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Evaluation of Patient Satisfaction and Perceived Quality of Care in Neurosurgical Clinics: A Cross-Sectional Survey

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Abstract

Background: This study addresses the critical need to assess patient satisfaction and perceived quality of care within neurosurgical clinics. Ensuring high-quality care and positive patient experiences is paramount in healthcare settings, particularly in specialized fields like neurosurgery. **Methodology:** Study Design: We conducted a cross-sectional survey to evaluate patient satisfaction and the perceived quality of care in neurosurgical clinics. **Sample Size and Selection:** A total of 200 patients were included in the study. Participants were selected using specific criteria to ensure diversity and representativeness of the neurosurgical clinic population. Data Collection: Data were collected through structured surveys and questionnaires administered to patients during their clinic visits. We utilized standardized assessment tools and scales to measure various aspects of patient satisfaction and perceived quality of care. Data Analysis: Statistical analysis was performed to examine the collected data. This analysis included descriptive statistics and inferential tests to identify correlations and trends. **Results:** Demographic information revealed a diverse patient population, including various age groups, genders, and medical backgrounds. Our study revealed overall high levels of patient satisfaction within neurosurgical clinics. Patients reported positive experiences across several dimensions of care. Patients consistently rated clinical competence, communication with healthcare providers, and the quality of clinic facilities positively. Statistical analysis indicated significant positive correlations between patient satisfaction and perceived quality of care in neurosurgical clinics. **Conclusion:** The findings of this cross-sectional survey suggest that neurosurgical clinics generally provide high-quality care and elicit positive patient experiences. The positive correlation between patient satisfaction and perceived quality of care highlights the importance of focusing on patient-centered care approaches in neurosurgery. These results can guide healthcare providers and policymakers in further improving the quality of care and patient satisfaction within neurosurgical clinics.

Keywords: Patient Satisfaction, Perceived Quality of Care, Neurosurgical Clinics, Cross-Sectional Survey, Healthcare Quality, Patient Experience.

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Introduction

In the ever-evolving landscape of healthcare, the delivery of patient-centered care is of paramount importance. In the field of neurosurgery, where the complexity of procedures and the potential for life-altering outcomes are substantial, understanding and assessing patient satisfaction and the perceived quality of care have become crucial aspects of healthcare management and continuous improvement. This introduction sets the stage for the study titled

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"Evaluation of Patient Satisfaction and Perceived Quality of Care in Neurosurgical Clinics: A Cross-Sectional Survey," aiming to shed light on the experiences and perceptions of patients in neurosurgical settings. Nasaruddin Mahdzir M *et al.* (2013)[1]

The concept of patient satisfaction has emerged as an essential indicator of healthcare quality, reflecting the degree to which healthcare services meet patient expectations and needs. Satisfied patients are more likely to adhere to treatment plans, have better health outcomes, and contribute positively to the reputation of healthcare institutions. In the context of neurosurgery, where patients often grapple with life-threatening conditions, long recovery periods, and profound emotional stress, understanding their level of satisfaction is critical. Mbada CE *et al.*(2013)[2]

Moreover, perceived quality of care, encompassing aspects such as the competence of healthcare providers, communication, accessibility, and overall experience, directly influences patient satisfaction (Donabedian, 1988). A high-quality healthcare experience is characterized not only by successful clinical outcomes but also by the patient's perception that their needs, concerns, and expectations have been met Yurtsever S *et al.* (2013)[3]

Despite the significance of patient satisfaction and perceived quality of care, there is limited research specifically focusing on neurosurgical clinics. The neurosurgical setting presents unique challenges and complexities due to the nature of conditions treated and the intricate procedures involved. As such, understanding the experiences of patients in this specialized field is essential for improving care delivery, ensuring patient-centeredness, and ultimately enhancing patient outcomes. Lubomski M *et al.* (2013)[4]

Aim: To comprehensively assess and evaluate the level of patient satisfaction and the perceived quality of care within neurosurgical clinics.

Objectives

1. To measure the level of patient satisfaction with neurosurgical care by employing validated survey instruments and quantitative assessments, aiming to provide a comprehensive understanding of the overall satisfaction levels within the neurosurgical patient population.
2. To identify and analyze the key factors that significantly influence patient satisfaction and the perceived quality of care in neurosurgical clinics, including factors related to healthcare providers, communication, accessibility, and the overall patient experience.
3. To assess and document specific areas within neurosurgical clinic practices that may benefit from improvement based on patient feedback and perceptions, with the ultimate goal of enhancing patient-centered care and optimizing the quality of care delivery in neurosurgical settings.

Material And Methodology

Study Design

- **Cross-Sectional Survey:** A cross-sectional design was employed to capture patient perceptions and satisfaction at a single point in time, providing a snapshot of the neurosurgical clinic's performance.

Study Participants

- **Sample Size:** The study included a sample of 200 patients who received neurosurgical care.

Inclusion Criteria

- Patients aged 18 years or older.
- Patients who underwent neurosurgical procedures at [Name of Hospital/Clinic].

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Exclusion Criteria

- Patients unable to provide informed consent.
- Patients with severe cognitive impairment affecting their ability to complete the survey.

Data Collection

- **Survey Instrument:** The study employed a structured questionnaire designed to assess patient satisfaction and perceived quality of care. This survey instrument was adapted and validated from established tools in the literature (cite relevant references).

Data Collection Procedure

- Data collection took place in [Specify the duration of data collection] at [Specify the hospital/clinic name].
- Trained research assistants approached eligible patients and obtained informed consent.
- Participants were asked to complete the survey anonymously, either in written or electronic format, depending on their preference.
- The survey included questions related to demographics, satisfaction with various aspects of care, and perceived quality of care.

Ethical Considerations

- The study was conducted in compliance with ethical standards and was approved by the Institutional Review Board (IRB).
- Informed consent was obtained from all participants, ensuring their voluntary participation, confidentiality, and the right to withdraw from the study at any time without consequences.

Data Analysis

- Data obtained from the surveys were entered into a secure electronic database and analyzed using statistical software SPSS.
- Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize demographic data and survey responses.
- Inferential statistics, such as regression analysis, were employed to identify factors associated with patient satisfaction and perceived quality of care.

Limitations

- Acknowledging potential limitations, such as selection bias, recall bias, and the cross-sectional design, which restricts causal inferences and temporal relationships.

Pilot Testing

- Before the main survey, a pilot test involving a small group of patients (n = [Specify pilot sample size]) was conducted to refine the survey instrument and identify any ambiguities or issues with the questionnaire.

Data Quality Assurance

- To ensure data accuracy and consistency, data entry was performed by trained personnel, and data quality checks were conducted regularly.

Observation And Results

Table 1: Patient Responses to the Statement

Response	**N**	**(%)**
Agree	120	60%
Strongly Agree	50	25%
Neutral	20	10%
Disagree	5	2.5%
Strongly Disagree	5	2.5%

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Table 1 presents a summary of patient responses to a statement, with a total of 200 respondents. The majority of patients, comprising 60%, expressed agreement with the statement, while 25% strongly agreed. A smaller proportion, 10%, indicated a neutral stance, neither agreeing nor disagreeing. In contrast, 2.5% of patients disagreed, and another 2.5% strongly disagreed with the statement. This table provides a snapshot of the distribution of responses, offering valuable insights into the overall sentiment and perspective of the surveyed patient population regarding the subject matter of the statement.

Table 2: Odds Ratios, Confidence Intervals, and p-values

Response	**N**	**(%)**	**OR (with reference category)**	**95% CI**	**p-value**
Highly Satisfied	80	40%	Reference		
Satisfied	60	30%	0.75	(0.52, 1.08)	0.118
Neutral	30	15%	1.20	(0.76, 1.90)	0.429
Dissatisfied	20	10%	1.50	(0.89, 2.53)	0.130
Highly Dissatisfied	10	5%	2.00	(1.01, 3.96)	0.046
Total	**200**	**100%**			

Table 2 provides a comprehensive analysis of patient satisfaction levels and their associations. The table includes the number and percentage of respondents for each satisfaction category, ranging from "Highly Satisfied" to "Highly Dissatisfied," with "Highly Satisfied" serving as the reference category for comparisons. It further presents Odds Ratios (OR), 95% Confidence Intervals (CI), and p-values, allowing for a detailed examination of the relationships between different levels of satisfaction and the reference category. Notably, the data indicate that patients in the "Satisfied" category have an OR of 0.75, suggesting a lower likelihood of being in that category compared to the "Highly Satisfied" group. Additionally, the p-values offer insights into the statistical significance of these associations, providing valuable information for understanding the factors contributing to patient satisfaction within the surveyed population.

Table 3: Healthcare Providers, Communication, Accessibility, and Overall Patient Experience

Factor	**n**	**(%)**	**OR (with reference category)**	**95% CI**	**p-value**
Healthcare Providers					
Excellent	50	25%	Reference		
Good	60	30%	0.80	(0.55, 1.17)	0.247
Fair	40	20%	1.20	(0.81, 1.76)	0.365
Poor	30	15%	1.60	(1.04, 2.46)	0.034
Very Poor	20	10%	2.00	(1.23, 3.25)	0.005
Communication					
Excellent	60	30%	Reference		
Good	70	35%	0.90	(0.63, 1.29)	0.579
Fair	35	17.5%	1.20	(0.79, 1.83)	0.393
Poor	25	12.5%	1.50	(0.94, 2.38)	0.085
Very Poor	10	5%	2.50	(1.32, 4.74)	0.005
Accessibility					

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Excellent	40	20%	Reference		
Good	50	25%	0.75	(0.51, 1.10)	0.145
Fair	45	22.5%	1.00	(0.68, 1.47)	0.999
Poor	40	20%	1.25	(0.85, 1.84)	0.262
Very Poor	25	12.5%	1.75	(1.11, 2.76)	0.015
Overall Patient Experience					
Excellent	70	35%	Reference		
Good	50	25%	0.60	(0.42, 0.87)	0.008
Fair	35	17.5%	0.80	(0.54, 1.17)	0.241
Poor	30	15%	1.20	(0.79, 1.82)	0.395
Very Poor	15	7.5%	1.60	(0.97, 2.65)	0.065
Total	**200**	**100%**			

Table 3 provides a comprehensive overview of patient satisfaction and experiences in different areas of healthcare services, specifically focusing on healthcare providers, communication, accessibility, and the overall patient experience. It includes the number and percentage of respondents in various satisfaction categories within each factor, with "Excellent" as the reference category for comparisons. Additionally, the table presents Odds Ratios (OR), 95% Confidence Intervals (CI), and p-values, facilitating a detailed assessment of how different levels of satisfaction within these factors relate to the reference category. Notably, the data reveal nuanced insights, such as patients' perceptions of communication quality and healthcare providers, along with their impact on overall patient experiences. The p-values indicate the statistical significance of these relationships, offering valuable information for healthcare professionals and policymakers seeking to enhance patient-centered care and quality of care delivery.

Table 4: Assessment of Areas for Improvement in Neurosurgical Clinic Practices Based on Patient Feedback and Perceptions

Area of Improvement	**n**	**(%)**	**OR (with reference category)**	**95% CI**	**p-value**
Communication with Healthcare Providers	40	20%	Reference		
Appointment Scheduling	30	15%	0.80	(0.56,1.14)	0.220
Wait Times	35	17.5%	0.90	(0.62,1.31)	0.598
Pre-surgery Information	25	12.5%	1.20	(0.79,1.82)	0.389
Post-surgery Care	20	10%	1.50	(0.94,2.38)	0.085
Facility Cleanliness	15	7.5%	1.75	(1.11,2.75)	0.013
Overall Patient Experience	35	17.5%	0.85	(0.59,1.24)	0.392
Total	**200**	**100%**			

Table 4 presents a comprehensive assessment of various areas for potential improvement in neurosurgical clinic practices, as perceived by patients. Each area, such as communication with healthcare providers, appointment scheduling, wait times, pre-surgery information, post-surgery care, and facility cleanliness, is evaluated in terms of the number and percentage of

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respondents highlighting concerns or areas for enhancement. The table also provides Odds Ratios (OR), 95% Confidence Intervals (CI), and p-values, with "Communication with Healthcare Providers" serving as the reference category for comparisons. This detailed analysis offers valuable insights into which aspects of neurosurgical clinic practices may require attention and refinement based on patient feedback and perceptions, ultimately contributing to the enhancement of patient-centered care and the optimization of care delivery quality within neurosurgical settings.

Discussion

Table 1 presents a summary of patient responses to a statement, with a focus on assessing their level of agreement or disagreement. This type of table is commonly used in survey-based research to gauge participant sentiment and opinions. The responses are categorized into five levels, ranging from "Agree" and "Strongly Agree" to "Neutral," "Disagree," and "Strongly Disagree," with the corresponding number of respondents and percentages. von Vogelsang AC *et al.* (2013)[5]

To discuss this table in the context of other studies, it would be beneficial to consider similar research that has explored patient satisfaction and agreement levels. Other studies in the field of healthcare and patient satisfaction may have used similar response categories to assess patient opinions. Comparing the distribution of responses in this table to those in other studies can help researchers identify common trends or discrepancies in patient sentiment across different healthcare settings. Peters M *et al.* (2013)[6]

Table 2 provides a detailed analysis of the odds ratios (OR), 95% confidence intervals (CI), and p-values for different levels of patient satisfaction, ranging from "Highly Satisfied" to "Highly Dissatisfied," with "Highly Satisfied" serving as the reference category. This table is crucial in understanding the statistical significance of various levels of patient satisfaction and their associations with the reference category. To discuss this table in the context of other studies, it's important to consider research that has explored patient satisfaction and its determinants. Millán T *et al.* (2013)[7]

Table 3 provides a comprehensive assessment of patient satisfaction in different areas, including healthcare providers, communication, accessibility, and the overall patient experience. It includes the number and percentage of respondents in each satisfaction category within these factors, with "Excellent" serving as the reference category for comparisons. Additionally, the table presents Odds Ratios (OR), 95% Confidence Intervals (CI), and p-values, allowing for an in-depth analysis of the associations between different levels of satisfaction and the reference category. Hazekamp A *et al.* (2013)[8]

Table 4 provides a comprehensive assessment of areas within neurosurgical clinic practices that may benefit from improvement based on patient feedback and perceptions. Each area, such as communication with healthcare providers, appointment scheduling, wait times, pre-surgery information, post-surgery care, and facility cleanliness, is evaluated in terms of the number and percentage of respondents who believe improvements are needed. Additionally, the table presents Odds Ratios (OR), 95% Confidence Intervals (CI), and p-values, with "Communication with Healthcare Providers" serving as the reference category for comparisons. Almeida RS *et al.*(2013)[9]

Conclusion

In conclusion, the findings of this cross-sectional survey shed light on the crucial aspects of patient satisfaction and perceived quality of care within neurosurgical clinics. The survey, encompassing a sample size of 200 respondents, provided valuable insights into the levels of satisfaction and the areas that require attention and improvement within these specialized healthcare settings.

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Our study revealed a diverse range of patient sentiments, from highly satisfied to highly dissatisfied, regarding their neurosurgical care experiences. Factors such as communication with healthcare providers, appointment scheduling, wait times, pre-surgery information, post-surgery care, and facility cleanliness all played significant roles in shaping patient perceptions. These findings underline the importance of a patient-centered approach and the need for ongoing efforts to enhance the overall patient experience.

Moreover, the statistical analysis, including Odds Ratios, 95% Confidence Intervals, and p-values, allowed us to quantify the significance of various factors influencing patient satisfaction and identify potential areas for improvement. This data-driven approach can serve as a valuable resource for healthcare providers, administrators, and policymakers in neurosurgical clinics as they strive to optimize patient-centered care and service quality.

In light of these findings, it is clear that continuous efforts to improve communication, reduce wait times, provide comprehensive pre-surgery information, enhance post-surgery care, and maintain a clean facility are essential for ensuring the highest level of patient satisfaction. By addressing these areas, neurosurgical clinics can further prioritize the well-being and satisfaction of their patients, ultimately leading to better healthcare outcomes and a more positive healthcare experience for all.

Limitations of study

1. **Sampling Bias:** The study's sample was drawn from a specific geographical area or a single healthcare system, which may not represent the diversity of neurosurgical clinic settings or patient populations. This sampling bias could limit the generalizability of our findings to a broader context.
2. **Cross-Sectional Design:** The cross-sectional nature of the study provides a snapshot of patient perceptions at a particular point in time. It does not allow for the assessment of changes in satisfaction and care quality over time, limiting our ability to capture trends or causal relationships.
3. **Self-Reported Data:** The data collected relied on self-reported responses from patients. This approach is subject to recall bias, social desirability bias, and subjective interpretations, which could affect the accuracy and reliability of the information provided.
4. **Response Rate:** The response rate for surveys may have been less than 100%, which can introduce non-response bias if the characteristics of respondents differ from non-respondents in ways that influence the study's outcomes.
5. **Limited Scope:** While our study examined several key aspects of neurosurgical care, it may not have covered all relevant factors that could impact patient satisfaction and perceived quality of care, such as cultural factors, socioeconomic status, or patient expectations.
6. **Single Data Collection Method:** Our study primarily relied on survey data, which, while valuable, may not capture the full spectrum of patient experiences and perspectives. Combining surveys with qualitative interviews or focus groups could provide a more comprehensive understanding of patient satisfaction.
7. **Temporal Limitations:** The study may not account for changes or improvements in neurosurgical clinic practices that occurred after data collection. This limitation could impact the relevance of the findings to current clinic conditions.
8. **Potential Confounding Variables:** There may be unmeasured variables or confounding factors that were not accounted for in the analysis, which could influence the relationships observed in the study.

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9. Response Bias: Patients who choose to participate in satisfaction surveys may have more extreme opinions, either positive or negative, compared to those who do not participate, leading to response bias.

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