



ANALYSIS OF FACTORS RELATED TO OUTPATIENT WAITING TIME AND PATIENT SATISFACTION OF MOBILE JKN USERS USING THE SERVPERF AND IPA METHODS AT MUHAMMADIYAH GENERAL HOSPITAL, NORTH SUMATRA

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Abstrak

The Ministry of Health sets a maximum patient waiting time standard of 60 minutes for outpatient services, as stated in the Decree of the Minister of Health Number 129/Menkes/SK/II/2008 concerning Minimum Service Standards (SPM) for Hospitals. This standard covers the time from when a patient registers until they are served by a doctor. This study aims to analyze factors related to outpatient waiting time and the level of patient satisfaction of the Mobile JKN application users at Muhammadiyah General Hospital, North Sumatra. The research method used is quantitative with a cross-sectional design, with a sample of 96 respondents selected using the Lemeshow formula. Measurement of service quality is carried out using the SERVPERF method and Importance Performance Analysis (IPA) analysis to assess the suitability between patient expectations and reality regarding the services received. The results of the study showed that the average value of service quality conformity was 90.23%, which is included in the fairly good category. The Assurance dimension had the highest conformity value of 92.10%, while the Empathy dimension showed the lowest conformity value of 87.05%. Factors significantly related to patient satisfaction include the number of medical personnel, the registration system, and service infrastructure, which have a positive effect on accelerating waiting times and increasing perceptions of service quality. In conclusion, outpatient services at Muhammadiyah General Hospital, North Sumatra have been running well, but need to be improved in the aspects of empathy and reliability of medical personnel as well as optimization of the digital queue system to achieve more optimal patient satisfaction.

Keywords: Waiting Time, Patient Satisfaction, Servpert, IPA

Introduction

According to WHO, waiting time is the length of time a patient waits to be served, starting from when the patient arrives until they receive consultation and treatment¹. Patient waiting time starts from when the patient arrives at the outpatient department until the patient actually leaves the outpatient room². Based on Law Number 17 of 2023, a Hospital is a health service facility that provides comprehensive individual health services through promotive, preventive, curative, rehabilitative, and/or palliative health services by providing inpatient, outpatient, and emergency services³.

Improving the quality of health services is a top priority in a modern hospital management system⁴. As a health care facility that provides promotive, preventive, curative, and rehabilitative services⁵. Hospitals are required to provide efficient and responsive services. In Indonesia, the main

challenge often faced is the duration of waiting time, which is one of the most crucial indicators of service quality for outpatients⁶. Waiting time is the duration required from the time a patient arrives at the outpatient department until they receive consultation or treatment from a doctor⁷.

Therefore, the length of patient waiting time in the hospital is one of the quality indicators that reflect the quality of hospital services⁸. Fulfillment of the quality of waiting time indicators⁹. The Ministry of Health sets a maximum patient waiting time standard of 60 minutes for outpatient services, as stated in the Decree of the Minister of Health Number 129/Menkes/SK/II/2008 concerning Minimum Service Standards (SPM) for Hospitals. This standard includes the time from when the patient registers until being served by a doctor¹⁰.

Minimum Service Standards (SPM) Outpatient waiting time must be less than or equal to 60 minutes. Waiting Time Category: Service waiting time can be categorized into three, namely fast (<30 minutes), medium (30-60 minutes), and long (>90 minutes)¹¹. Muhammadiyah General Hospital of North Sumatra is a Type D General Hospital engaged in medical services with the aim of assisting the government in serving the community. There was an increase in outpatient visits of 18,158 between 2023 and 2024, so that patients felt uncomfortable because the registration room and patient waiting room were in the same room.

This waiting time problem often occurs in hospitals because the number of medical personnel is inadequate¹². Patients come at the same time, causing queues at the registration counter and polyclinic, doctor's registration hours are different from the counter registration hours, and patient negligence during registration such as not bringing a medical card, not bringing the necessary documents¹³. with the counter registration hours, and patient negligence during registration such as not bringing a medical card, not bringing the necessary documents patient negligence during registration¹⁴.

The purpose of this study is to identify factors related to outpatient waiting times and patient satisfaction of JKN mobile users using the Servperf and IPA methods at Muhammadiyah General Hospital, North Sumatra. Researchers hope this will be useful for students, hospitals, educational institutions, and the community.

Method

This type of research uses a quantitative research method with a cross-sectional design. This study was conducted at the Outpatient Installation of the Muhammadiyah General Hospital of North Sumatra from September to completion. The population in this study were patients who came to the outpatient polyclinic, both new and old patients, amounting to 22,679 in 2024. The determination of the sample size in this study was determined using the Lemeshow formula, namely 94 samples. Service Measurement Performance is used to measure the expectations and reality desired by patients by identifying and calculating the average level of expectations and reality for each attribute. Service Performance measurement is used to measure the expectations and reality desired by patients by identifying and calculating the average level of expectations and reality for each attribute, with the following mathematical equation:

$$X = \frac{\sum Xi}{n} \quad Y = \frac{\sum Yi}{n}$$

Information:

- \bar{X} = Average score of the i-th factor performance level
- \bar{Y} = Average score. Level of importance of the ith factor
- $\sum Xi$ = Total score of the i-th factor performance level
- $\sum Yi$ = Total score of the level of importance of factor i
- n = Total

Results

Tabel 1. Respondent Characteristics

Variable	N	%
Age (Years)		
17–25 year	31	32,3
25–45 year	29	30,2
> 45 year	36	37,5
Total	96	100
Gender		
Man	25	26,0
Women	71	74,0
Total	96	100
Education		
SD	1	1,0
SMP	7	7,3
SMA	31	32,3
Diploma	7	7,3
S1	50	52,1
Total	96	100
Work		
Students	6	6,3
PNS	16	16,7
Swasta	41	42,7
Doesn't work	21	21,9
IRT	8	8,3
Police	1	1,0
Trader	2	2,1
Midwife	1	1,0
Total	96	100

Based on the table above, the respondents were predominantly aged 45 years and over, with 36 respondents (37.5%), with the majority being female (74%). In terms of education, the majority of respondents were bachelor's degree graduates (52.1%), while the majority were employed in the private sector (42.7%). These results indicate that the majority of outpatients participating in the study had a higher level of education and were actively working, thus tending to be more critical in assessing the quality of service they received.

Tabel 2. Health Service Calculation Using the SERVPERF Method

Attribute	Assessment			Average	
	Fact	Hope	Conformy Level	X	Y
Tangible					
Supporting facilities are adequate	357	411	87	3,7	4,3
The officer's physical appearance is attractive	334	428	78	3,5	4,5
Comfort of waiting room and outpatient examination room	298	432	69	3,1	4,5
The existing medical equipment is already adequate	297	342	87	3,1	3,6
Average Tangible			80	3,4	4,2
Reliability					
Patient admission procedures simple (not complicated)	336	420	80	3,5	4,4
Information provided to the patient is accurate	354	430	82	3,7	4,5
The schedule by the doctor is correct time (as scheduled)	352	427	83	3,7	4,4
Handling administrative matters is in accordance with the procedure	214	423	51	2,2	4,4
Average Reliability			74	3,3	4,4
Responsiveness					
The registration service officer provides fast service.	335	416	80	3,5	4,3
Nurses are responsive in resolving patient complaints	337	421	80	3,5	4,3
Nurse's ability/competency it's in line with expectations	332	413	80	3,5	4,3
Overall, great service have decided	351	422	83	3,7	4,4
Average Responsiveness			81	3,5	4,3
Assurance					
The process of diagnosing a patient's disease carried out according to the procedure set	362	427	87	3,8	4,3
Skilled medical personnel in Work	338	403	84	3,5	4,2
Medical personnel are polite in carry out an inspection of Patient	350	425	82	3,6	4,5
I felt happy after undergo an examination	334	414	80	3,5	4,3
Average Assurance			83	3,6	4,3
Empathy					
The system implemented can done easily	309	428	72	3,2	4,5
Information provided by staff It is clear	332	424	78	3,5	4,4
The attitude of the staff at the registration counter in providing services already friendly	333	424	79	3,5	4,4
The services provided are complete according to expectations	332	398	83	3,5	4,2
Average Empathy			78	3,4	4,4
Overall Average			79	3,4	4,3

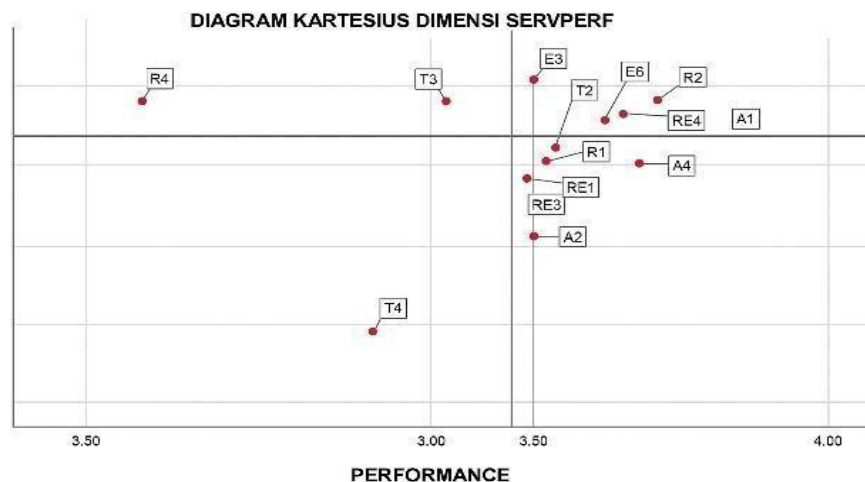
The results of calculating health services using the SERVPERF method show that the average value of conformity between reality and patient expectations is at 79 percent with an average reality score of 3.4 and an expectation score of 4.3. This finding indicates that the quality of services provided by medical personnel is in the fairly good category, although there is still a gap between expectations and actual patient experiences. The dimension with the highest level of conformity is security assurance (83 percent), indicating that patients feel quite confident in the abilities of medical personnel and the security aspects of the service. In contrast, the dimensions of reliability and caring attitude (empathy) show lower conformity values, respectively 74 and 78 percent, which means that there is a need for improvement in the aspects of timeliness and interpersonal attention of medical personnel towards patients.

These results demonstrate that healthcare service quality, as measured by the five SERVPERF dimensions, still has room for improvement, particularly in service consistency and personal interactions. Although patients perceived medical personnel as responsive, courteous, and safe, their expectations for facility comfort and prompt service were not fully met. Therefore, service quality improvements can be focused on the dimensions that show the greatest gaps to optimize patient satisfaction with outpatient services.

Table 3. Overall Average Calculation of the Level of Suitability of Outpatient Services Based on the SERVPERF Dimension

No	Service Dimensions	Average Reality Score (Xi)	Average Expected Score (Yi)	Level of Conformity (%) = $(X_i / Y_i \times 100\%)$	Information
1	Tangibles	3.86	4.25	90.82	Quite appropriate
2	Reliability	3.78	4.20	90.00	Quite appropriate
3	Responsiveness	3.92	4.30	91.16	In accordance
4	Assurance	3.85	4.18	92.10	In accordance
5	Empathy	3.70	4.25	87.05	Cukup sesuai
Overall Average		3.82	4.24	90.23	The quality of service is quite good.

Based on the calculation of the level of conformity of outpatient service quality, the overall average was 90.23%, which is considered quite good. The highest conformity value was found in the Assurance dimension (92.10%), indicating that patients felt confident in the ability and reliability of healthcare workers. Conversely, the Empathy dimension (87.05%) had the lowest conformity value, indicating that the attention and concern aspects of staff still need to be improved. Overall, outpatient services have been running well, but improving the quality of empathy and reliability will have a positive impact on overall patient satisfaction.



Based on the SERVPERF Dimension Cartesian Diagram above, it can be seen that the position of each service dimension is spread across several quadrants with different levels of performance and importance. Dimensions in Quadrant I (Top Priority) are areas that have a high level of importance but relatively low performance. In this diagram, aspects such as Tangibles (T4) and some elements of Reliability (R4) are included in this quadrant, indicating that patients assess that physical facilities and service accuracy still need to be improved because they are considered important but not yet optimal in their implementation.

Furthermore, dimensions in Quadrant II (Maintain Performance), such as Responsiveness (RE1, RE3, RE4), Assurance (A1, A4), and Empathy (E3, E6), indicate that these aspects have equally high importance and performance. This means that patients are satisfied with the responsiveness of staff, the sense of security provided, and the personal attention they receive. These dimensions are the hospital's main strengths and must be maintained to maintain stable patient satisfaction.

Meanwhile, several indicators appearing in Quadrant III (Low Priority), such as Assurance (A2) and some Tangibles (T3), indicate aspects with low levels of importance and performance. Although not yet the primary focus of improvement, these areas still require attention to prevent further decline. No dominant dimensions were found in Quadrant IV (Excessive), thus it can be concluded that no service aspects are considered excessive by patients. Overall, the results of the SERVPERF analysis indicate that outpatient services at the hospital have been running well, but improving the quality of physical aspects and service reliability remain priorities for improvement to achieve optimal patient satisfaction.

Conclusion

Based on the research results, it can be concluded that the level of conformity of outpatient service quality at Muhammadiyah General Hospital, North Sumatra is quite good, with an average conformity score of 90.23%. The Assurance dimension obtained the highest score of 92.10%, indicating that patients feel confident in the ability and reliability of medical personnel. Meanwhile, the Empathy dimension had the lowest conformity score of 87.05%, indicating that there is still a need to improve the attention and concern of staff towards patients.

The analysis also showed that the number of medical personnel, the registration system, and service infrastructure were the factors most strongly associated with patient satisfaction. These three factors positively influenced service times and improved patient perceptions of hospital service quality. Conversely, inconsistent doctor schedules and incomplete patient files were the main causes of long wait times, which ultimately led to decreased satisfaction levels..

Therefore, to improve patient satisfaction among Mobile JKN users, the hospital needs to optimize human resource management, improve the digital queuing system, and enhance the comfort of the waiting room. These efforts are expected to shorten waiting times, improve service quality, and strengthen patient trust in the services of the Muhammadiyah North Sumatra General Hospital.

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