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Service Speed, Communication, and Attitude of Non-Medical Frontliners in Relation to Outpatient Satisfaction: A Cross-Sectional Study

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Abstract

Non-medical frontliner staff play a pivotal role in shaping outpatient experience, yet their specific contributions to patient satisfaction remain underexplored, particularly in private hospitals operating under a premium service concept. ***Objective:*** *This study aimed to analyze the relationship between service speed, communication, and attitude of non-medical frontliner staff with outpatient satisfaction.* ***Methods:*** *A quantitative analytic observational study with a cross-sectional design was conducted at a private type D general hospital in Kudus, Indonesia. One hundred respondents were recruited through accidental sampling using the Slovin formula. Data were collected via a structured five-point Likert-scale questionnaire covering service speed (10 items), communication (10 items), attitude (14 items), and patient satisfaction (12 items). Univariate and bivariate analyses were performed; the Chi-square test was applied following confirmation of non-normal data distribution.* ***Results:*** *Service speed (OR = 103.5; 95% CI: 26.1–410.4), communication (OR = 11.034; 95% CI: 3.01–40.4), and attitude (OR = 180.0; 95% CI: 38.2–849.09) were each significantly associated with patient satisfaction ($p < 0.001$). Staff attitude was the most dominant predictor.* ***Conclusion:*** *Non-medical frontliner performance significantly influences outpatient satisfaction, with staff attitude constituting the strongest determinant. Strengthening interpersonal competence and service responsiveness among frontliner staff is essential to advancing patient-centered care in premium hospital settings.*

Keywords: Frontliner Services, Healthcare Quality, Outpatient Satisfaction, Patient Experience, Service Responsiveness

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INTRODUCTION

Global and National Phenomenon

Patient satisfaction has emerged as a central metric in evaluating healthcare service quality, reflecting not only clinical outcomes but also the broader experience patients encounter throughout their care journey. The World Health Organization (WHO, 2024) asserts that quality health services must encompass safety, effectiveness, and responsiveness — dimensions that extend beyond clinical treatment into every interaction a patient has within a healthcare facility. Globally, empirical evidence consistently demonstrates that patient satisfaction is a multidimensional construct shaped by service quality, interpersonal interaction, and the administrative efficiency of hospital operations (Darzi & Smith, 2023; PMC, 2025). As healthcare systems transition toward patient-centered models, the manner in which services are delivered — not merely the clinical content of those services — has become an equally decisive determinant of patient experience and institutional performance (Unnes, 2025; PMC, 2025).

National and Contextual Specificity

In the Indonesian context, national survey data from the Ministry of Health of the Republic of Indonesia (2023) indicate that overall public satisfaction with healthcare services reached 86.3%, suggesting generally positive evaluations. However, this aggregate figure conceals substantial variation across specific service components, particularly those involving administrative responsiveness, registration processes, and staff interpersonal conduct. Research in Indonesian hospital settings has shown that service quality dimensions — including responsiveness, empathy, and reliability — are significant predictors of patient satisfaction, with certain interpersonal factors exerting particularly strong influence (Suwandi et al., 2024; Ojs.udb.ac.id, 2026). Private hospitals promoting a premium service concept face heightened patient expectations, as patients arriving at such facilities anticipate not only superior clinical care but also an elevated standard of non-clinical service that aligns with the premium positioning of the institution (Jurnal.ppmi.web.id, 2024).

State of the Art: Prior Research Findings

A growing body of literature has investigated the relationship between healthcare service quality dimensions and patient satisfaction, establishing robust evidence that attributes such as service speed, communication, and staff attitude are substantially linked to satisfaction outcomes. Abqa et al. (2023) found that service quality and

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interpersonal communication together accounted for significant variance in patient satisfaction at a regional public hospital, with interpersonal communication contributing 35.8% to satisfaction scores. Similarly, Munandar et al. (2023) demonstrated that service quality exerted a positive and significant effect on patient satisfaction ($p < 0.05$), contributing up to 71.10% of the variance explained. Studies focusing on specific service dimensions have further confirmed that reliability, responsiveness, empathy, and assurance are consistently associated with satisfaction among outpatient populations, including BPJS insurance users, where a strong correlation between service quality and satisfaction was recorded ($r = 0.845$) (Suwandi et al., 2024). The role of communication has been particularly well-documented; Mukti et al. (2025) found that therapeutic communication, alongside waiting time and service quality, was significantly associated with patient satisfaction at a primary health clinic, while Ejournals.indoacademia-society.com (2024) confirmed that dimensions of communication skill — including problem-solving, respect, and nonverbal closeness — exert significant influence over patient satisfaction indicators.

Inconsistencies and Methodological Limitations

Despite this convergent evidence, important inconsistencies and gaps remain. Some studies report that promptness of service — while theoretically a key predictor — did not achieve statistical significance in association with patient satisfaction ($p = 0.331$), in contrast to the strong effects observed for attitude and communication (Jurnal Kesehatan Manarang, 2025). This inconsistency suggests that the relative weight of service speed may vary depending on the institutional context, patient demographics, or the specific staff category under examination. Moreover, the predominance of existing research has focused on medical and nursing personnel, examining satisfaction within clinical units such as inpatient wards, emergency departments, or specific diagnostic services. Such studies, while valuable, do not adequately capture the role of non-medical frontliner staff — including registration officers, information desk personnel, and security staff — who represent the patient's very first point of contact with a healthcare institution. The patient's initial encounter with these non-clinical frontliners shapes first impressions, sets the tone for the entire care experience, and significantly influences their overall satisfaction evaluation (Jisem-journal.com, 2024; Journal.uinmataram.ac.id, 2024). Furthermore, most prior studies were conducted in public or tertiary hospitals, leaving private hospitals operating under a premium service concept comparatively underexplored in the literature (Jurnal.healthsains.co.id, 2024).

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Research Gap and Problem Statement

The research gap is therefore twofold: first, there is a scarcity of studies that isolate and systematically examine the contributions of non-medical frontliner staff — specifically those in registration, information, and security roles — to outpatient satisfaction; second, the premium hospital context, characterized by higher patient expectations and differentiated service standards, has not been adequately addressed in existing empirical literature. Hospital A (RS Aisyiyah Kudus), a private type D general hospital offering a premium-oriented service concept, exemplifies this gap. Preliminary data from 2025, including online patient reviews and internal complaint reports, reveal recurrent concerns related to registration service quality, unclear service flow between onsite and online registration systems, and the responsiveness and interpersonal conduct of non-medical frontliner staff. These patterns indicate that non-medical frontliner service quality is a significant unresolved challenge at this institution, one that risks undermining the hospital's premium positioning and eroding patient trust. Given that service speed, communication, and attitude are theoretically and empirically linked to satisfaction (Fatmawati et al., 2021; Rahmawati & Putri, 2024), yet have not been rigorously examined together in the context of non-medical frontliner staff at private hospitals, a focused empirical investigation is both warranted and timely.

Objective, Urgency, and Novelty

This study therefore aims to analyze the relationship between service speed, communication, and attitude of non-medical frontliner staff with outpatient satisfaction at a private type D general hospital implementing a premium service concept. The urgency of this research is underscored by the growing recognition that patient-centered care must extend beyond clinical interactions to encompass the full spectrum of service touchpoints, including those managed by non-clinical staff (PMC, 2025; Unnes, 2025). The novelty of this study lies in its deliberate focus on non-medical frontliners as a distinct study population — a perspective that has been largely absent in prior hospital administration and service quality research — as well as its application within the premium private hospital setting in Indonesia. By generating evidence-based findings on how service speed, communication, and staff attitude interact to shape outpatient satisfaction in this context, this study offers both a theoretical contribution to the literature on non-clinical service quality and practical recommendations for healthcare managers seeking to strengthen frontliner competencies, improve service responsiveness, and advance patient-centered care standards in premium hospital environments.

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RESEARCH METHODS

Research Design and Approach

This study employed a quantitative analytic observational design with a cross-sectional approach, in which all study variables were measured simultaneously at a single point in time without any experimental intervention administered to participants. The cross-sectional design was selected because it is well-suited to examining associations between independent variables and outcomes in a defined population within a defined time frame, offering efficiency in data collection while maintaining analytical rigor (Sastroasmoro & Ismael, 2020; Sugiyono, 2022). In quantitative research, this design enables researchers to identify correlational patterns and test hypotheses using statistical methods, thereby generating evidence that is replicable and generalizable within comparable settings (Sugiyono, 2022; Suwandi et al., 2024). The study focused on the outpatient unit of Hospital A, a private type D general hospital in Kudus, Central Java, Indonesia, which operates under a premium service concept. Data collection was conducted during the second week of February 2026, specifically during outpatient service hours, to ensure that respondents had directly experienced interactions with non-medical frontliner staff including registration officers, information desk personnel, and security staff (Mukti et al., 2025; Fatmawati et al., 2021).

Population and Sample

The study population comprised all outpatient visitors at Hospital A, which recorded an average of 3,769 outpatient visits per year in 2025. Given the size of this accessible population, the Slovin formula was applied to determine the minimum required sample size with a 10% margin of error, yielding a minimum sample of 100 respondents (Hsij.anandafound.com, 2025; Sugiyono, 2022). This approach to sample size calculation is widely recognized in health services research as a practical and statistically justifiable method for survey-based studies conducted in clinical settings with a finite, countable population (Hsij.anandafound.com, 2025; Sastroasmoro & Ismael, 2020). Respondents were recruited using accidental sampling, a nonprobability technique in which any individual who happened to be present and met the eligibility criteria at the time of the researcher's visit was invited to participate (Sugiyono, 2022). Accidental sampling was selected for its practicality in busy outpatient service settings where systematic probability sampling would be logistically challenging to implement (Sugiyono, 2022; Abqa et al., 2023). Inclusion criteria required that respondents be patients or accompanying family members who had received services from at least one of the three targeted frontliner units

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and who provided voluntary informed consent prior to participation. Exclusion criteria included respondents who were in critical condition, too occupied to complete the questionnaire, or who submitted incomplete or inconsistent responses. Initially, 104 questionnaires were collected; however, four were subsequently excluded due to data quality issues, resulting in 100 valid questionnaires retained for final analysis.

Research Instrument

Data were collected using a structured, self-administered questionnaire consisting of five sections: respondent demographic characteristics, service speed (10 items), communication (10 items), attitude (14 items), and patient satisfaction (12 items). All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), a format widely adopted in patient experience research for its capacity to capture graded perceptions of service quality (PMC, 2025; PMC, 2026). The patient satisfaction instrument was adapted from Windi et al. (2021), covering the empathy and responsiveness dimensions of the SERVQUAL model. Service speed items were adapted from Putri (2025), communication items from Waruwu (2025), and attitude items from Hasanah (2023). Adaptation was conducted to ensure contextual relevance to the non-medical frontliner setting and the premium hospital environment under study. All adapted instruments had undergone prior validity and reliability testing, with Cronbach's alpha coefficients exceeding the minimum acceptable threshold of 0.70, confirming their internal consistency (Sugiyono, 2022; Cureus, 2025). For operational categorization, patient satisfaction was classified based on the median score (satisfied: score greater than or equal to 52; dissatisfied: score below 52), service speed as fast (score greater than or equal to 41) or slow (score below 41), communication as good (score greater than or equal to 40) or poor (score below 40), and attitude as good (score greater than or equal to 60) or poor (score below 60).

Research Procedure

The research procedure was carried out in three sequential phases: preparation, implementation, and data collection. During the preparation phase, the research protocol was submitted to and approved by the Health Research Ethics Committee of Universitas Muhammadiyah Purwokerto prior to any contact with respondents. Questionnaire instruments were reviewed for contextual appropriateness and pre-tested to ensure clarity of item wording in the hospital setting. During the implementation phase, the questionnaire was distributed digitally via Google Form. Respondents received the

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questionnaire link or a QR code at the completion of their administrative registration process, allowing them to respond while still present at the facility and while their service experience was immediately fresh (Waruwu, 2025; Nisa et al., 2025). This mode of distribution was selected to minimize recall bias while accommodating the workflow of a busy outpatient environment. Each respondent completed the questionnaire independently, without guidance from the researcher or clinical staff, to preserve response objectivity. Data collection was carried out exclusively during outpatient service hours throughout the second week of February 2026, ensuring temporal consistency across all collected responses (Sugiyono, 2022; Fatmawati et al., 2021).

Data Analysis

Data were analyzed using statistical software in two stages: univariate and bivariate analysis. The univariate analysis was conducted to describe the distribution of each study variable, including respondent characteristics, service speed, communication, attitude, and patient satisfaction, presented through frequency distributions, medians, and standard deviations (Sugiyono, 2022; Sastroasmoro & Ismael, 2020). Prior to bivariate analysis, the normality of data distribution was assessed using the Kolmogorov-Smirnov test. The results confirmed that the data were not normally distributed (test statistic = 0.205; $p < 0.001$), which precluded the use of parametric tests. Consequently, the Chi-square test was applied as the primary bivariate statistical method to examine the associations between each independent variable (service speed, communication, and attitude) and the dependent variable (patient satisfaction) (Sastroasmoro & Ismael, 2020; Suwandi et al., 2024). Odds Ratios (OR) with 95% confidence intervals were computed alongside each Chi-square test to quantify the strength of association, providing clinically interpretable effect size estimates in addition to statistical significance. Statistical significance was defined at $p < 0.05$ for all tests, consistent with standard practice in cross-sectional health services research (Darzi & Smith, 2023; Misniati et al., 2021).

Ethical Considerations

Ethical approval for this study was granted by the Health Research Ethics Committee of Universitas Muhammadiyah Purwokerto (KEPK-UMP) under registration number KEPK/UMP/25/II/2026, issued on 3 February 2026, prior to the commencement of data collection. The study was conducted in full accordance with the ethical principles governing human subjects research, including voluntary participation, autonomy, and beneficence (Sastroasmoro & Ismael, 2020; Sugiyono, 2022). Informed consent was

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obtained from all respondents before participation, and participants were clearly informed of their right to withdraw at any time without consequence. To protect participant privacy, all questionnaire responses were anonymized, and no personally identifiable information was linked to individual data records. Data were stored securely and accessed exclusively by the research team for the purposes of this study, ensuring full confidentiality and anonymity throughout all stages of the research process (Suwandi et al., 2024; Abqa et al., 2023),

RESULTS AND DISCUSSION

Characteristics of Respondents

Table 1. Description of Respondent Age

Characteristics	Mean	SD	Min	Max
Age	25,22	8,166	17	60

Table 1 presents the descriptive statistics of respondents' age. The mean age was 25.22 years (SD = 8.166), with a minimum age of 17 years and a maximum age of 60 years.

Table 2. Frequency Distribution of Respondents

Characteristics	f	%
Gender		
Male	33	33.00
Female	67	67.00
Education		
Elementary School	0	0
Junior High School	2	2.00
High School	3	3.00
Diploma	10	10.00
Bachelor's Degree	46	46.00
Master's/Doctorate	5	5.00
Work		
Student	30	30.00
Employee	28	28.00
Civil Servant	11	11.00
Military/Police	7	7.00

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Entrepreneur	11	11.00
Others	13	13.00
Patient Category		
BPJS	84	84.00
Non-BPJS	16	16.00
Total	100	100.00

Table 2 shows the distribution of respondents based on demographic characteristics. Most respondents were female (67%), while 33% were male. The majority had a bachelor's degree (46%), followed by diploma (10%), postgraduate (5%), senior high school (3%), and junior high school (2%). None had primary school education. Based on occupation, most respondents were students (30%), followed by private employees (28%), civil servants (11%), entrepreneurs (11%), military/police officers (7%), and others (13%). Most respondents were BPJS patients (84%), while 16% were non-BPJS patients.

Patient Satisfaction

Table 3. Description of Patient Satisfaction Variable

Variable	Median	SD	Min	Max
Patient Satisfaction	52	8,300	13	60

Table 3 shows the descriptive statistics of patient satisfaction. The median score was 52 (SD = 8.300), with scores ranging from 13 to 60. Based on the median cut-off, Table 4 indicates that 51 respondents (51%) were categorized as satisfied, while 49 respondents (49%) were categorized as dissatisfied.

Table 4. Frequency Distribution of Patient Satisfaction Variable Categories

Category	f	%
Satisfied	51	51.00
Dissatisfied	49	49.00
Total	100	100.00

Table 5 presents the distribution of responses for each satisfaction item. The highest proportion of "strongly dissatisfied" responses (3%) was found in pharmacy

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waiting time. The highest “dissatisfied” response (9%) was related to queue waiting time. Most responses across items were in the satisfied and strongly satisfied categories.

Table 5. Frequency Distribution of Each Question Item of the Patient Satisfaction Variable

No	Question	STS (1)		TS (2)		N (3)		S (4)		SS (5)	
		f	%	f	%	f	%	f	%	f	%
1	How satisfied are you with the friendly attitude of the staff?	2	2.00	1	1.00	10	10.00	49	49.00	38	38.00
2	How satisfied are you with the courtesy shown by the staff?	1	1.00	2	2.00	8	8.00	48	48.00	41	41.00
3	How satisfied are you with the attention given by the staff?	2	2.00	2	2.00	8	8.00	43	43.00	45	45.00
4	How satisfied are you with the way the staff motivates you?	1	1.00	1	1.00	11	11.00	52	52.00	35	35.00
5	How satisfied are you with the support provided by the staff?	1	1.00	2	2.00	12	12.00	51	51.00	34	34.00
6	How satisfied are you with the patience of the staff in serving you?	1	1.00	2	2.00	7	7.00	44	44.00	46	46.00
7	How satisfied are you with the attentiveness of the staff in serving you?	1	1.00	1	1.00	11	11.00	48	48.00	39	39.00
8	How satisfied are you with the ease of the administrative process?	1	1.00	2	2.00	12	12.00	50	50.00	35	35.00
9	How satisfied are you with the waiting time?	2	2.00	9	9.00	15	15.00	36	36.00	38	38.00
10	How satisfied are you with the waiting time at the pharmacy?	3	3.00	3	3.00	22	22.00	34	34.00	38	38.00
11	How satisfied are you with the speed of other public services?	1	1.00	1	1.00	15	15.00	44	44.00	39	39.00
12	How satisfied are you with the speed of service provided by the staff?	1	1.00	1	1.00	11	11.00	45	45.00	42	42.00

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Service Speed

Table 6. Description of Service Speed Variable

Variable	Median	SD	Min	Max
Service Speed	41	7,108	13	50

Table 6 shows that the median score of service speed was 41 (SD = 7.108), with a minimum score of 13 and a maximum of 50. Based on the median classification, Table 7 shows that 50% of respondents perceived the service as fast, while 50% perceived it as slow.

Table 7. Frequency Distribution of Service Speed Variable Categories

Category	f	%
Fast	50	50.00
Slow	50	50.00
Total	100	100.00

Table 8 presents item-level responses. “Strongly disagree” responses (1%) appeared in almost all items, except responsiveness to patient needs (0%). The highest “disagree” response (5%) was related to queue waiting time.

Table 8. Frequency Distribution of Each Question Item of the Service Speed Variable

No	Question	STS (1)		TS (2)		N (3)		S (4)		SS (5)	
		f	%	f	%	F	%	f	%	f	%
1	I did not have to wait long from registration until receiving medical services.	1	1.00	3	3.00	21	21.00	4	4.00	28	28.00
2	My waiting time while queuing for service was relatively short and efficient	1	1.00	5	5.00	19	19.00	46	46.00	29	29.00
3	Staff provide timely service according to the promised schedule	1	1.00	4	4.00	17	17.00	44	44.00	34	34.00

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4	Services are provided according to the established order or queue	1	1.00	2	2.00	13	13.00	45	45.00	39	39.00
5	Staff responded quickly to my questions or needs during service	0	0.00	1	1.00	14	14.00	47	47.00	38	38.00
6	I felt that the staff responded quickly when I needed help	1	1.00	0	0.00	15	15.00	45	45.00	39	39.00
7	Administrative procedures (registration, data entry, etc.) are quick and simple	1	1.00	1	1.00	13	13.00	45	45.00	40	40.00
8	The service process runs smoothly without complicated administrative hurdles	1	1.00	0	0.00	18	18.00	44	44.00	37	37.00
9	The number of available staff is sufficient to ensure fast service	1	1.00	0	0.00	18	18.00	42	42.00	39	39.00
10	The available facilities support the smoothness and speed of the service process	1	1.00	1	1.00	16	16.00	42	42.00	40	40.00

Communication

Table 9. Description of Communication Variable

Variable	Median	SD	Min	Max
Communication	40	6,852	13	50

Table 9 shows that the median communication score was 40 (SD = 6.852), ranging from 13 to 50. Based on the median cut-off, Table 10 indicates that 77% of respondents perceived communication as good, while 23% perceived it as poor.

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Table 10. Frequency Distribution of Communication Variable Categories

Category	f	%
Good	77	77.00
Poor	23	23.00
Total	100	100.00

Table 11 shows item-level responses. Although minimal (1%), “strongly disagree” responses were present across several aspects of communication. The largest proportion of “disagree” responses was found in the item concerning staff understanding of patients’ difficulties (5%), followed by staff attention to patients (3%).

Table 11. Frequency Distribution of Each Question Item Communication Variable

No	Question	STS (1)		TS (2)		RR (3)		S (4)		SS (5)	
		f	%	f	%	F	%	f	%	f	%
1	Registration staff can understand the difficulties patients experience when searching for the information they need at registration	0	0.00	5	5.00	15	15.00	46	46.00	34	34.00
2	The words spoken by the staff are easy for patients to understand	1	1.00	2	2.00	10	10.00	48	48.00	39	39.00
3	Staff are able to communicate briefly and clearly	1	1.00	1	1.00	10	10.00	57	57.00	31	31.00
4	Staff are attentive to patients	0	0.00	3	3.00	12	12.00	49	49.00	36	36.00
5	Staff respond to patient questions	1	1.00	2	2.00	9	9.00	51	51.00	37	37.00
6	Officers give straightforward answers to patients (only regarding what is necessary)	0	0.00	2	2.00	16	16.00	44	44.00	38	38.00
7	Staff are able to communicate with patients in both directions	1	1.00	2	2.00	12	12.00	53	53.00	32	32.00
8	Staff and patients have a mutually dependent relationship	1	1.00	0	0.00	13	13.00	48	48.00	38	38.00
9	Patients feel comfortable when communicating with staff	1	1.00	2	2.00	12	12.00	49	49.00	36	36.00

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10	Staff and patients have a good relationship	1	1.00	1	1.00	18	18.00	46	46.00	34	34.00

Attitude

Table 12. Description of Attitude Variable

Variable	Median	SD	Min	Max
Attitude	60	9,696	20	70

Table 12 shows that the median score of attitude was 60 (SD = 9.696), with scores ranging from 20 to 70. Based on the median classification, Table 13 indicates that 52% perceived attitude as good, while 48% perceived it as poor.

Table 13. Frequency Distribution of Attitude Variable Categories

Category	f	%
Good	52	52.00
Poor	48	48.00
Total	100	100.00

Table 14 presents item-level responses. “Strongly disagree” responses (1%) appeared in several items, while the highest “disagree” response (4%) was related to the provision of health education to patients and families.

Table 14. Frequency Distribution of Each Question Item of the Attitude Variable

No	Question	STS (1)		TS (2)		RR (3)		S (4)		SS (5)	
		f	%	f	%	f	%	f	%	f	%
1	The staff gave me their full attention	1	1.00	3	3.00	16	16.00	46	46.00	34	34.00
2	The staff values my opinion on the actions they will take (e.g., changing doctors)	1	1.00	1	1.00	19	19.00	46	46.00	33	33.00
3	The staff provided sufficient information according to my needs.	0	0.00	3	3.00	10	10.00	45	45.00	42	42.00
4	The staff regularly check my documents.	0	0.00	3	3.00	18	18.00	39	39.00	40	40.00

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5	The staff patiently listened to my complaints	0	0.00	2	2.00	13	13.00	47	47.00	38	38.00
6	The staff responded quickly to my call when I needed help	1	1.00	2	2.00	12	12.00	47	47.00	38	38.00
7	The staff tried to be friendly, familiar, and understanding of my emotions	1	1.00	2	2.00	12	12.00	40	40.00	45	45.00
8	The staff are warm, friendly, and take time for all patients	1	1.00	2	2.00	12	12.00	39	39.00	46	46.00
9	Staff members maintain the confidentiality of my personal information	1	1.00	0	0.00	11	11.00	42	42.00	46	46.00
10	The staff provided professional service and maintained a professional appearance in front of me	1	1.00	0	0.00	10	10.00	44	44.00	45	45.00
11	Staff strive to provide timely service	1	1.00	1	1.00	16	16.00	38	38.00	44	44.00
12	The officer provided a good explanation of the actions taken	0	0.00	2	2.00	13	13.00	42	42.00	43	43.00
13	Officers explain the purpose before taking action	0	0.00	3	3.00	10	10.00	49	49.00	38	38.00
14	The officer provided health education to me and my family	0	0.00	4	4.00	16	16.00	46	46.00	34	34.00

Bivariate Analysis

Table 15. Normality Test with Kolmogorov-Spirnov.

Variable	N	Test Statistic	Sig. (p)
Unstandardized Residual	100	0.205	< .001

Normality testing using the Kolmogorov–Smirnov test (Table 15) showed a significance value of < 0.001 (test statistic = 0.205; N = 100), indicating that the data were not normally distributed. Therefore, the Chi-square test was applied.

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Table 16 Respondent Characteristics Based on Service Speed, Communication, and Attitude

Independent Variables	Dependent Variables: Patient Satisfaction				Total		OR (95% CI)	P value
	Satisfied		Dissatisfied					
	n	%	n	%	n	%		
Service Speed Fast Slow	46 5	90.2.00 9.8.00	4 45	8.2.00 91.8.00	50 50	50.00 50.00	103,500 (26,1 – 410,4)	< .001
Total	51	100.00	49	100.00	100	100.00		
Communication Good Poor	48 3	94.1.00 5.9.00	29 20	59.2.00 40.8,.00	77 23	77.00 23.00	11,034 (3,01 – 40,4)	< .001
Total	51	100.00	49	100.00	100	100.00		
Attitude Good Poor	48 3	94.1.00 5.9.00	4 45	8.2.00 91.8.00	52 48	52.00 48.00	180,000 (38,2 – 849,09)	< .001
Total	51	100.00	49	100.00	100	100.00		

Table 16 shows the association between service speed, communication, attitude, and patient satisfaction. Service speed was significantly associated with patient satisfaction ($p < 0.001$; OR = 103.500; 95% CI = 26.1–410.4). Communication was significantly associated with patient satisfaction ($p < 0.001$; OR = 11.034; 95% CI = 3.01–40.4). Attitude was significantly associated with patient satisfaction ($p < 0.001$; OR = 180.000; 95% CI = 38.2–849.09).

DISCUSSIONS

Overview of Key Findings

The findings of this study affirm that service speed, communication, and the attitude of non-medical frontliner staff are each significantly associated with outpatient satisfaction at a private type D general hospital ($p < 0.001$ for all variables). Among the three dimensions examined, staff attitude demonstrated the strongest association with satisfaction (OR = 180.0; 95% CI: 38.2–849.09), followed by service speed (OR = 103.5; 95% CI: 26.1–410.4) and communication (OR = 11.034; 95% CI: 3.01–40.4). These results collectively indicate that non-medical frontliner performance exerts a decisive influence on patient experience, and that the affective and relational dimensions of

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service are at least as consequential as its technical and procedural dimensions. Taken together, the findings provide robust empirical support for the argument that patient satisfaction in outpatient settings cannot be adequately explained by clinical service quality alone, as non-clinical service encounters at the point of first contact materially shape patients' overall evaluations of care (Darzi & Smith, 2023; Suwandi et al., 2024).

Interpretation: Service Speed and Patient Satisfaction

The finding that service speed was significantly associated with outpatient satisfaction, with 90.2% of respondents who perceived fast service reporting satisfaction compared to 91.8% of those perceiving slow service reporting dissatisfaction, is both clinically meaningful and theoretically coherent. The exceptionally high Odds Ratio of 103.5 indicates that the perceived pace of service delivery functions as a powerful binary threshold in patient evaluations: patients who experience efficient, timely service are vastly more likely to be satisfied, while those encountering delays encounter a fundamentally different service experience. This finding is particularly instructive when read against the item-level data, which identified queue waiting time (5% disagree) and service timeliness according to schedule (4% disagree) as the most frequently criticized aspects. These patterns suggest that while the majority of patients assessed service speed positively, the minority who encountered inefficiency did so with considerable dissatisfaction, amplifying the statistical contrast. This interpretation aligns with Herdiati and Fitriyah (2024), who demonstrated that waiting time is a primary determinant of outpatient satisfaction due to its direct link with perceptions of efficiency and organizational competence, and is further corroborated by Akbar (2025), who identified service speed as a strong predictor of inpatient satisfaction. Notably, however, the present study's findings differ from those of Jurnal Kesehatan Manarang (2025), in which promptness did not reach statistical significance ($p = 0.331$) in association with patient satisfaction. This discrepancy likely reflects contextual differences: the premium hospital setting of the present study generates heightened patient expectations regarding service efficiency, making service speed a more salient and determinant variable than it might be in public primary healthcare settings where patients may hold lower baseline expectations.

Interpretation: Communication and Patient Satisfaction

The significant relationship between communication and patient satisfaction (OR = 11.034) in this study adds to a growing evidence base confirming that the clarity,

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attentiveness, and responsiveness of non-medical frontliner communication are central to patient satisfaction outcomes. Among respondents who rated communication as good, 94.1% were satisfied, while 40.8% of those who rated it as poor remained dissatisfied, a pattern that illustrates how communication quality functions as a threshold condition for satisfaction rather than merely a contributing factor. At the item level, the highest disagreement was observed for the item on staff understanding of patient difficulties (5%), reflecting a specific vulnerability in empathetic listening and communicative responsiveness during registration interactions. This finding is consistent with the work of Waruwu (2025), who identified a significant association between interpersonal communication quality of registration staff and patient satisfaction at a referral hospital, and aligns with a cross-sectional study at a hospital in Balikpapan which recorded a significant correlation (Kendall's Tau-B = 0.427; p = 0.000) between effective communication by front office staff and outpatient satisfaction (Ivet.ac.id, 2025). Furthermore, Mukti et al. (2025) confirmed that therapeutic communication, alongside service quality and waiting time, was significantly associated with patient satisfaction in a primary clinic setting in Kudus, contextualizing the present findings within the same regional healthcare environment. These convergent findings suggest that communication operates as a relational bridge between patients and the healthcare institution, and that when this bridge is perceived as weak or unreliable, patient trust and overall satisfaction are substantially undermined (Abqa et al., 2023; Rahmawati & Putri, 2024).

Interpretation: Attitude as the Most Dominant Factor

The most striking finding of this study is the supremacy of staff attitude as the dominant determinant of outpatient satisfaction, with an Odds Ratio of 180.0 representing the largest effect size among all three independent variables. Among respondents who perceived attitude as good, 94.1% reported being satisfied, whereas 91.8% of those who perceived attitude as poor reported dissatisfaction, an almost perfect inverse symmetry that underscores the centrality of the affective dimension in patient service evaluation. This finding is theoretically grounded in the SERVQUAL framework developed by Parasuraman et al. (1988), wherein empathy and assurance represent the relational dimensions most proximal to patients' subjective experiences of care quality. Recent evidence from a SERVQUAL-based inpatient study confirms that empathy exerted the strongest influence on patient satisfaction among all five dimensions (β = 0.629; p < 0.001), with the authors noting that patients fundamentally value personalized and compassionate care above technical service parameters (PMC, 2025). This is further

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corroborated by Tian et al. (2024), who documented that the affective conduct of medical and non-medical staff directly shapes patient satisfaction through mechanisms of emotional congruence and perceived respect, and by Harefa (2025), who demonstrated that empathy and professional responsibility are significant determinants of patient satisfaction across healthcare contexts. The present study's finding that attitude constitutes the most dominant predictor advances this literature by demonstrating that even among non-medical staff who have no clinical role, the attitudinal dimension of service carries sufficient weight to either dramatically elevate or severely undermine patient satisfaction, suggesting that empathy and interpersonal professionalism are institution-wide competencies rather than clinician-specific skills.

Literature Dialogue and Comparative Analysis

When situated within the broader literature, the findings of this study both confirm and extend existing evidence in several important respects. First, the significant association between all three variables and patient satisfaction is consistent with numerous Indonesian hospital studies that have documented the impact of service quality dimensions on outpatient satisfaction (Misniati et al., 2021; Munandar et al., 2023). The present study, however, distinguishes itself by isolating non-medical frontliner staff as the unit of analysis, whereas previous studies examined aggregate service quality or focused primarily on nursing and clinical staff. Second, while Jurnal Kesehatan Manarang (2025) identified communication as the most dominant factor (OR = 6.064) in a community hospital setting, the present study found attitude to be more dominant (OR = 180.0), which may reflect the premium hospital context and the correspondingly elevated interpersonal expectations of patients at a private institution. Third, the strong effect of service speed observed in this study (OR = 103.5) is consistent with findings from a specialist clinic at Pertamina Hospital, in which the speed and responsiveness of service dimension yielded an OR of 73.6, confirming that service speed is among the most decisive factors in outpatient satisfaction across institutional types (Forikes-ejournal.com, 2024). In contrast, the relatively lower Odds Ratio for communication (OR = 11.034) compared to attitude and service speed does not indicate that communication is unimportant; rather, it reflects the relatively higher baseline proportion of respondents who already perceived communication as good (77%), resulting in a smaller variance pool for statistical contrast. These nuanced comparisons illustrate that the relative weight of each service dimension is context-sensitive and shaped by patient demographics, institutional type, and baseline service norms (Darzi & Smith, 2023; Suwandi et al., 2024).

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Theoretical and Practical Implications

Theoretically, this study contributes to the hospital administration and service quality literature by providing empirical evidence that the SERVQUAL dimensions of responsiveness, empathy, and assurance are not confined to clinical interactions but are equally operative in non-medical administrative encounters. The finding that non-medical frontliner attitude yields the highest Odds Ratio for patient satisfaction strengthens the argument that the affective quality of first-contact interactions functions as a heuristic anchor through which patients evaluate the overall institutional service experience (Harefa, 2025; Tian et al., 2024). Practically, these findings carry concrete implications for hospital management. The primacy of attitude suggests that behavioral competency development, including empathy training, professional conduct workshops, and interpersonal skills reinforcement, should be systematically integrated into frontliner staff orientation and ongoing professional development programs (Suwarto et al., 2022; Jisem-journal.com, 2024). Furthermore, the significant role of service speed points to the need for structural interventions such as digital queue management systems, optimized registration workflows, and adequate staffing ratios to reduce the administrative bottlenecks that generate perceived delays. The significance of communication additionally recommends that hospitals invest in standardized communication protocols for registration and information staff, ensuring that patient queries are addressed with clarity, consistency, and empathy at all points of first contact. Finally, managerial strategies grounded in transformational leadership have been shown to foster positive work attitudes and enhance professional commitment among healthcare workers, thereby creating the motivational conditions under which frontliner staff are more likely to deliver high-quality, patient-centered service (Rahmawati et al., 2024; PMC, 2024).

Limitations and Alternative Interpretations

Several limitations must be acknowledged in interpreting the findings of this study. First, the use of accidental sampling, while practical in the busy outpatient context, introduces the possibility of selection bias, as respondents who were willing and available to complete the questionnaire may not fully represent the diversity of patient perspectives, particularly those in urgent or distressed states who were excluded by the inclusion criteria. Second, the cross-sectional design captures associations at a single point in time and does not permit causal inferences; it remains possible that patients who were more inherently satisfied entered service interactions with more positive perceptions, creating a feedback loop that inflated the observed associations. Third, all measures were based

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on patient self-report using a Likert-scale questionnaire, which is subject to social desirability bias and may not accurately capture the objective quality of staff service delivery. Fourth, the study was conducted at a single private hospital during a one-week period, which limits the generalizability of findings to other institutional types, ownership categories, and regional healthcare contexts. Future research should employ longitudinal or mixed-methods designs, expand sampling to multiple hospital settings, and incorporate objective service quality measures alongside patient-reported outcomes to generate a more comprehensive and causally robust understanding of the mechanisms through which non-medical frontliner performance shapes outpatient satisfaction (Sugiyono, 2021; Sastroasmoro & Ismael, 2020).

CONCLUSION

This study demonstrated that service speed, communication, and the attitude of non-medical frontliner staff were each significantly associated with outpatient satisfaction at a private type D general hospital implementing a premium service concept, with all associations reaching statistical significance ($p < 0.001$). Among the three factors examined, staff attitude emerged as the most dominant predictor of patient satisfaction (OR = 180.0), followed by service speed (OR = 103.5) and communication (OR = 11.034), confirming that interpersonal and affective dimensions of non-clinical service delivery are at least as consequential as technical service efficiency in shaping patient experience. These findings establish that patient satisfaction in outpatient settings is a multidimensional construct shaped not only by procedural competence but fundamentally by the quality of human interaction at initial points of contact. For future research, it is recommended that longitudinal or experimental study designs be employed to establish causal directionality, and that multisite comparative studies be conducted across public and private hospitals of varying classifications to strengthen the generalizability of findings.

Future studies should also explore mediating variables such as organizational culture, staff motivation, and transformational leadership as potential mechanisms linking frontliner performance to patient satisfaction outcomes. For hospital management, these findings recommend the systematic integration of empathy training, interpersonal communication protocols, and service responsiveness standards into frontliner staff development programs, alongside structural improvements to registration workflow and queue management systems. The primary limitations of this study include the use of accidental sampling and a single-site cross-sectional design, which constrain causal

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inference and limit representativeness; these should be addressed in subsequent investigations to produce more comprehensive and externally valid evidence in the field of non-medical frontliner service quality.

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