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Satisfaction with health services received by patients in regional hospitals using SERVQUAL

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ABSTRACT

The concept of patient satisfaction, which has historically been overlooked and undervalued, is gaining importance. We aimed to investigate patient satisfaction with health services at the hospital. This cross-sectional study was conducted between January and June 2024. The study was conducted at Bima City Regional Hospital, NTB, Indonesia. The sample obtained was 437. The level of satisfaction was measured using 19 questions. Chi-square test and logistic regression were used in this study. The highest opportunity for reliability and responsiveness was found in patients aged 20–29 with OR and CI values of 1.97 (1.65–2.98) and 1.76 (1.03–2.09), respectively. For the tangibles dimension, the highest opportunity was in the age of 40-49 with OR and CI values of 1.98 (2.03–4.37). The highest OR (CI) values for each employed status namely 0.96 (0.77–1.21), 0.89 (0.67–1.18), 0.76 (0.41–1.40), 0.79 (0.51–1.70), and 0.92 (0.72–1.23). Meanwhile, at the level of education, respondents with university education had the highest opportunity value in all dimensions, with OR and Ci values of 0.84 (0.58–1.34), 1.42 (0.78–2.51), 0.51 (0.19–1.56), 0.59 (0.22–1.67), 1.45 (0.82–2.87). In conclusion, patient satisfaction with health services was influenced by age, employment status, and provider friendliness.

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1. INTRODUCTION

Patient satisfaction surveys can offer insightful information on the caliber of medical facilities, which is not found in other surveys [1]. The concept of patient satisfaction has long been ignored and marginalized, but its significance is beginning to grow. Therefore, assessing the standard of treatment is crucial [2], [3]. The factors that affect patient satisfaction are now known to exist. Managers can use this information to allocate resources more effectively and enhance patient satisfaction and experience [4].

The ability to focus on user preferences and provide health services that better meet needs and expectations is made possible by measuring the quality and satisfaction of health services, which is a crucial component of effective resource management [5]. When creating evaluations that reference patient assessments, patient satisfaction may be helpful. The long-term success of healthcare facilities is largely dependent on the quality of healthcare services and patient satisfaction [6].

Due to the subjective nature of patient satisfaction, contradictory findings have been found in a number of studies [7]. Personal expectations and assessments of healthcare service quality significantly influence satisfaction as each individual has a unique perspective [5]. The factors that influence patient

satisfaction have been the subject of several systematic reviews [8]. Comparably, there are still few reviews of the most popular techniques employed by researchers, and none of them offer a thorough and in-depth examination of the literature.

Patient satisfaction is a crucial metric for assessing a healthcare facility's quality, as it gauges the provider's ability to meet patient expectations and influence their behavior [9]. Significant advantages are linked to patient satisfaction, such as improved prognosis, decreased usage of medical services, fewer malpractice lawsuits, and better compliance [10]. Recent surveys have primarily focused on patient experience, including waiting times, facility standards, and communication with medical professionals, with the aim of enhancing the quality of care. This is because there is a deficiency in consistent measurement tools and a solid conceptual basis for customer satisfaction [11].

Numerous studies have been published that highlighted the significance of socioeconomic and patient-related factors in determining how satisfied patients are with their healthcare services [12], [13]. Age, sex, occupation, job position, income, and education are sociodemographic factors that affect the satisfaction of patients with their healthcare [14]. Long-term unemployment significantly correlates with patient satisfaction, whereas short-term unemployment, based on gender, has a smaller correlation.

Previous research stated that SERVQUAL dimensions, except for tangible and assurance, were significantly related to patient dissatisfaction after controlling for hospital variables, with reliability, responsiveness, assurance, and empathy being the most significant [15]. Patient satisfaction acts as a mediator between patient loyalty and the quality of care provided by medical staff [16]. Reasons why we are taking this research include the need to understand the factors that contribute to patient dissatisfaction in regional hospitals and the importance of improving patient loyalty through quality care. Additionally, exploring the relationship between SERVQUAL dimensions and patient satisfaction can provide valuable insights for enhancing healthcare services in regional settings.

This study aimed to assess patient satisfaction with hospital health services by using a questionnaire administered to existing patients. The novelty of this study lies in its direct focus on patient satisfaction with health services, which provides deeper insights. Thus, we hope that the results of this study can be used to improve and enhance health services.

2. METHOD

This study is a quantitative study with a cross-sectional design. This study was conducted at one of the regional hospitals in Bima City, NTB, Indonesia. Outpatients who received medical treatment between January and June 2024 were eligible to be included in the sample. This study did not include patients who were under 18 years of age or mentally unstable because they could not provide informed consent. The sample in this study was 437 patients, calculated using the Slovin formula calculation, from 47,963 patients who visited from January to June 2024. The sample calculation was carried out using a 95% confidence interval and a 5% margin of error. We added 10% of the number of samples obtained according to the Slovin formula, so that the number of samples obtained was (397 (with the formula) +40 (10%) = 437). Sampling was carried out using the cluster method by dividing the sample area into 5 regions, with the number of samples taken from each region that had been treated at Bima Regional Hospital, NTB, Indonesia as many as 87 samples. Each region is spread out by 5 research team members who then conduct a survey at the smallest level, namely the sub-district. In order for the sample to represent all population areas, we do not exclude samples in the smallest areas. At the sub-district level, we look for samples at the household level. We do this in each region, by grouping samples in the largest area to samples in the smallest area. so that it will represent the largest population.

Research instrument was a self-administered questionnaire created based on a literature review. The questionnaire included 19 satisfaction items on a four-point Likert scale and sociodemographic questions. The Cronbach's alpha for the questionnaire was 0.95. In this study, satisfaction indices were merged into the SERVQUAL dimensions. The corresponding 95% confidence intervals (CI) and adjusted odds ratios (AOR) were calculated.

Data was obtained using a questionnaire and SERVQUAL instruments. SPSS version 21 and Microsoft Excel spreadsheets were used to analyze the data. Using the mean score as the cutoff point, the total score of all 19 items was split into satisfied and unsatisfied categories, with values equal to or above the mean classified as either. The Chi-square test and logistic regression analysis were used.

This research ethics passed the ethical review of the institution of Poltekkes Kemenkes Mataram, NTB, Indonesia, with the number EC/35/05/2024/Poltekkes Kemenkes Mataram. All research procedures were approved by the applicable principles of research ethics. This study also obtained approval from the research subjects before being carried out. All the data obtained will guarantee confidentiality in accordance with the applicable provisions.

3. RESULTS

Table 1 shows that the majority of respondents were aged between 20-29, namely 102 respondents (23.34%), employed 319 respondents (73%), and had a senior high school education, 148 respondents (32,27%). Based on Table 2, patient satisfaction is closely related to age, employment status, level of education, and provider friendliness, with p-values of 0.009, 0.021, 0.010, and 0.028, respectively. It is also known that 309 patients (70.7%) of the total sample were satisfied with the health services provided. The number of patients who were dissatisfied was 128 (29.3%).

Table 1. Demographic characteristics of patients

Variable		Frequency	Percentage
Age (years)	<20	50	11.44
	20-29	102	23.34
	30-39	89	20.37
	40-49	77	17.62
	50-59	59	13.50
	>60	60	13.73
Employment status	Unemployed	118	27.00
	Employed	319	73.00
Level of education	Elementary school	82	18.76
	Junior high school	66	15.10
	Senior high school	148	33.87
	University	141	32.27
Provider friendliness	No	134	30.66
	Yes	303	69.34

Table 2. Level of patient satisfaction with healthcare services

Variable		Satisfied	Unsatisfied	p-values
Age (years)	<20	40	10	0.009
	20-29	70	32	
	30-39	63	26	
	40-49	53	24	
	50-59	39	20	
	>60	44	16	
	Total	309	128	
Employment status	Unemployed	53	65	0.021
	Employed	256	63	
	Total	309	128	
Level of education	Elementary school	60	22	0.010
	Junior high school	45	21	
	Senior high school	102	46	
	University	102	39	
	Total	309	128	
Provider friendliness	No	14	120	0.028
	Yes	295	8	
	Total	309	128	

Chi-square

The study revealed that age significantly influences patient satisfaction, as shown in Table 3, with reliability, responsiveness, tangibility, assurance, and empathy dimensions being correlated with age. Patients aged 20-29 have the highest opportunities for reliability and responsiveness, while those aged 40-49 have the highest opportunities for tangibles. Employment status also affected patient satisfaction, with university education having the highest opportunity value. The provider-friendly dimensions are also related to patient satisfaction.

Based on Table 4, reliability had the highest mean score compared with the other dimensions (3.88). and the Responsiveness dimension was the lowest (3.78). This finding demonstrates that improving customer satisfaction is significantly influenced by the degree of service reliability. Responsiveness is an aspect that needs to be improved in order to provide more responsive and satisfying services for customers.

Table 3. Relationship between demographics and patient satisfaction with health services

Variable	Reliability OR (CI)	p-value	Responsiveness OR (CI)	p-value	Tangibles OR (CI)	p-value	Assurance OR (CI)	p-value	Empathy OR (CI)	p-value
Age		0.015		0.007		0.011		0.004		0.012
<20	1.11 (0.90–1.62)		1.45 (1.09–1.93)		1.05 (0.64–1.72)		1.12 (0.7–1.82)		1.46 (1.0–1.92)	
20-29	1.37 (1.09–1.74)		1.46 (1.06–2.02)		1.86 (1.03–3.39)		1.92 (1.07–3.65)		1.49 (1.08–2.06)	
30-39	1.97 (1.65–2.98)		1.66 (1.01–2.11)		1.03 (0.77–1.91)		1.09 (0.76–1.99)		1.69 (1.03–2.16)	
40-49	1.39 (1.09–1.89)		1.76 (1.03–2.09)		1.98 (2.03–4.37)		1.91 (2.14–3.38)		1.79 (1.08–2.12)	
50-59	1.01 (0.80–1.53)		1.32 (1.01–1.86)		1.02 (0.54–1.57)		1.07 (0.52–1.76)		1.37 (1.11–1.99)	
>60	0.90 (0.19-0.88)		1.21 (0.98–1.22)		1.01 (0.34–1.01)		1.09 (0.42–1.00)		1.24 (1.01–1.29)	
Employment status		0.025		0.017		0.020		0.002		0.018
Unemployed	0.93 (0.72–1.18)		0.77 (0.56–1.09)		0.70 (0.30–1.38)		0.77 (0.35–1.42)		0.81 (0.61–1.12)	
Employed	0.96 (0.77–1.21)		0.89 (0.67–1.18)		0.76 (0.41–1.40)		0.79 (0.51–1.70)		0.92 (0.72–1.23)	
Level of education		0.011		0.09		0.017		0.007		0.022
Elementary school	0.92 (0.68–1.24)		1.21 (0.78–1.89)		1.18 (0.52–2.74)		1.21 (0.61–2.81)		1.23 (0.79–1.91)	
Junior high school	0.79 (0.61–1.02)		1.23 (0.84–1.80)		0.51 (0.24–1.13)		0.57 (0.30–1.21)		1.29 (0.90–1.90)	
Senior high school	0.80 (0.53–1.27)		1.31 (0.73–2.39)		0.47 (0.16–1.44)		0.48 (0.17–1.32)		1.34 (0.89–2.40)	
University	0.84 (0.58–1.34)		1.42 (0.78–2.51)		0.51 (0.19–1.56)		0.59 (0.22–1.67)		1.45 (0.82–2.87)	
Provider friendliness		0.023		0.028		0.025		0.002		0.026
No	1.22 (1.22–1.34)		1.33 (6.71–17.55)		1.34 (1.02–4.43)		1.39 (1.08–4.50)		1.34 (6.72–18.98)	
Yes	2.53 (1.68–3.82)		1.45 (9.72–24.56)		3.76 (2.10–6.72)		3.9 (3.2–6.90)		1.48 (10.01–22.11)	

Logistic Regression

Table 4. Overall health service quality dimensions score

Dimensions of satisfaction	Item	Score	Mean
Tangibles	Equipment & technology owned	3.83	3.86
	Physical facility design arrangement	3.88	
	Employee appearance & neatness	3.76	
	Cleanliness & comfort of room	3.95	
Reliability	Problem solving skills	3.88	3.88
	Punctuality in keeping promises	3.82	
	Accuracy of transaction recording	3.92	
	Reputation	3.90	
Responsiveness	Time to queue	3.88	3.78
	Communication skills	3.63	
	Speed of service time	3.93	
	Sincerity in helping patients	3.78	
	Readiness to help patients	3.67	
Assurance	Honesty of health workers	3.88	3.86
	Security takes action	3.88	
	Friendliness of health workers	3.86	
	Ability to answer questions	3.82	
Empathy	Relationship with patient	3.72	3.79
	Procedure service	3.79	
	Ability to provide time addition	3.9	
	Justice in service	3.78	
	Response to suggestions and complaints	3.78	

4. DISCUSSION

In summary, this study aimed to investigate patient satisfaction with health services at a hospital. Patient satisfaction is closely related to age, employment status, level of education, and provider friendliness, with p-values of 0.009, 0.021, 0.010, and 0.028, respectively. It is also known that 309 patients (70.7%) of the total sample were satisfied with the health services provided. The number of dissatisfied patients was 128 (approximately 29.3%). Numerous studies have demonstrated that factors such as age [17], gender [18], education level [19], and employment status [20] affect how well patients are assessed for the health services they receive. This is in line with the finding that age, employment status, and educational level were significantly related to patient satisfaction. Different specialties/disciplines may affect patient satisfaction with health services received.

This study assessed the correlations between explanatory factors and the five dimensions of service satisfaction and overall service satisfaction. The results showed that patients of this age had a positive relationship with the dimensions of reliability, responsiveness, and tangible, assurance, and empathy ($p = 0.015$, 0.007, 0.011, 0.004, and 0.012, respectively). The highest chance of reliability and responsiveness was found in patients aged 20–29 years, with OR and CI values of 1.97 (1.65–2.98) and 1.76 (1.03–2.09) of respectively. For the tangibles dimension, the highest chance was in those aged 40-49 with OR and CI values of 1.98 (2.03–4.37). When paired with education, this demonstrates patients' maturity and how they evaluate the delivery of healthcare services [21]. The likelihood that an elderly patient would have significant experience with healthcare facilities increases with age, which affects both the facility selection process and the evaluation of services rendered [22]. The availability of tangible objects, spotless equipment, and well-appointed facilities significantly raises patients' opinions on the quality of care they receive [23].

In employment status, all dimensions also influence patient satisfaction with p-values for each dimension, namely 0.025 (reliability), 0.017 (responsiveness), 0.020 (tangibles), 0.002 (assurance), 0.018 (empathy), and the OR value (CI), respectively. the highest for respective employed status, namely 0.96 (0.77–1.21), 0.89 (0.67–1.18), 0.76 (0.41–1.40), 0.79 (0.51–1.70), 0.92 (0.72–1.23). These results suggest that employment status plays a significant role in influencing patient satisfaction across the various dimensions of healthcare services. The odds ratios indicated the potential impact of employment on overall patient satisfaction levels. Overall, these findings highlight the importance of considering employment status when assessing and improving patient satisfaction in health care settings.

In level of education, respondents with university education status had the highest probability value in all dimensions, with OR and CI values of 0.84 (0.58–1.34), 1.42 (0.78–2.51), 0.51 (0.19–1.56), 0.59 (0.22 –1.67), 1.45 (0.82–2.87) and p-values of 0.011 (reliability), 0.09 (responsiveness), 0.017 (tangibles), 0.007 (assurance), and 0.022 (empathy). Because they have an open mentality, educated patients typically feel open to receiving healthcare. This is a result of their increased awareness of social health issues and their broader understanding of the health services offered to them [24]. According to our research, education was positively correlated. It has been demonstrated that literacy affects how healthcare is evaluated because informed people base their decisions on knowledge, procedures, experiences, and processes [25].

Similar to the provider friendliness variable, all dimensions are also related to patient satisfaction with p-values of 0.023 (reliability), 0.028 (responsiveness), 0.025 (tangibles), 0.002 (assurance), and 0.026 (empathy). Higher satisfaction is a result of the healthcare facility's professional services and the friendliness of the service provider. Health service managers need to consider these variables because they are adjustable yet significant elements that determine the quality of care. A positive reputation of the service provider encourages customers to return, which increases their usage and accessibility [26]. If clients are given the opportunity to talk openly about their illness and the care they require, their satisfaction will rise [27]. According to several authors, a welcoming environment among staff members and clinicians in healthcare institutions boosts employee trust, patient retention rates, and the ability of professionals to securely handle patients' private information [28]. Overall, service satisfaction was positively correlated with the ease of receiving care. The facility's location and accessibility to healthcare services affect how easy it is to receive care [29]. Customer satisfaction is significantly affected by having direct access to service providers and choosing a facility that best matches the patient's needs [30]. This can be further explained by the fact that even in cases when a patient's condition is not particularly good, care can be received more quickly for those who live close to medical facilities.

Researchers and practitioners can gain insights into the dimensions of service quality and patient happiness covered in this study, which can help improve these metrics. Since these service dimensions are entirely independent of one another, patients should receive prompt service from their service providers regardless of their age, employment status, education level, or friendliness [31]. These dimensions are significant indicators of services. It is imperative that service providers prioritize the responsiveness of their offerings at an elevated level. delivery as the patient receives the service while it is being provided by the service provider. Maintaining patients is just as vital as giving them quality medical care [32]. The

environment in which services are rendered, amenities, area access, relevant standard processes, aesthetics, and atmosphere all contribute to a patient's feeling of security and comfort within the facility [33].

Patients receive the service when the service provider is providing it, which is an essential component of the delivery of health services. It is believed and expected that the patient will receive the service [34], and anything that falls short of expectations will lead to discontent, which is represented by the variance in the satisfaction rate. Patients may find it challenging to receive the same or a comparable service on a follow-up visit because of the variety of services offered in healthcare facilities across the nation or even within the same facility [35]. This leads to variations in patient satisfaction with the services. This is because of the possibility that patients would need to see several doctors or hospital departments. For example, personnel in pharmacies, laboratories, and emergency rooms may not provide consistent care over visits. Owing to the intangible nature of service delivery, it is especially crucial to address care outcomes, delivery, and access. As a result, it is the duty of the service provider to provide services that go above and beyond what patients expect, and to minimize or completely remove perceived risk [36].

Our findings, which we presented using the chi-square test, indicated that all study outcome factors were positively correlated with health system-related parameters as well as certain demographic characteristics. Regardless of the hospital or nation, other studies have demonstrated that there is a consistently high degree of unhappiness with waiting times [37]. Access to care is positively correlated with reliability outcomes, which include time spent on tests and result collection, waiting for a call, waiting for a consultation, and other indicators [38]. The healthcare facility's approachable staff boosts patient retention rates. Additionally, patients feel more secure in their ability to handle personal and confidential information and have a solid clinical experience. Positive correlations were observed between the friendliness of the service provider and patient satisfaction. In this study, we discovered a strong correlation between patient satisfaction and content. This study identified important demographic and health system variables linked to overall service satisfaction, tangibles, responsiveness, and dependability of services. However, more comprehensive satisfaction criteria and indicators covering a wider range of characteristics should be included in future policies to provide a stronger case for patient satisfaction with policymaking and/or reform in the health system.

5. CONCLUSION

Age, work status, educational attainment, and provider friendliness all have an impact on patient satisfaction, according to the study, which found that 70.7% of patients were satisfied and 29.3% were not with their health care. Patient satisfaction is strongly affected by age, which is related to the dimensions of reliability, responsiveness, and tangible, assurance, and empathy. Patients aged 20–29 years have the highest potential for responsiveness and dependability, and patients aged 40–49 years have the most opportunities for tangibles. Educational attainment also plays a significant role in patient satisfaction, with higher levels of education often correlating with higher satisfaction. Provider friendliness is another key factor that can significantly influence a patient's overall experience and perception of their healthcare. Patient satisfaction was also influenced by employment status, with the highest probability value associated with university education. Patient satisfaction was also influenced by the friendliness of the provider. Furthermore, people who have completed more education typically express greater satisfaction with their health care encounters. It is important for healthcare providers to consider these factors when interacting with patients to ensure positive experiences. Additionally, addressing patient concerns and providing clear communication can contribute to higher levels of satisfaction among all demographics. The recommendation is for healthcare providers to tailor their approach based on the specific needs and preferences of each patient to optimize their overall satisfaction with the care they receive. Healthcare providers can create more personalized and effective treatment plans for each patient by considering factors such as age, education level, and individual concerns.

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