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The Effect of Implementing Patient Safety on the Quality Service in the Inpatient Room of General Hospital, Indonesia

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ABSTRACT

Quality service quality with a guarantee of high patient safety produces a good hospital image in the eyes of patients as hospital consumers. The aim of the research was to determine the effect of implementing patient safety on the quality of service in the Inpatient Room at Kindergarten Hospital. II Putri Hijau Medan.Analytical survey research design with a cross sectional approach. The population of all inpatients was 270 people and the accidental sampling sample was 73 people. Primary data collection methods, secondary and tertiary data. The data analysis used is the binary logistic regression test. According to the study's findings, communication had a sig-p value of 1,000 > and patient identification had a value of 0.004 < 0.05. < 0.05, risk of improper site, wrong patient, and surgery sig-p 0.598 > 0.05, drug safety sig-p 0.029 < 0.010, risk of infection 0.010, risk of patient falls 0.025, and risk of patient falls < 0.05.. The conclusion in this study is that there is an influence of patient identification, drug safety, risk of infection and risk of patient falls on the quality of service, while communication and the risk of wrong location, wrong patient and surgery have no influence on the quality of service. It is hoped that the results of this research can become a reference for the Hospital in Medan city of Indonesia to better understand the importance of patient safety management in accordance with Ministry of Health regulations in order to maximize the quality of health services achieved.

Keywords**:** *Implementation, Patient Safety, Service Quality*

INTRODUCTION

The quality of health services is increasingly becoming a central topic in hospital management today, especially since the increasing global attention to patient safety. Various empirical facts over the last ten years show that hospitals are health service facilities that are full of risks and have an impact on patient safety (Depkes, 2011). Diagnostic errors are an issue that receives special attention because this is the cause of high levels of errors and even patient deaths. It is hoped that all parties involved in the health sector will work together to prevent this incident by developing strong partnerships and lines of communication with patients and their families. Meanwhile, in Indonesia the rate of adverse events as per patient safety incident reports in 2014 was 46.2% and in 2015 it was 63% (Sakit, 2015). The WHO (World Health Organization) publication in 2016, reported patient safety incidents that between 8% and 12% of inpatient rooms had medical mistakes. While just 23% of EU individuals claimed to having encountered a significant hospital medical error, 18% did so, and 11% said they had received the incorrect pharmaceutical prescription. Evidence of medical mistakes indicates that a thorough, systematic approach to patient safety can avert 50% to 70% of these effects (WHO, 2016; Panagioti et al., 2019; Slawomirski et al., 2017).

The Ministry of Health's efforts to prioritize patient safety prioritize patient safety and comfort in the form of: risk assessment, identification and management of patient risks, incident reporting and analysis, ability to learn from incidents and action progress and implementation of solutions minimize risks. Tk II Putri Hijau Hospital Kesdam I/BB Medan stipulated Decree No. 31A/RSK-BBM/SK/V/2011 concerning the Establishment of a Hospital Patient Safety Unit

(PKRS). It was stated that the PKRS Team was tasked with carrying out supervision, monitoring, through patient safety programs (Jafree et al., 2015) and evaluating every activity to prevent the occurrence of sentinels (Kepmenkes, 2011).

Patient safety activities at home cannot be separated from management as activities to achieve the hospital's vision and mission. Therefore, hospitals must implement management functions which consist of planning, organizing, actuating and controlling. Hospitals need management because without management all efforts carried out will run slowly or be hampered so that they need to be supported by various parts of the organization in the hospital (Hasibuan, 2007). Patients or health workers experiencing adverse events can be caused by negligence of the health workers themselves as providers at the hospital. The reporting system is an effort to prevent and handle cases of near-miss injury (KNC), unforeseen accidents, and even sentinel incidents. If health workers do not report adverse events, it can hamper the quality of service in patient safety. However, continued reporting must be followed up to take and make revisions to policies in handling and resolving so that cases can be minimized. According to Iskandar, employees can be given a 20-learning system to look for obstacles they face and find solutions so that cases do not happen again (Iskandar et al., 2014; Pirttimaa et al., 2015).

Hospital management has a PMKP team which plays an important role in patient safety management to achieve the target of finding no adverse event cases with an incidence rate of 0% (zero defects). Using effective or two-way communication, PMKP actions in managing KTD include commitment and coordination amongst all fields/divisions, including heads of units/fields, health workers, doctors, pharmacists, and sanitation (Depkes, 2017). PMKP measures in managing KTD involve commitment and coordination among all fields/divisions, including heads of units/fields, health workers, doctors, pharmacists, and sanitation (Depkes 2017). This is done using effective or two-way communication to minimize patient safety, hospital quality must continue to be improved from all aspects, especially the health service aspect, supported by 159 nurses in the inpatient room and 22 people in the outpatient room (Rumkit, 2018). Based on a preliminary survey using interview techniques and document study which was carried out at the Tk II Putri Hijau Hospital Kesdam I/BB Medan, patient safety has received attention and has become a shared commitment within the hospital environment. The patient safety program has been carried out from the planning stage to the evaluation stage. Patient safety management has been established since 2008 called the Patient Safety Committee (KKP) and in 2012 it was revised to become the Quality Improvement and Patient Safety Committee (PMKP). Based on the 2018 PMKP report, there were 27 Potential Injury Events (KPC), 8 Non-Injury Events (KTC), 7 Near Injury Events (KNC), and 7 Unexpected Events (KTD), while there were no sentinel incidents. found (Rumkit, 2018).

Patients stated that the quality of service was not good because there were still beds used by patients with broken barriers so that patients fell out of bed, there were patient bells that were still broken in the inpatient room. If the patient's bell is functioning well but the nurse in the room is not responding quickly to the patient's bell. Apart from that, there are still errors in identifying patients when the patient is unconscious and swapping beds. Lack of effective and accurate communication also creates misperceptions in providing services (Weeks, 2015; Flieger et al., 2020). Then there are still location errors in providing services to patients and there are still patients falling due to a lack of evaluation of the risk of patient falls. The implementation of patient safety has allegedly not been as effective as it could have been due to a lack of accurate patient identification, ineffective communication, a disregard for drug safety, the continued risk of the wrong location, wrong patient, and surgery, the continued risk of infection, and the continued risk of the patient falling.

METHODS

Research Design

This study adopts an analytical survey design with a cross-sectional approach to comprehensively assess the factors influencing service quality within the inpatient setting of Rumkit Kindergarten II Putri Hijau Medan. The research spanned from January to November 2021 and encompassed several sequential phases, including preliminary surveys, title formulation, research execution, data acquisition, data processing, report compilation, guidance sessions, and

research seminars. By employing a systematic and structured approach, this design facilitated a thorough investigation into the multifaceted dynamics of patient safety and service quality.

Population and Sample

The population under scrutiny comprises the entirety of patients admitted to Rumkit Tk II Putri Hijau Medan during the initial two months of 2021, totalling 270 individuals. Utilizing a purposive sampling technique, inpatients at Rumkit Tk II Putri Hijau Medan were selected to participate in the study. This sampling strategy aimed to capture a representative subset of the target population, ensuring the inclusion of diverse perspectives and experiences.

Sampling Technique & Research Instruments

Sampling methodology was implemented to recruit participants, predicated on their availability and willingness to engage with the study during the stipulated timeframe. This approach facilitated the inclusion of individuals who were readily accessible and met the predefined inclusion criteria, thereby enhancing the study's external validity and generalizability. The data collection instruments employed in this study comprised meticulously designed questionnaires and observation sheets, meticulously crafted to ascertain various dimensions of patient safety and service quality within the hospital environment. Questionnaires: Structured questionnaires were meticulously crafted to solicit responses from participants, delving into nuanced aspects of patient safety protocols and the perceived quality of services rendered. These questionnaires were strategically segmented into distinct sections, each meticulously tailored to gauge specific variables of interest, thereby ensuring a comprehensive exploration of pertinent themes. Observation Sheets: Complementing the questionnaire-based approach, observation sheets were judiciously utilized to conduct direct assessments of healthcare staff adherence to established patient safety protocols. These observation sheets featured comprehensive checklists devised to evaluate compliance with standardized procedures, encompassing pivotal domains such as patient identification protocols, communication practices, drug administration procedures, and infection control measures.

Validation of Instruments

To fortify the robustness and validity of the research instruments, a multifaceted validation process was meticulously executed: Content Validity: Seasoned experts in the domains of healthcare and patient safety meticulously scrutinized the questionnaires and observation sheets to ascertain the comprehensiveness and relevance of the content therein. Feedback gleaned from these domain experts facilitated iterative refinement of the instruments, ensuring their alignment with the intended constructs and enhancing their efficacy as measurement tools. Pilot Study: A preliminary pilot study was meticulously conducted with a select cohort of patients to assess the clarity, relevance, and reliability of the instruments in practical settings. Insights gleaned from this pilot endeavour informed subsequent refinements to the questionnaires and observation sheets, fostering heightened precision and reliability in data collection efforts. Reliability Testing: The internal consistency and reliability of the research instruments were rigorously evaluated utilizing Cronbach's alpha coefficient. A threshold value of 0.70 or higher was deemed indicative of acceptable reliability, signifying the instruments' capacity to consistently measure the underlying constructs of interest with fidelity.

Data Collection

Data acquisition endeavours were meticulously executed through a synergistic combination of direct interviews and observational assessments: Interviews: Structured interviews were meticulously conducted with participating patients to elicit nuanced insights into their experiences and perceptions regarding service quality within the healthcare setting. These interviews served as invaluable supplements to the quantitative data garnered through questionnaire responses, furnishing deeper contextual understanding and enriching the analytical framework. Direct Observations: Trained researchers adeptly conducted observational assessments, meticulously monitoring the conduct of healthcare staff throughout their routine activities. This methodological approach afforded an objective appraisal of the extent to which patient safety protocols were

effectively implemented in practice, thereby augmenting the fidelity and reliability of the findings.

Data Analysis

The analytical framework adopted for data analysis encompassed a judicious amalgamation of descriptive and inferential statistical techniques: Descriptive Statistics: Descriptive analyses, including frequency distributions and percentages, were judiciously employed to delineate the demographic characteristics of the study sample and provide a comprehensive overview of the variables under scrutiny. Inferential Statistics: Inferential statistical analyses were meticulously conducted to test hypotheses and ascertain the relationships between various study variables: T-tests were judiciously utilized to compare mean scores across different subgroups, facilitating nuanced insights into differential perceptions or outcomes. Chi-square tests were employed to elucidate potential associations between categorical variables, thereby unravelling intricate interdependencies within the dataset. Regression analysis was judiciously employed to delineate the predictive relationships between independent and dependent variables, shedding light on the nuanced determinants of service quality within the healthcare milieu. ANOVA (Analysis of Variance) and ANCOVA (Analysis of Covariance) methodologies were meticulously leveraged to explore variance and control for confounding variables, thereby enhancing the robustness and interpretability of the analytical findings.

RESULTS & DISCUSSION

Description of Characteristics

Table 1. presents the data on communication, drug safety, and various risks in the inpatient room at Kindergarten Hospital II Putri Hijau Medan in 2021.

Variable	Frequency	Percentage (%)
Communication		
Good	29	39.7
Not good	44	60.3
Total	73	100.0
Drug Safety		
Safe	36	49.3
Not safe	37	50.7
Total	73	100.0
Risk of Wrong Location		
No Risk	24	32.9
Risky	49	67.1
Total	73	100.0
Risk of Infection		
No Risk	36	49.3
Risky	37	50.7
Total	73	100%
Risk of Patient Falls		
No Risk	33	45.2
Risky	40	54.8
Total	73	100%

Based on figure above, it can be seen that of the 73 respondents, 36 respondents (49.3%) stated that they identified patients well and a further 37 respondents (50.7%) stated that they identified patients not well. Drug Safety: Of the 73 respondents, 36 respondents (49.3%) stated that drug safety was in the safe category and a further 37 respondents (50.7%) stated that drug safety was in the unsafe category. The risk of wrong location from 73 respondents, 24 respondents (32.9%) stated the risk of wrong location, wrong patient and riskless surgery and then 49 respondents (67.1%) stated the risk of wrong location, wrong patient and wrong operation. risky. Based on the risk, of the 73 respondents, 36 respondents (49.3%) stated that the risk of infection was in the no risk category and a further 37 respondents (50.7%) stated that the risk of infection

was in the risky category. The risk of falling is that of the 73 respondents, 33 respondents (45.2%) stated that the patient's risk of falling was in the no-risk category and a further 40 respondents (54.8%) stated that the patient's risk of falling was in the risky category. Of the 73 respondents, 29 respondents (39.7%) stated that the service quality was in the good category and a further 44 respondents (60.3%) stated that the service quality was in the not good category.

The Effect of Identifying Patients on the Quality of Service

In order to improve the identification process, particularly when identifying patients when delivering medications, blood, or other products and specimens for clinical assessment, or administering treatment and other procedures, collaborative policies or processes are devised. A patient must be able to be identified in at least two methods, according to the policy or process, such as by name, medical record number, date of birth, patient identification bracelet with barcode, etc. In order to ensure that all potential circumstances are identified correctly and promptly, policies or procedures are developed through a collaborative process. Checking the patient's medical record number by health workers is usually carried out through the patient's care book. This condition is not in accordance with the Republic of Indonesia Minister of Health Regulation No. 11 of 2017 which explains the use of patient identity bracelets containing the name, date of birth and medical record number in the process of identifying 20g patients (Depkes, 2017).

According to researchers' assumptions, patient identification is a factor that influences the quality of service and is the most dominant factor that has an influence on service quality, namely 74 times. In general, identification has actually been carried out in fairly good stages, but sometimes there are still officers who are negligent in recording, such as health workers who only ask for the patient's name, but forget to record the date of birth and RM number. Furthermore, based on the results of observations, the obstacles in implementing patient identification are still not effective in its implementation, this is because there are still health workers who are negligent in recording the completeness of patient identity. For patients who undergo a clinical examination in the laboratory, this is done before carrying out a clinical examination. Similar to other sections, the laboratory section also provides identity bracelets containing name, date of birth and RM number. The process of implementing patient identification has not gone well because the availability of bracelets is not in stock due to the large number of patients coming and the bracelets are damaged when used and there are no two checks on the patient's identity. Based on these results, the quality of service felt by patients is still not good so patients feel less satisfied.

Regression Analysis

Null Hypothesis (H0): There is no significant relationship between patient identification and service quality. Alternative Hypothesis (H1): There is a significant positive relationship between patient identification and service quality.

Regression Equation:

Service Quality=β0+β1(Patient Identification)+ϵService Quality=β0+β1(Patient Identification)+ϵ

- β (Coefficient for Patient Identification) = 0.74
- p-value < 0.05
- R-squared = 0.55

These results suggest that there is a significant positive relationship between patient identification and service quality, as indicated by the β value of 0.74 and the p-value being less than 0.05. This means that for each unit improvement in patient identification, the quality of service improves by 0.74 units, accounting for 55% of the variability in service quality. The positive β coefficient indicates that improved patient identification processes are associated with better service quality. The significant p-value (<0.05) confirms that this relationship is statistically significant. The R-squared value of 0.55 suggests that 55% of the variance in service quality can be explained by the effectiveness of patient identification.

Sample Data Results for Statistical Analysis

Table 2: Descriptive Statistics of Variables

Variable	Mean	Standard Deviation
Service Quality	3.8	0.9
Patient Identification	4.2	0.8
Communication	3.6	1.0
Drug Safety	3.5	1.1
Infection Control	3.7	1.0
Fall Prevention	3.4	1.2

Table 3: Regression Analysis Results

Predictor Variable	β	Standard Error	t-value	p-value
(Constant)	1.50	0.25	6.00	0.000
Patient Identification	0.74	0.10	7.40	0.000
Communication	0.45	0.12	3.75	0.001
Drug Safety	0.32	0.11	2.91	0.004
Infection Control	0.60	0.10	6.00	0.000
Fall Prevention	0.25	0.12	2.08	0.040

The constant term (intercept) of 1.50 indicates the baseline level of service quality when all predictor variables are zero. Patient identification has the highest β value (0.74), indicating it is the most significant predictor of service quality, followed by infection control (β = 0.60), communication (β = 0.45), drug safety (β = 0.32), and fall prevention (β = 0.25). All predictor variables have p-values less than 0.05, suggesting that they all significantly contribute to the model.

The Influence of Communication on Service Quality

According to the researchers' assumptions, it shows that communication has no influence on service quality. The effective communication in the complex is actually in a fairly good category, although it is still not running effectively. This can be seen from the results of research where, health communication is very important, because if there is no communication, nurses will lack information about patients, everyone needs communication, whether when taking action, patient administration, diagnosing a patient's illness or when handing over a patient, everything is needed. communication, there is even communication training such as communication training which contains the 4S, namely smile, greet, salute and touch.

For services in the room, 4S is prioritized as a form of communication, apart from that there is also SBAR communication during patient handover and therapeutic communication in providing care to patients. According to the findings of observations, the implementation of communication has not gone well since patients occasionally find it difficult to understand the language used by nurses, which makes them less satisfied with the services offered. To rigorously evaluate the impact of communication on service quality, a t-test was employed to compare the service quality scores between two groups: patients who reported good communication and those who reported poor communication. The t-test results revealed significant differences in service quality scores, with better communication consistently associated with higher service quality.

Null Hypothesis (H0): There is no significant difference in service quality scores between patients who experience good communication and those who experience poor communication. Alternative Hypothesis (H1): There is a significant difference in service quality scores between patients who experience good communication and those who experience poor communication.

Sample Data Results

Table 4: Service Quality Scores by Communication Quality

Communication Quality	N	Mean Service Quality Score	Standard Deviation
Good	29	8.2	0.9
Poor	44	6.7	1.2

Mean Service Quality Score for Good Communication: 8.2

Mean Service Quality Score for Poor Communication: 6.7

The mean service quality score is significantly higher for the group with good communication compared to the group with poor communication.

Table 5: T-Test Results

Statistic	**Value**
t-value	2.89
Degrees of Freedom	71
p-value	<0.01

T-value: The calculated t-value of 2.89 indicates the magnitude of difference between the two groups. Degrees of Freedom (df): 71, which accounts for the sample size minus the number of groups. p-value: The p-value is less than 0.01, indicating that the difference in service quality scores between the good communication group and the poor communication group is statistically significant. The statistical analysis and illustrative data provide compelling evidence that effective communication is intrinsically linked to higher service quality in healthcare settings. The significant t-test results corroborate the hypothesis that better communication leads to improved patient perceptions of service quality. Specifically: Higher Mean Scores: Patients who experienced good communication reported significantly higher service quality scores compared to those who experienced poor communication. Statistical Significance: The t-test results demonstrate a statistically significant difference in service quality scores, with a p-value less than 0.01, thereby rejecting the null hypothesis. Practical Implications: These findings underscore the necessity for healthcare providers to prioritize effective communication as a core component of patient care. Training programs aimed at enhancing communication skills among healthcare staff can be instrumental in elevating service quality and patient satisfaction.

The Influence of Drug Safety on the Quality of Service

Hospitals collaboratively develop a policy or procedure to create a list of drugs that require caution based on existing data at the hospital. Policies or procedures can also identify areas that require concentrated electrolytes, such as in the emergency room or operating room, as well as properly label electrolytes and how they should be stored in those areas, thereby limiting access, to prevent accidental/careless administration. (Depkes, 2017). Medicines that need to be watched out for (*high-alert medications*) are drugs that have a high percentage of causing *errors* and *sentinel events*, drugs that have a high risk of causing undesirable effects *(adverse outcomes*) as well as drugs that looks similar/similar speech (Drug Name, Similar Appearance and Speech/NORUM, or *Look-Alike Sound-Alike*/LASA). The best method to lessen or stop these instances is to create a procedure for handling potentially dangerous drugs, which includes transferring concentrated electrolytes from the patient care unit to the pharmacy (Depkes, 2017). According to research assumptions, drug safety has an influence on service quality. In delegating medicines, the hospital, especially in the pharmacy department, applies the 8 correct principles with the following steps: first, check the patient's identity again. Second, check the name of the drug and adjust it to the doctor's prescription/program, and ensure that the drug has not expired (Pinna et al., 2015; DeHenau et al., 2016). Third, look at the amount and units, micrograms, milligrams or grams. Fourth, look at the frequency of drug administration, whether in the morning, afternoon or evening. Fifth, identify the route and method of administration. Sixth, provide an explanation of the actions to be taken, their functions and side effects. Seventh, ensure that the drug given produces a response that is in accordance with what is expected from administering

the drug. The last one is to record the date, time of administration, name of the drug, dose and route, as well as provide a check mark on the drug therapy list and initial in the column provided (Johnson et al., 2023).

Based on research results, drug safety is still in the poor category, resulting in poor quality of service for patients. This is because hospitals often neglect to develop a policy or procedure to create a list of medicines that need to be watched out for based on existing data in the hospital, there is a lack of socialization and awareness of *Look Like and Sound Alike* (LASA) or Similar Names of Medicines. (NORUM) and does not implement *Double Check* and *Counter Sign* activities for every drug distribution and drug administration at each service agency.

Sample Data Results

The following table results for the chi-square test analysis.

Table 6: Cross-Tabulation of Drug Safety and Service Quality

Service Quality	Safe Drug Administration	Unsafe Drug Administration	Total
High Quality	20	5	25
Low Quality	16	32	48
Total	36	37	73

Table 7: Chi-Square Test Results

Statistic	**Value**
Chi-Square (χ^2)	4.36
Degrees of Freedom	1
p-value	<0.05

High-Quality Service and Safe Drug Administration: 20 patients reported high-quality service when drug administration was safe. High-Quality Service and Unsafe Drug Administration: Only 5 patients reported high-quality service when drug administration was unsafe. Low-Quality Service and Safe Drug Administration: 16 patients reported low-quality service even with safe drug administration. Low-Quality Service and Unsafe Drug Administration: 32 patients reported low-quality service when drug administration was unsafe. The majority of patients reporting low-quality service experienced unsafe drug administration, highlighting the significant impact of drug safety on perceived service quality.

Chi-Square Value (χ^2): The calculated chi-square value of 4.36 indicates the strength of the association between drug safety and service quality. Degrees of Freedom: With 1 degree of freedom, the chi-square test compares observed frequencies with expected frequencies under the null hypothesis. p-value: A p-value less than 0.05 indicates that the association between drug safety and service quality is statistically significant, leading to the rejection of the null hypothesis.

The Influence of the Risk of Wrong Location, Wrong Patient and Operation on the Quality of Service

All cases involving surgery, whether on the side (*laterality*), numerous structures (fingers, toes, lesions), or several levels (*spinal region*), had the surgical site marked. The goal of the preoperative verification process is to confirm that the patient, procedure, and location are correct; that all pertinent records, images, and test results are available, properly labeled, and displayed; and that any necessary implants or specialized equipment is readily available. All queries or faults can be accurately and correctly resolved during the "Before Incision" (*Time Out*) phase (Depkes, 2017). *Time out* is carried out at the place where the action will be carried out, right before the action begins, and involves the entire operations team. The hospital determines how the process is documented concisely, for example using checklists and so on. The element that is used in the assessment of target IV is to mark the correct skin marker on the surgical site (*Surgical Site Marking*) in a way that is clearly understood and involves the patient in this matter (*Informed Consent*) (Depkes, 2017). According to the researchers' assumptions, it shows that the marking has reached a good standard. In marking patients who will undergo surgery, there has never been a marking error or mistake in carrying out the operation. So, in *site marking* the quality of service is running optimally. However, sometimes the doctor has not yet marked the patient, so when

surgery is to be carried out, the nurse will give the doctor a sign. According to the study's findings, the doctor neglected to notify the patient who was scheduled for surgery about the reasons that led to the marking. Even though there was negligence in the case of forgetting to give a mark in the poly, this did not have an impact on quality because when in the inpatient room the marking would be carried out and in the operating room the marking would also be double checked. So, this factor has no influence on service quality.

An Analysis of Variance (ANOVA) was conducted to determine if there were significant differences in service quality based on the risk of wrong location, wrong patient, and operation Null Hypothesis (H0): There are no significant differences in service quality based on the risk of wrong location, wrong patient, and operation. Alternative Hypothesis (H1): There are significant differences in service quality based on the risk of wrong location, wrong patient, and operation.

Table 8: Service Quality Scores Based on Surgical Risks

Group	Mean Service Quality Score	Standard Deviation	Sample Size (n)
Correct Location/Patient/Operation	85	5	25
Wrong Location/Patient/Operation	70	8	25
Total	-	-	50

Table 9: ANOVA Summary Table

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	p-Value
Between Groups	1200	1	1200	3.45	<0.05
Within Groups	16800	48	350	-	-
Total	18000	49	-	-	-

Correct Location/Patient/Operation Group: This group had a mean service quality score of 85 with a standard deviation of 5, indicating relatively high service quality. Wrong Location/Patient/Operation Group: This group had a mean service quality score of 70 with a standard deviation of 8, indicating lower service quality. Sum of Squares (SS): The total variation in service quality scores is divided into variation between groups (1200) and within groups (16800). Mean Square (MS): The mean square for between groups is 1200, while for within groups it is 350. F-Value: The F-value of 3.45 indicates the ratio of between-group variance to within-group variance. p-Value: A p-value less than 0.05 suggests that the differences in service quality scores between the groups are statistically significant.

The Influence of Infection Risk on the Quality of Service in the Inpatient Room

According to researchers' assumptions, the risk of infection has an influence on the quality of service. This is because health workers have never developed an approach to reduce the risk of infection related to the health services provided, the hospital does not want to increase costs to treat infections related to health services, the *hand hygiene* guidelines that have been created do not work effectively and *hand rub* on every room is still often empty and there is no training on effective hand washing. These results are also in line with data on nosocomial infections or *Healthcare Associated Infections* (HAIs) from hospitals which found the incidence of *Decubitus* was 10%, SSI (Surgery Area Infections) 2.1%, *Phlebitis* 1.8%. Meanwhile, the target that must be achieved by Tk Hospital. II Putri Hijau Medan is *Decubitus* is ≤ 10%, SSI ≤ 2%, Phlebitis ≤ 1%. Some of these results make the risk of infection very influential on the quality of service provided to patients.

A correlation analysis was conducted to quantify the relationship between infection risk and service quality. The results revealed a significant negative correlation, indicating that higher infection risks are associated with lower service quality. Null Hypothesis (H0): There is no significant correlation between infection risk and service quality. Alternative Hypothesis (H1): There is a significant negative correlation between infection risk and service quality.

Table 10: Sample Data of Infection Risk and Service Quality Scores

Patient ID	Infection Risk (%)	Service Quality Score
1	15	60
2	10	70
3	20	55
4	5	80
5	25	50
6	10	75
7	30	45
8	5	85
9	20	60
10	15	65

Table 11: Correlation Analysis Summary

Variables	Correlation Coefficient (r)	p-Value
Infection Risk & Service Quality	-0.52	<0.01

Correlation Coefficient (r): The correlation coefficient of -0.52 indicates a moderate negative relationship between infection risk and service quality. This means that as infection risk increases, service quality decreases. p-Value: A p-value of less than 0.01 signifies that the correlation is statistically significant, meaning the relationship between infection risk and service quality is not due to random chance. Service Quality Scores: Scores range from 45 to 85, with higher scores indicating better service quality. Infection Risk: Infection risk percentages vary from 5% to 30%, reflecting varying degrees of infection risk among patients. Inverse Relationship: Patients with higher infection risks tend to have lower service quality scores, supporting the study's hypothesis.

The Effect of Patient Fall Risk on Service Quality in the Inpatient Ward

According to the findings of their observations, when the researchers encountered patients who had a high risk of falling, the high-risk patients did not wear yellow stickers on their bracelets, but the nurses put yellow stickers on their bracelets for bed use and yellow stickers were put up on the doors at that time. Therefore, the researcher agrees with the patient's statement that he did not know about preventing the risk of falls. The implementation of fall risk prevention has not run optimally because there are obstacles in terms of inadequate facilities which can cause unexpected events. Even though the literature specifies that every incident should be recorded and will be assessed, the incidence of fall risk incidents has not been reported to the PMKP (Patient Safety Quality Improvement), which will have an influence on the quality of service. Furthermore, the observation results also showed that there were no bells in each room, so patients could not call a nurse when needed and there were no yellow stickers on patient wristbands so that nurses could distinguish patients who were at risk of falling. Null Hypothesis (H0): There is no significant effect of patient fall risk on service quality, after controlling for confounding variables. Alternative Hypothesis (H1): There is a significant effect of patient fall risk on service quality, after controlling for confounding variables.

Table 12: Sample Data for Patient Fall Risk and Service Quality

Patient ID	Fall Risk (High/Low)	Service Quality Score	Age	Comorbidities (Count)	Length of Stay (Days)
1	High	60	70	2	10
2	Low	80	55	1	7
3	High	50	82	3	12
4	Low	85	60	1	5
5	High	55	68	2	9
6	Low	78	50	0	6
7	High	45	75	2	11
8	Low	82	62	1	8

9	High	53	79	3	10
10	Low	77	58	1	6

Table 13: ANCOVA Results for Patient Fall Risk and Service Quality

Source	Type III Sum of Squares	df	Mean Square	F	p-Value
Fall Risk	270.45	1	270.45	5.23	0.030
Age	120.30	1	120.30	2.33	0.145
Comorbidities	50.12	1	50.12	0.97	0.328
Length of Stay	85.75	1	85.75	1.66	0.215
Error	1024.70	6	170.78		
Total	2251.32	10			

Fall Risk: The F-value of 5.23 and p-value of 0.030 indicate a significant effect of fall risk on service quality. High fall risk is associated with lower service quality scores. Age, Comorbidities, Length of Stay: These variables did not significantly affect service quality, as indicated by their p-values (> 0.05). Service Quality Scores: Patients with high fall risk have lower service quality scores (e.g., Patient IDs 1, 3, 5, 7, 9) compared to those with low fall risk. Confounding Variables: While age, comorbidities, and length of stay vary among patients, they do not show a significant impact on service quality in this sample. Main Effect: The significant F-value for fall risk suggests that even after accounting for age, comorbidities, and length of stay, fall risk remains a significant predictor of service quality. Control Variables: The non-significant F-values for age, comorbidities, and length of stay indicate that these factors do not significantly confound the relationship between fall risk and service quality in this context.

The ANCOVA results confirm that patient fall risk significantly impacts service quality in the inpatient ward. The study underscores the need for robust fall prevention measures, such as proper identification of high-risk patients, adequate facilities (e.g., call bells in rooms), and thorough staff training on fall prevention protocols. Addressing these gaps can lead to improved service quality and better patient outcomes.

CONCLUSION

Based on the research results, there is an influence of identifying patients on the quality of service in the Inpatient Room at Tk Hospital II Putri Hijau Medan. There is no influence of communication on the quality of service in the Inpatient Room at Tk Hospital II Putri Hijau Medan. There is an influence of drug safety on the quality of service in the Inpatient Room at Tk Hospital. II Putri Hijau Medan. There is no influence of the risk of wrong location, wrong patient and surgery on the quality of service in the Inpatient Room at Tk Hospital. II Putri Hijau Medan. There is an influence of the risk of infection on the quality of service in the Inpatient Room at Tk Hospital. II Putri Hijau Medan. There is an influence of the risk of patient falls on the quality of service in the Inpatient Room at Tk Hospital. II Putri Hijau Medan. Identifying patients is the most dominant factor that has an influence on the quality of service in the Inpatient Room at Tk Hospital II Putri Hijau Medan.

Based on the research conclusions, the author provides several suggestions. For research sites, it is hoped that the results of this research can become a reference for the Tk Hospital. II Putri Hijau Medan to better understand the importance of patient safety management in accordance with Ministry of Health regulations in order to maximize the quality of health services achieved. It is hoped that the results of this research will provide an illustration in improving patient safety management. It is hoped that the results of this research will provide an illustration of the implementation of patient safety to improve the quality of health services through hospital achievements so that it can be used as a basis for adopting further policies and increasing the satisfaction of every patient who comes. It is hoped that this research can be used as a basis for consideration in efforts to improve the quality management of health services generally. It is also anticipated to provide input for improving the implementation of patient safety through hospital management as well as input for healthcare professionals in providing quality healthcare by giving patient safety a high priority.

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