

Strategy for Service Quality Improvement Based on Patient Experience Using Importance Performance Analysis in Inpatients General Hospital in South Sulawesi Province

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ABSTRACT

Background: Over the past few years, patient satisfaction surveys have been used to provide an indication of patient experience. However, patient satisfaction surveys do not accurately describe the feelings and experiences that are actually felt by patients. Using patient experience measurements can provide information on what events occur when getting services at health facilities, measure aspects that are important to patients and see their point of view that can improve the quality of health services. **Objective:** The study aimed at analyzing the best strategy to be implemented to improve the quality of service for Provincial General Hospital at South Sulawesi based on patient experience. **Methods:** The study design was quantitative with descriptive analysis approach. A sample of 382 patients was determined and selected with the certain criteria. Data were collected using a measuring instruments in the form of a patient experience questionnaire which contains 48 questions. **Results:** In these three hospitals, admission to hospital and hospital ward environment are two dimensions of the patient experience that have had unsatisfactory outcomes. Meanwhile, at the Sayang Rakyat Hospital, they have unsatisfactory care and treatment dimensions. **Conclusions:** This study highlights the relevance of utilizing IPA to evaluate patient perspectives of hospital services and suggest opportunities for improvement. Hospitals can improve patient experience and overall service quality by concentrating on the most critical dimensions in which the hospital is performing poorly (Quadrant A). The study's findings can help hospital stakeholder to identify the methods in order to improve patient experience and satisfaction.

Key words: Patient Experience, Importance Performance Analysis, Patient Centered Care, Quality Improvement.

INTRODUCTION

In the current era of globalization, all industrial sectors are required to be able to improve the quality and effectiveness of services or products provided to their customers.¹ The health industry is one of the sectors that has been affected. Hospitals, as the main health service institution, are required to continue to improve their quality. However, the quality of health services in Indonesia is still considered unsatisfactory.² Some of these complaints are the result of differences in service perceptions felt by patients. Complaints received were not only about infrastructure, but also about human resource performance. The waiting time for patients to be served is often quite long and not in accordance with the practice schedule.³ Experience felt by patients after receiving services are indicators of the quality of health services that must be considered.⁴

Hospitals are currently required to maximize patient's value in order to achieve the best results with the lowest cost while considering patient preferences.⁵ Against a backdrop of increasing competition among health care facilities, service quality has become an important differentiator in the strategy of health care organizations. Therefore, in order to remain successful, a new paradigm is needed in hospital implementation.⁶ This is expected to improve the quality and quality of

service. One way is to improve the quality of service by focusing on patients which called patient centered care (PCC).⁷

The PCC concept provides services not only by talking to patients, but also by providing information and education to each patient, paying more attention to the needs of the patient as an individual. PCC is a high-quality health service approach, and its application has been proven to improve the overall quality of health services.⁸ Tjiptono⁹ defines service quality as a measure of how well the level of service provided is able to meet customer expectations. In the patient satisfaction assessment model, the difference between patient perceptions and expectations is considered as a criterion for assessing service quality.

Currently patient satisfaction surveys have been used to provide an indication of patient experience. However, patient satisfaction surveys do not accurately describe the feelings and experiences that are actually felt by patients. Patient satisfaction surveys tend to obtain very positive ratings that are not sensitive to specific problems in the quality of care.¹⁰ Patient satisfaction questionnaires have been criticized for failing to effectively discriminate between good and poor care because they rarely ask patients what values they consider important during treatment.¹¹ Therefore, patient satisfaction surveys are considered unable to be proven to improve service quality.

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According to Harrison, *et al.*¹² service quality improvement activities depend on specific data regarding the nature of events experienced by patients. This can only be obtained through patient experience data. Using patient experience, it can provide information on what events occur when receiving services at health facilities. It measures aspects that are important to patients or see the patient's point of view that can improve the quality of health services.¹³ Whereas patient satisfaction surveys can only provide an assessment of satisfaction with the services received.⁷ Based on research conducted by Salisbury and Wallace¹⁴ only 4.6% of service satisfaction survey responses could be used as a service improvement strategy, whereas for patient experience surveys more than 20% of responses could be used as a strategy by hospitals. Therefore, they suggest that measuring patient experience is better than simply rating patient satisfaction.

Each expert and organization have expressed several different opinions regarding the dimension that influence patient experience. However, this research uses dimension found by Scottish Inpatient Patient Experience Survey (SIPES) because of the completeness. SIPES patient experience dimensions covers a description that is carried out systematically starting from how the patient's experience during the process of admission to the hospital until the patient goes home. It is a little bit different from other patient experience surveys which ask more directly about the procedure only when being treated stay. These dimensions from SIPES are admission to hospital, hospital and ward environment, care and treatment, operation and procedures, hospital staff, discharge information, and leaving hospital.^{15,17}

In describing patient experience factors, there are several methods that are often used, but Importance Performance Analysis (IPA) method is believed to have advantages compared to other methods. IPA aims to display information related to service factors which according to customers greatly influence their loyalty and satisfaction, and service factors which according to customers need to be improved because current conditions have not satisfied customers. IPA unites the measurement of performance level factors and the level of importance which are depicted in a two-dimensional diagram, namely the importance-performance diagram to obtain practical suggestions and facilitate explanation of data.¹⁶ Therefore, this study aims to analyze the best strategy for improving the quality of service at General Hospital in South Sulawesi.

METHODS

This research was conducted in 2022 at the Inpatient Installation at the South Sulawesi Provincial Hospital, namely the Labuang Baji Hospital, Haji Hospital, and Sayang Rakyat Hospital. This study was a quantitative with descriptive analysis approach. This research was designed to portray the actual conditions of each hospital in a cartesian diagram based on seven dimensions of patient experience. The Ethical Committee of the Faculty of Public Health, Hasanuddin University Makassar, Indonesia, approved this study (number:13978/UN4.14.1/TP.01.02/2022). The population in this study included in patients who were admitted to one of the three hospitals and had been hospitalized for more than a night and have been threatened before.

Data collection

Data collection was carried out using a measuring instruments in the form of a patient experience questionnaire. This questionnaire has 48 total questions which categorized in seven dimensions with total sample is 382 patients three hospitals combined. On the other hand, there are some question to find out the demographic of the patient such as sex, age, last education, occupation, payment method and inpatient room.

Statistical analysis

Statistical analysis was performed using SPSS software version 12.0 (IBM Corp., Armonk, NY, USA). After the data is collected, we will use

Importance Performance Analysis (IPA) for data analysis. In general, IPA integrates assessments of attribute importance and performance into a two-dimensional matrix (see Fig. x) in order to simplify the data interpretation and produce practical recommendations. Patients rate each attribute for its importance to them based on their own perception. Therefore, by using IPA each indicator will be plotted in four different quadrants in Cartesian diagram where each quadrant will have its own strategy. The first quadrant (A) capture the attributes that customer think are important which the company does not perform well are classified as "main priority". The company should concentrate on improving its performance in these areas. Second quadrant (B) contains the characteristics that patient believe are crucial in their consumer behavior and on which they believe the hospital performs well "keep up the good work". Certain attributes may fall into the third quadrant, 'low priority,' if their importance and performance scores are lower than the average. These objects are likely to be prioritized low in resource allocation decisions. The last quadrant (D) "possible overkill" implies that the attributes in this quadrant are very minor, but the hospital does well on them.

RESULTS

Characteristics

Table 1 presents the characteristics of the respondents in the three general hospitals in South Sulawesi Province totaled 382 patients. The largest sample was women with the most vulnerable ages 36-45 years old followed with 46-55 years old patient. Most of the patient's jobs are private employees with last education was in high school. From the data below, 41% of patients used national insurance as their payment method and stayed in the class 3 inpatient room.

Table 2 presents the patient experience variables for Labuang Baji Hospital. The results of this patient experience survey provide an overview of the patient's assessment of the service received during treatment at the South Sulawesi Provincial Hospital, covering the following seven dimensions: admission to hospital; hospital and ward environment; care and treatment; operations and procedures; hospital staff; discharge information; and leaving the hospital.¹⁷ From the performance and importance data obtained, it is possible to compare the level of performance and the level of importance. This comparison value will be described in the cartesian diagram. The X axis shows the value of the performance for its dimension while the Y axis represents the importance of the dimension.

As appeared on Table 2, there are seven dimensions that being analyzed when this research was conducted at Labuang Baji Hospital. Hospital and Ward Environment earns the lowest compatibility value with only 57.24% followed by Admission to Hospital with 77.36%. These two dimensions is categorized as not satisfying based on the compatibility mean value. In addition, the other five dimensions gets a satisfied result with Leaving Hospital becomes the highest compatibility value with 107.92%.

Table 3 represents result of Haji Hospital after being analyzed using IPA. Based on this table, there are two dimensions that still categorized as not satisfying. Those two dimensions are Admission to Hospital and Hospital and Ward Environment with 95.95% and 96.71% respectively. The average mean for this Hospital is 99.3% that is why all dimension above those number categorize as satisfying. Hospital Staff becomes dimension with the highest compatibility value with 104.19% followed by Operation and Procedure with 102.77%.

Table 4 shows the result of Sayang Rakyat Hospital based on IPA methods. There are three dimensions that categorized as not satisfying which are "Admission to Hospital", "Hospital and Ward Environment", and "Care and Treatment" with compatible value of 92.09%, 89.94%

Table 1: Characteristics of participants.

Characteristics	Labuang Baji Hospital		Haji Hospital		Sayang Rakyat Hospital		TOTAL	
Gender	n	%	n	%	n	%	N	%
Male	42	35,6	90	41,8	10	20,4	142	37,2
Female	76	64,4	125	58,2	39	79,6	240	62,8
Age	n	%	n	%	n	%	N	%
17 – 25	1	0,85	5	2,33	0	2,4	6	1,57
26 – 35	9	6,63	18	8,37	0	65,9	27	7,07
36 – 45	61	51,69	82	38,14	29	11,65	172	45,04
46-55	42	35,59	95	44,19	11	4,42	148	38,74
>55	5	4,24	15	6,98	9	3,61	29	7,59
Education	n	%	n	%	n	%	N	%
Primary School	26	22,03	50	22,36	10	20,41	86	22,5
Secondary School	29	24,57	48	22,33	10	20,41	87	22,7
High School	41	34,75	72	33,49	29	59,18	142	37,1
Bachelor Degree	22	18,64	45	20,93	0	0	67	17,5
Occupation	n	%	n	%	n	%	N	%
Student	10	8,47	20	9,30	5	2,33	35	9,21
Public Sector	30	25,42	20	9,30	9	4,19	59	15,45
Private Sector	50	42,37	99	46,05	20	9,30	169	44,24
Self-Employed	10	8,47	51	23,72	10	4,65	71	18,59
Unemployed	10	8,47	15	6,98	5	2,33	30	7,85
Others	8	6,78	10	4,65	0	0	18	4,71
Payment Method	n	%	n	%	n	%	N	%
Out of Pocket	11	9,32	20	9,30	5	10,20	36	9,42
National Insurance	46	28	78	36,27	5	10,20	129	33,76
National Insurance Paid by Government	41	34,75	77	35,81	39	78,59	157	41,09
Private Insurance	20	16,94	40	18,60	0	0	60	15,70
Inpatient Room	n	%	n	%	n	%	N	%
Class 1	20	16,94	40	18,60	0	20,4	60	15,70
Class 2	36	30,50	50	53,25	9	18,36	95	24,86
Class 3	62	52,54	125	58,13	30	61,22	217	56,80

Table 2: Importance performance analysis result at Labuang Baji hospital.

Labuang Baji Hospital							
No.	Dimension	Performance Average	Importance Average	X	Y	Suitability	Explanation
1.	Admission to Hospital	411,14	531,43	3.48	4.51	77.36%	Not satisfied
2.	Hospital and Ward Environment	303,38	530	2.57	4.48	57.24%	Not satisfied
3.	Care and Treatment	498,6	510	4.23	4.32	97.76%	Satisfied
4.	Operation and Procedure	524,4	503,14	4.44	4.27	104.23%	Satisfied
5.	Hospital Staff	511,3	495,9	4.33	4.2	103.11%	Satisfied
6.	Discharge Information	508,2	498	4.31	4.22	102.05%	Satisfied
7.	Leaving Hospital	523	484,6	4.43	4.11	107.92%	Satisfied
Global Average		468.57	507.58	4,50	3,52	92.81%	Satisfied

Table 3: Importance performance analysis result at Haji hospital.

Haji Hospital							
Dimension	Performance Average	Importance Average	X	Y	Suitability	Explanation	
1 Admission to Hospital	884,29	921,57	4.11	4.29	95.95	Not satisfied	
2 Hospital and Ward Environment	880,75	910,75	4.09	4.23	96.71	Not satisfied	
3 Care and Treatment	918	920	4.28	4.29	99.78	Satisfied	
4 Operation and Procedure	926	901	4.31	4.29	102.77	Satisfied	
5 Hospital Staff	920	883	4.28	4.11	104.19	Satisfied	
6 Discharge Information	922	917	4.28	4.26	100.55	Satisfied	
7 Leaving Hospital	889,8	886	4.19	4.12	100.43	Satisfied	
Global Average	897.26	895.43	4.20	4.23	99,3%	Satisfied	

Table 4: Importance performance analysis result at Sayang Rakyat hospital.

Sayang Rakyat Hospital							
Dimension		Performance Average	Importance Average	X	Y	Suitability	Explanation
1	Admission to Hospital	201.8	219.14	4.12	4.47	92.09%	Not satisfied
2	Hospital and Ward Environment	200.2	222.6	4.08	4.54	89.94%	Not satisfied
3	Care and Treatment	201	221.8	4.1	4.52	90.62%	Not satisfied
4	Operation and Procedure	219	215.7	4.47	4.47	101.53%	Satisfied
5	Hospital Staff	218.2	216.4	4.45	4.48	100.83%	Satisfied
6	Discharge Information	217.2	209	4.43	4.26	103.92%	Satisfied
7	Leaving Hospital	206,2	208	4.2	4.24	99.13%	Satisfied
Global Average		209.09	216.09	2.26	4.25	96,87%	Satisfied

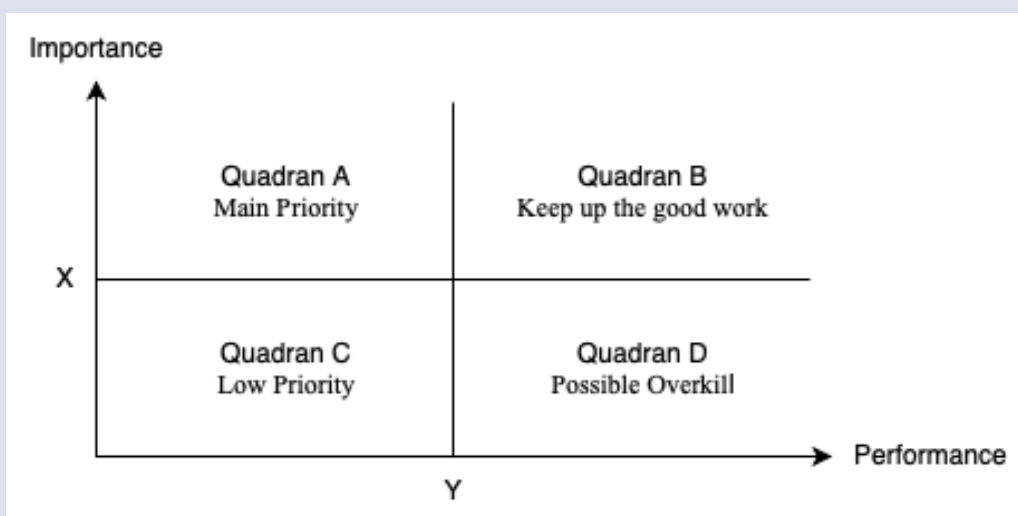


Figure 1: Cartesian diagram of importance-performance analysis

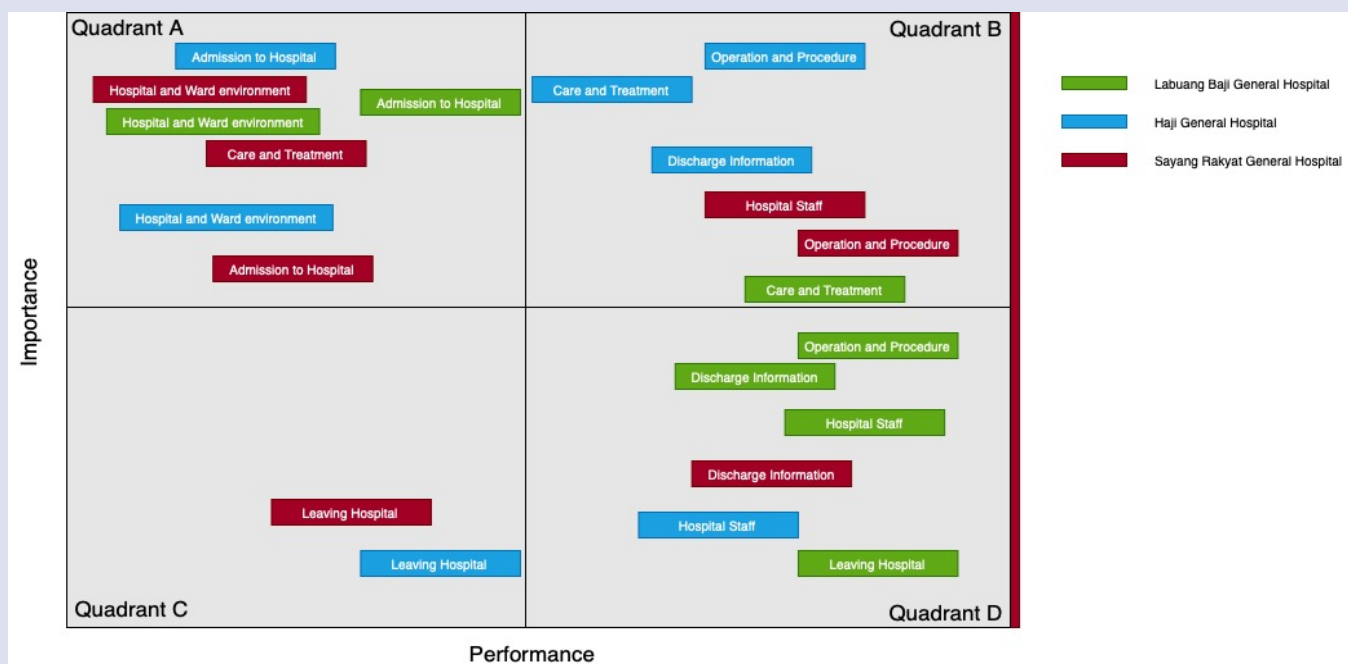


Figure 2: Cartesian diagram's result of IPA at three provincial hospitals

and 90.62% respectively. On the other hand, "Discharge Information" and "Operation and Procedure" gets the highest performance with 101.53% and 103.92% vice versa. The average mean for Sayang Rakyat Hospital is 96.87% where all the number below that number categorize as not satisfying.

Figure 2 reveals the results of the Cartesian diagram of the three IPA analyzes at three Provincial Hospitals in South Sulawesi. In total, there will be 21 dimensions where each hospital will be represented by seven dimensions and differentiated by color. "Admission to Hospital" and "Hospital and Ward Environment" are the dimensions plotted in Quadrant A for the three hospitals. While Care and Treatment at Sayang Rakyat Hospital is the only additional dimension in this quadrant. As we know, these seven dimensions in quadrant A will be the top priority in order to improve the performance of each hospital.

DISCUSSION

Analysis of importance level and performance level of patient experience in inpatient installation of South Sulawesi Provincial hospital

Admission to hospital: The Admission to Hospital dimension gets the highest response to the level of importance so this indicates that this dimension has high expectations for visitors to be noticed by hospital management. However, the South Sulawesi Regional General Hospital received a poor performance rating from respondents. This can be seen from the low value of the performance obtained. Based on this, it can be seen that the level of suitability level in this dimension is still not satisfactory for the patients.

Admission to Hospital for inpatients is a series of patient admission processes to obtain services tailored to the needs of patients at the inpatient reception area. The Admission to Hospital process is often seen as the main gateway to the experience of obtaining health service facilities.¹⁸ The patient acceptance rate, whether inpatient or outpatient, is closely related to the admission process for each health facility. The Admission to Hospital process is one of the procedures that contributes most significantly to patient satisfaction besides staff performance.¹⁹

This dimension is an important part of healthcare management system with serious consequences for patient outcomes and healthcare expenditures. Smith *et al*²⁰ discovered that they are various variables that impact hospital admission performance, such as patient demographics, clinical complexity, and hospital resources. Therefore, admission to hospital is an indicator of the quality of medical services according to standards, so it still needs to be continuously improved so that patients have a good experience regarding the entire admission process.

Hospital and ward environment: In the Hospital and Ward Environment dimension, it is described that the most responses to the level of respondents' expectations are very important, while the respondent's assessment of the level of performance, the most responses are not good. Based on the results of the calculation of the suitability level of the Hospital and Ward Environment dimensions, it was found that three hospitals were still unsatisfactory. This makes that each hospital need to improve their performance for this dimension in order to boost their quality of service.

This dimension is related to the condition of the hospital environment both outside the room and in the treatment room. A comfortable state and condition of the hospital can help the patient's healing process, so that a good environment will make the patient comfortable. Environmental comfort is a form of success for nurses to provide good service, create a conducive environment and strive for common welfare.²¹

The condition of the physical environment of the inpatient room also affects the patient's psychology. Inpatient rooms that are noisy, the air

temperature is too hot, the lighting is lacking, cleanliness and tidiness are not maintained will increase stress on patients. The inpatient room should generate optimism so that it can help the patient's healing process.²²

The results of previous studies explained that the Physical and Non-Physical Environment had a significant effect on patient satisfaction.²³ Therefore, the South Sulawesi Hospital should work hard to meet the patient's expectations regarding a clean and proper environment.

Care and treatment: The dimensions of Care and Treatment of service personnel illustrate that the most responses at the level of respondents' expectations are quite important, while the respondents' assessment of performance levels, the most responses are very good. Based on the calculation of the suitability level of the Care and Treatment dimensions, it has been satisfactory in two hospital which are at Haji and Labuang Baji Hospital, while at Sayang Rakyat Hospitals their patient experienced the opposite.

Caring is a form of nurse's concern for patients as a form of attention, appreciation and being able to meet their needs. Placing caring as a basis and central in nursing practice. Caring provides the ability for nurses to understand and help clients. A nurse must have awareness about nursing care, in helping patient in achieving or maintaining health or achieving death peacefully.²⁴ While treatment is an action that includes being made to assist patients in switching from the current level of health to the desired level as expected results. Treatment is an activity in nursing which includes, centering goals on the client, determining what results to achieve and choosing nursing interventions so that goals can easily be achieved.

Wardhono²⁵ stated that as a professional nurse, it is necessary to create a relationship of mutual trust between the nurse and the client which is very crucial for transpersonal caring. A trusting relationship will promote and accept the expression of positive and negative feelings. Development of trusting relationships applies forms of communication to establish relationships in nursing.²⁶ Watson²⁷ argues that nurses need to recognize comprehensive needs, namely the client's biophysical, psychosocial, psychophysical and interpersonal needs. Fulfillment of the most basic needs needs to be achieved before moving on to the next level.

Operation and procedure: On the Operation and Procedure dimension, it is described that the most responses at the level of respondents' expectations are quite important, while the respondents' assessment for performance levels, the most responses are very good. Based on the calculation of the level of suitability of the dimensions in this dimension it has been satisfactory for those three hospitals so each hospital needs to maintained this performance.

In practice in hospitals, Operations and Procedures are practices designed to monitor and manage all processes of providing health services to patients. The focus of operational management is on creating and developing efficient & effective services. Inpatient service procedures are designed to find out how the process or method of receiving and providing appropriate services is given to patients from the time the patient enters the hospital until he leaves.²⁸ Elements of the inpatient Operation and Procedure include the responsibilities of nurses and doctors in meeting patient needs during the treatment process. The process of medical services and the resulting output must always be monitored and assessed on an ongoing basis whether they are in accordance with Standard Operating Procedures (SOP) standards to ensure service quality.²⁹

Hospital staff: The Hospital Staff dimension illustrates that the most responses to the level of respondents' expectations are quite important, while the respondents' assessment of performance levels, the most responses are very good. Based on the calculation of the level of

suitability of dimensions in this dimension it has been satisfactory. Therefore, those three hospitals need to keep this good performance in order to maintain the quality of service.

Hospital staff, in this case doctors, nurses and other professional staff. Doctors are team leaders and are responsible for all decisions made that affect an individual's care, including diagnosis, treatment, and oversight of the rest of the team.³⁰ They assess and administer medical care, Nurses provide ongoing care. While, the other health professionals provide services to assist with diagnosis and treatment, and assist patients throughout the recovery process. Support and administrative staff work to support the day-to-day operations of the hospital.³¹

In addition, according to Muhidin³² most inpatient services involve nurses in their interactions with patients in a sensitive relationship involving satisfaction, quality of nursing services and the image of the hospital. The nurse will be the main perceptual object in every behavior serving the patient during the hospitalization period.

Discharge information: The Discharge Information dimension illustrates that the most responses to the level of respondents' expectations are quite important, while the respondents' assessment of performance levels, the most responses are very good. Based on the calculation of the level of suitability of dimensions in this dimension it has been satisfactory for those three all hospitals need to maintained this.

Discharge Information is a systematic process in health services to help and educate patients and families in determining needs, developing and implementing and coordinating treatment plans that may be carried out after the patient returns from the hospital in an effort to improve or maintain his health status. In other words, discharge information can be interpreted as a process that is made to be able to decide what things need to be done to improve individual's health.³³ For now, the implementation of discharge information for patients in hospitals is generally only carried out when the patient is about to go home, in the form of a resume record of the patient returning and providing brief information regarding the schedule for controlling the patient to the polyclinic, the drugs that must be taken, and the diet that must be met and avoided.³⁴

Leaving hospital: The Leaving Hospital dimension illustrates that the most responses to the level of respondents' expectations are quite important, while the respondents' assessment of performance levels, the most responses are very good. Based on the calculation of the level of suitability of this dimensions, it has been satisfactory. Nevertheless, there is still much room to improve this leaving mechanism in order to enhance the quality of service.

The hospital determines and implements the process for returning patients from the hospital based on the patient's health condition and the need for continuity of care or action.³⁵ Referring or sending patients to health care facilities, as well as individuals outside the hospital is based on the patient's health condition and their need to obtain continuity of care. The doctor in charge of service and other caregiving professionals who are responsible for patient care coordinate determining the patient's readiness to go home from the hospital based on criteria or referral indications set by the hospital.³⁶

The discharge process for inpatients begins with discharge instructions from the doctor and ends when the patient leaves the inpatient room. After the doctor visits and gives instructions to go home, the nurse prepares drug prescriptions to be taken home by the patient, medicines and medical devices to be returned as well as patient billing files.³⁷⁻⁴³

LIMITATION

In this study we limited patient experience to only seven dimensions from Scottish Inpatient patient experience survey (SIPES) while

there are other dimensions to patient experience which may need to be analyzed to gain a better understanding of the current situation in general provincial hospitals. In addition, in South Sulawesi there will be more provincial general hospital that can be included on the future research.

CONCLUSION

This study shows that by using Importance Performance Analysis (IPA) in Inpatient General Hospital at South Sulawesi will be able to help to determine the best strategy for quality improvement based on patient experience dimensions. Hospitals may enhance the patient experience and overall quality of service by focusing on the most crucial dimension where their performance is poor. Healthcare practitioners and hospital administration can use the result of this research to identify the best approaches to improve patient experience and satisfaction. From this research, we found that these three General Provincial Hospital in South Sulawesi need to improve their admission process and ward environment. In addition, Sayang Rakyat General Hospital requires to develop another dimension which is their care and treatment process to their patient in order to get a better performance. These three dimensions considered as a main priority to boost their patient satisfaction since they are located in quadrant A.

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