.74	3.74	0.00
Evaluation of medical equipment	4.38	4.48	0.10
Mean	4.17	3.81	-0.37

The six indicators of Physical Facilities mainly investigate patients' evaluation of the medical environment and basic medical facilities of the oncology hospital, which can provide directions for hospital to improve their medical environment and infrastructure. As can be seen from Table 2, the highest average expectation value of patients is the availability of clean water, and the lowest average expectation is the ease of the medical procedure. The highest average perception value of patients is the evaluation of the medical device. The lowest average perception value of patients is the cleanliness and comfort of the ward. There are 4 indicators with a negative gap value, indicating that the hospital's accommodation environment has not reached the patients' expectations. The indicator with the lowest gap value is the availability of clean water. The sanitation of the ward has a great auxiliary effect on the patients' treatment and rehabilitation.

Table 3 Average Reliability SERVQUAL Score

Factors under Reliability	Mean Expectation	Mean Perception	Mean gap score
Evaluation of the ability to communicate trust and confidence of the medical staff	4.43	3.88	-0.55
Evaluation of the ability of medical staff to provide ethical support to patients	4.40	4.55	0.15
Evaluation of medical expenses	4.17	2.31	-1.86
Evaluation of the price of the drug	4.10	2.19	-1.91
Trust level in medical staff	4.10	4.02	-0.08
Mean	4.24	3.39	-0.85

The Reliability indicator mainly investigates the patient's trust in hospitals and medical staff. It tests the reliable and accurate ability to perform treatment of medical staff, and it also reflects the impact of the behavior of medical staff and the cost of treatment on the trust of patients. As can be seen from Table 3., the highest average patient expectation is the level of building trust and confidence of the medical staff. In the absence of medical knowledge, patients are prone to fear of disease, and effective communication by medical staff is important to eliminate patients' fear of disease and enhance confidence in the cure. The gap value of this indicator is -0.55, indicating that the hospital's medical staff needs to improve in this part. The highest average perception value of patients is the ability of the medical staff to provide ethical support, the main considerations of the respondents here are the right of informed consent, privacy protection, medical supervision and personality respect. The gap value of this indicator is 0.15, indicating that the hospital's medical staff fully respects the patient's moral rights. The lowest average perception value of patients is evaluation of the price of drugs and medical expenses; these are also the two indicators with the lowest gap value. The main reasons for this result are: 1. Long cancer treatment cycle, high cost of radiotherapy and chemotherapy; 2. Most cancer special effects drugs are imported drugs, which are expensive; 3. Ordinary medical insurance reimbursement is low.

Table 4 Average Responsiveness SERVQUAL Score

Factors under Responsiveness	Mean Expectation	Mean Perception	Mean gap score
Evaluation of the medical team handles the accuracy of patient questions	3.90	3.71	-0.19
Evaluation of the attention of medical staff to patients' medication situation	4.10	3.50	-0.6
Evaluation of the level of reasonable handling of patient complaints	3.81	3.48	-0.33
Mean	3.94	3.56	-0.37

The Responsiveness indicator mainly investigates the patient's response to the medical staff's response and it can reflect whether medical staff are willing to help patients and provide timely services. It can be seen from Table 4. that the gap values of the three indicators are all negative. Among them, evaluation of the attention of medical staff to patients' medication situation, which has the lowest gap value, this index is also the highest average expectation value of patients. The purpose of taking drugs for cancer patients mainly includes targeted therapy and adjuvant therapy. The role of adjuvant drugs is to alleviate the side effects caused by cancer treatment, including pain, vomiting, and thrombocytopenia. The low score of this factor indicates that the hospital's medical staff should pay more attention to the patients' postoperative adjuvant medication and help patients better cope with the pain caused by cancer treatment.

Table 5 Average Security SERVQUAL Score

Factors under Security	Mean Expectation	Mean Perception	Mean gap score
Evaluation of the level of physicians' medical technology	4.26	3.98	-0.37
Evaluation of the nursing ability of nurses in this hospital	4.12	3.79	-0.33
Evaluation of treatment effect	4.26	3.79	-0.47
Mean	4.21	3.85	-0.39

The Security indicator mainly investigates the professional knowledge and courtesy of medical staff and their ability to convey trust and confidence. It can be seen from Table 5 that the gap values of the three indicators are all negative, and the numerical difference between the indicators is not obvious, indicating that the hospital's medical staff needs further research

based on the existing medical technology level. Accumulate experience in clinical work, summarize their shortcomings, and improve the overall medical technology level.

Table 6 Average Emotional Input SERVQUAL Score

Factors under Emotional input	Mean Expectation	Mean Perception	Mean gap score
Evaluation of the level of the medical staff's patience in caring for patients	4.21	3.98	-0.23
Evaluation of the level of care of medical staff for patients' hospitalization	3.95	3.86	-0.09
Evaluation of the degree of care of the medical staff on the medical expenses of the patients	4.19	2.10	-2.09
Mean	4.12	3.31	-0.80

This Emotional Input indicator reflects whether the medical staff cares about the patient and provides personalized attention to the patient. As can be seen from Table 6., the gap values of the three indicators are all negative. The factor with the lowest gap value is the degree of care of the medical staff on the medical expenses of the patient, and this index is also the lowest indicator of the actual average value of the patient. It shows that patients are generally dissatisfied with the amount of medical expenses at their own expense. In addition, the cancer treatment process is complicated, and there are many items will incur costs. Medical staff cannot explain the charges to the patients one by one, which increases the patients' confusion, suspicion and dissatisfaction with the high cost. This reflects the importance of communication between doctors and patients. Good communication can not only eliminate the patients' doubts, but also help patients build trust in medical staff.

The five forms classify the data of the questionnaires from five aspects: Physical facilities, Reliability, Responsiveness, Security and Emotional input. By calculating the gap value of Expectation and Perception, the average score of medical services of Guizhou Cancer Hospital in these five aspects was obtained. From the positive and negative value and size of gap scores, it can be summarized the deficiencies of the hospital in medical services, so as to make targeted improvements. The gap analysis obtains the quality of service gap score by subtracting the expected score from the perceived score [8]. A positive gap value indicates a satisfaction or positive perception of the service being consumed, and a negative gap score means that there is dissatisfaction [9]. The analysis results are taken as the average of each item.

Analysis of patient interview results

For qualitative research, the researchers in this study conducted random interviews with cancer patients and presented 8 interview questions. The answers to these questions were used to understand: 1. The opinion of cancer patients on hospital medical services; 2. The cooperation of medical staff in the course of patient treatment. The purpose of the interview analysis is to find ways to better improve the communication efficiency between medical staff and patients, and to improve the satisfaction of hospitalized cancer patients.

In this interview, 12 inpatients were selected. The principle of the selection was that the patients had good logical understanding and clear presentation skills. Each respondent had more than one month of hospitalization in the hospital and had the willingness to interview.

1. Factors included in a complete medical service

By summarizing the respondents' opinions, the researcher found that complete medical services in patients' perceptions include three aspects, including hospital-provided visits and accommodation, doctors' treatment, and nurses' care. When the patient needs to score the hospital's medical services, these three points are independently used as the basis for evaluation. However, the efficiency of medical services embodied in actual work is more complicated on this basis. Efficient medical services are inseparable from the cooperation of all relevant personnel in all aspects, including communication between doctors and nurses, cooperation between different departments, and so on. Incorrect communication between medical staff can affect work efficiency, and there is an obstacle to cooperation between doctors and nurses. Especially for cancer treatment, effective communication between medical staff can avoid most adverse events, which requires coordination and cooperation between various departments of the hospital^[10].

2. Suggestions from medical staff not related to treatment recommendations

When the medical staff puts a suggestion outside the treatment opinion to the patient, it needs to be established on the premise that the medical staff does not simply regard the patient as only the object that needs to be resolved, which is related to the personality, the way of getting along, the atmosphere of the department, and the development of the condition. These recommendations are often helpful for patients to get rid of the effects of the disease and to return to normal work and life.

In this survey, the medical staff's recommendations to patients mainly include an appropriate diet plan for the patient, a mode of exercise that is beneficial to alleviate the pain of the disease, and a guidance on how the patient's family can take care of the patient more professionally. For patients with particularly poor families, some medical staff will also help to contact relevant charitable foundations.

3. The psychological comforts of medical staff on patients

For cancer patients, the psychological stress they suffer is not only from illness, but also the high cost burden, the drag on their families and the decline in their ability to work. Therefore, for medical personnel, not only to cure the patients' disease, but also to cure the patients' emotions.

The psychological comforts from medical staff summarized in this survey include: facing the weakness caused by the disease, establishing confidence in returning to normal working life, and promoting mutual understanding between patients and their families.

4. The difficulty to communicate with medical staff

There are two factors that affect the communication between medical staff and patients. On the one hand, for patients, the lack of understanding creates distrust, and the tense doctor-patient relationship in the big environment makes the patients think that the medical staff are driving their own interests and making unnecessary expenses. On the other hand, for medical staff, the heavy work makes them vulnerable to patience, and the misunderstanding of patients due to lack of medical expertise makes it difficult for medical staff to communicate.

5. The current treatment environment and treatment needs to be improved

The areas covered by this research are economically impoverished. Most of the patients are satisfied with the existing medical environment and treatment level. The dissatisfaction is mainly due to the high cost of treatment. Patients hope that the amount of reimbursement for medical insurance can be increased, or that the price of medicines can be reduced.

6. The suggestions for doctors

Patients hope that doctors can communicate more about the disease with them, let patients understand the progress of treatment in a common way. And hope that doctors can reduce the redundant auxiliary examinations that are not related to the condition, and will reduce both the pain and the patient's stress to achieve the best of both worlds.

7. The suggestions for nurses

As a bridge between doctors and patients, nurses not only have to complete nursing work, but also to transmit information. Therefore, the patients hope that the nurses can pay attention to the patients' thoughts, patient communication and careful care while improving the ability of nursing.

8. The suggestions on public health insurance reform

First, incorporate more imported cancer drugs with good curative effect and low side effects into the scope of medical insurance reimbursement. Second, increase the amount of reimbursement for cancer drugs in health insurance. Third, increase the amount of reimbursement for chemotherapy and radiotherapy in health insurance. Fourth, high-quality medical resources are concentrated in provincial capital cities, and the reimbursement conditions for medical insurance expenses for medical treatment in different places are more limited and the amount is lower. For cancer patients in other cities, the pursuit of therapeutic effects requires a higher cost. These patients hope to increase the amount of cancer medical insurance reimbursement for medical treatment in different places.

Discussion

There is a huge shortage of medical staff in China. Compared with developed countries, the number of medical staff per 1,000 populations in China is very small, which leads to a very large workload of doctors, and it is difficult to focus on the psychological needs of patients [11-12]. The increase in medical expenses is also one of the important reasons for cancer patients to be dissatisfied with medical services. High-quality medical resources are concentrated in large cities, with expensive drugs, complicated surgery, and low reimbursement for medical insurance. These are the reasons why the cost of treatment for cancer patients in poor areas is too high [13-14].

The distrust of patients to medical staff is the biggest obstacle to communication between doctors and patients. In China, patients who do not trust doctors are a social problem [15]. The reasons are poor service attitude, over-prescription, and high medical expenses [16-17]. Improper communication between medical staff affects work efficiency and there are barriers to cooperation between doctors and nurses [18]. Especially for cancer treatment, effective communication between medical staff can avoid most of the adverse events, which requires coordination and cooperation between various departments of the hospital [10].

The hospitalized cancer patients are not satisfied with the current hospital's medical services. The influencing factors mainly include the patient's personality, the public cleaning of the hospital, the attitude and emotional input of the medical staff

to the patient, and the imperfection of the medical insurance policy for cancer. Ways to improve the communication efficiency between medical staff and patients include: improving patients' understanding and trust of medical staff, improving the efficiency of communication and cooperation between medical staff, and improving the emotional input of medical staff to patients.

Conclusion and Suggestion

Among the five dimensions of medical service quality evaluation, physical facilities occupy the largest proportion, accounting for 71.99%; security and Emotional Input are relatively low, both less than 5%. According to the gap analysis data, based on the gap between the patient's expectations and perceptions, the average scores of the five dimensions are all negative. The Reliability category has the lowest comprehensive evaluation score of -0.83, and the highest score category is Responsiveness is -0.27. The influencing factors mainly include the patient's personality, the public cleaning of the hospital, the attitude and Emotional Input of the medical staff to the patient, and the imperfection of the medical insurance policy for cancer.

The guideline to develop the patient' satisfaction was keep clean and comfortable hospital environment, medical staff need to keep more Psychiatric Consultation carefully with explain the patient's motivation for their treatment. So, the infiltration of quality resources is very important to do which, people in those remote areas would be access high quality medical services. In addition, it is necessary to strengthen the supervision and training in the medical sector, and to raise the emphasis on the quality of life of cancer patients by quality management.

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