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Outpatient waiting time and patient satisfaction: A systematic literature review

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Abstract

Background: Outpatient waiting time is a key quality indicator that significantly influences patient satisfaction. Waiting times exceeding 60 minutes, as stipulated by the Minimum Service Standards (SPM), have been associated with reduced patient satisfaction and a decline in perceived healthcare service quality.
Purpose: To map and synthesize scientific evidence regarding the relationship between outpatient waiting time and patient satisfaction across various healthcare facility settings.
Method: This study employed a literature review design. Relevant articles were identified through systematic searches of electronic databases, including PubMed, Scopus, Garuda, CINAHL, Medline, and Google Scholar. Studies published between 2020 and 2025 that examined the association between outpatient waiting time and patient satisfaction were included. The selected studies were critically reviewed and narratively synthesized to identify patterns of findings and factors influencing the relationship between waiting time and satisfaction. The article selection process followed the PRISMA framework, resulting in 22 articles included for thematic analysis.
Results: The findings indicate that outpatient satisfaction generally decreases as waiting time increases. This relationship is influenced by patient-related factors, including individual perceptions, expectations, and the availability of information regarding waiting processes. In addition, organizational and service-related factors, such as limited healthcare personnel, high patient volume, and inefficient service delivery systems, contribute to prolonged waiting times and reduced satisfaction.
Conclusion: Waiting times that comply with Minimum Service Standards (≤60 minutes) are consistently associated with higher outpatient satisfaction. Effective waiting time management should not only focus on reducing actual waiting duration but also on managing patient expectations through clear communication and adequate information provision.

Keywords: Healthcare Quality; Literature Review; Outpatient Satisfaction; PRISMA; Service Quality; Waiting Time.

INTRODUCTION

Patient satisfaction is a key indicator of healthcare quality because it reflects patients' perceptions of service performance and influences important behavioral outcomes, including loyalty, adherence to treatment recommendations, intention to revisit healthcare facilities, and willingness to recommend services to others (Olesen & Bathula, 2022; AlOmari & Hamid, 2022; Saadi & Junadi, 2025). Satisfied patients are more likely to demonstrate trust, cooperation, and active engagement in the therapeutic process, while dissatisfaction may reduce confidence in healthcare providers, negatively influence treatment-related behaviors, and impair the perceived image and reputation of healthcare institutions (Batbaatar, Dorjdagva, Luvsannyam, Savino, & Amenta, 2017; Al-Abri & Al-Balushi, 2014).

One of the primary determinants influencing patient satisfaction with outpatient services is the length of waiting time at the clinic (Zhang, Ma, Zhu, Wang, Guo, & Chen, 2023a). In Indonesia, the Decree of the Minister of Health of the Republic of Indonesia Number 129/Menkes/SK/II/2008 regarding Hospital

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Minimum Service Standards (SPM) establishes a maximum outpatient waiting time of 60 minutes as an indicator of service quality. However, in actual practice, waiting times frequently exceed this standard and remain one of the most common complaints reported by patients and their families across various healthcare facilities (Ministry of Health of the Republic of Indonesia, 2008; Yuliati, 2024; Lestari, Parinduri, & Fatimah, 2020).

Various studies conducted in Indonesia indicate that prolonged outpatient waiting times remain a significant issue and vary considerably across healthcare facilities (Maulana, Tamrin, Alim, & Imran, 2019; Wulandari & Keni, 2024). For example, nearly all outpatients at Bogor City Hospital experienced waiting times exceeding the national standard of 60 minutes (Lestari et al., 2020). Similarly, a significant association between waiting time and patient satisfaction among outpatients at Bekasi District Hospital has also been reported (Yuliati, 2024). Consistent with these findings, a significant relationship between waiting time and patient satisfaction was observed at urban community health centers ($p = 0.003$) (Li, Gong, Kong, Mueller, & Lu, 2020). Evidence from international studies further supports this pattern, demonstrating that longer waiting times are consistently associated with lower patient satisfaction, even when the clinical quality of care remains high (Nguyen, Tran, Vo, Nguyen Si Anh, Doan, & Nguyen, 2020; Quyen, Ha, & Van Minh, 2021; Santos-Jaén, Valls Martínez, Palacios-Manzano, & Grasso, 2022; Zhang, Ma, Zhou, Zhu, Wang, & Gong, 2023b). Moreover, recent evidence suggests that patient satisfaction is influenced not only by actual waiting time but also by patients' perceived and expected waiting times, highlighting the importance of managing patient expectations alongside reducing service delays (Viotti et al., 2020; Zhang et al., 2023a; Zhang et al., 2023b).

Although numerous studies have examined the association between outpatient waiting times and patient satisfaction, comprehensive evidence syntheses integrating relationship patterns, operational determinants, and managerial implications for improving outpatient service delivery remain limited, particularly in Indonesia (Waiman, Achadi, & Agustina, 2023; Rizany, Setiawan, & Musafaah, 2021; Maulana et al., 2019). Existing studies have predominantly focused on identifying direct relationships between waiting time and patient satisfaction within individual healthcare facilities, while broader perspectives incorporating organizational factors, service processes, and management strategies for reducing waiting times remain insufficiently explored.

RESEARCH METHOD

This study employed a systematic literature review design to identify, evaluate, and synthesize empirical evidence regarding the relationship between outpatient waiting time and patient satisfaction. The review process was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a systematic, transparent, and reproducible approach throughout the identification, screening, eligibility assessment, and inclusion stages. The review included quantitative studies, including observational and experimental designs, that directly examined the association between outpatient waiting time and patient satisfaction.

A comprehensive literature search was conducted across six electronic databases, namely PubMed, Scopus, CINAHL, MEDLINE, Google Scholar, and Garuda, in June 2026. The search strategy was developed using a combination of Indonesian and English keywords related to waiting time and outpatient satisfaction. Boolean operators (AND/OR) were applied to improve the sensitivity and specificity of the search process. The search terms included: "waiting time" AND "patient satisfaction" AND "outpatient"; "waiting time" AND "patient satisfaction" AND "outpatient service"; and "waiting time" AND "satisfaction" AND "outpatient clinic".

The eligibility criteria consisted of: (1) original research articles; (2) published between 2020 and 2025; (3) investigated outpatient satisfaction and waiting time as the main study variables; (4) available in full-text format; (5) written in Indonesian or English; and (6) involved outpatient populations in healthcare facilities, including hospitals, clinics, and community health centers. Only quantitative studies using observational, analytical cross-sectional, correlational, or experimental approaches were included to maintain methodological consistency. Studies were excluded if they were editorials, commentaries, opinion articles, case reports, review articles, unavailable in full text, published outside the

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specified timeframe, or did not evaluate waiting time and outpatient satisfaction as primary variables.

The study selection process followed the PRISMA 2020 framework. The initial database search identified 2,634 records from six electronic databases, consisting of 312 articles from PubMed, 424 from Scopus, 587 from Google Scholar, 588 from Garuda, 300 from MEDLINE, and 423 from CINAHL. After removing 787 duplicate records, 1,847 articles remained for title and abstract screening. During the screening phase, 1,535 articles were excluded due to irrelevance to the review topic, inappropriate population or concept, or non-empirical design. A total of 312 articles underwent full-text assessment, of which 290 were excluded because they did not meet the eligibility criteria. Finally, 22 studies were included in the qualitative synthesis.

Data extraction was performed using a standardized extraction form to ensure consistency and completeness across all included studies. The extracted information included study characteristics, such as author, publication year, country of origin, research design, sample characteristics, measurement instruments, statistical analysis methods, and main findings related to the association between outpatient waiting time and patient satisfaction.

The extracted data were analyzed using a narrative thematic synthesis approach. The findings were organized into three major categories: (1) studies demonstrating a significant relationship between outpatient waiting time and patient satisfaction; (2) studies reporting no significant association between the two variables; and (3) studies identifying factors that may influence this relationship, including patient expectations, service characteristics, respondent characteristics, and organizational factors. A narrative synthesis approach was selected because the included studies demonstrated considerable heterogeneity in research designs, healthcare settings, measurement instruments, and analytical methods, which limited the possibility of conducting a quantitative meta-analysis.

RESEARCH RESULTS

The article identification and selection process was conducted systematically according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The initial search across six electronic databases identified 2,634 records, consisting of 312 articles from PubMed, 424 from Scopus, 587 from Google Scholar, 588 from Garuda, 300 from MEDLINE, and 423 from CINAHL. After removing 787 duplicate records, a total of 1,847 unique records remained for title and abstract screening.

During the screening phase, two independent reviewers assessed the eligibility of the retrieved articles based on the predefined inclusion and exclusion criteria. A total of 1,535 records were excluded because they were not relevant to the review objectives, did not focus on outpatient populations, did not examine waiting time and patient satisfaction simultaneously, or did not use an empirical quantitative approach. Consequently, 312 articles were retrieved for full-text assessment.

Following full-text evaluation, 290 articles were excluded because they did not meet the eligibility criteria. The main reasons for exclusion included studies conducted outside outpatient settings, studies that did not measure waiting time and patient satisfaction as the primary variables, non-quantitative study designs, unavailable full-text articles, and publications outside the 2020–2025 timeframe. Finally, 22 articles met all inclusion criteria and were included in the final qualitative synthesis (Figure 1).

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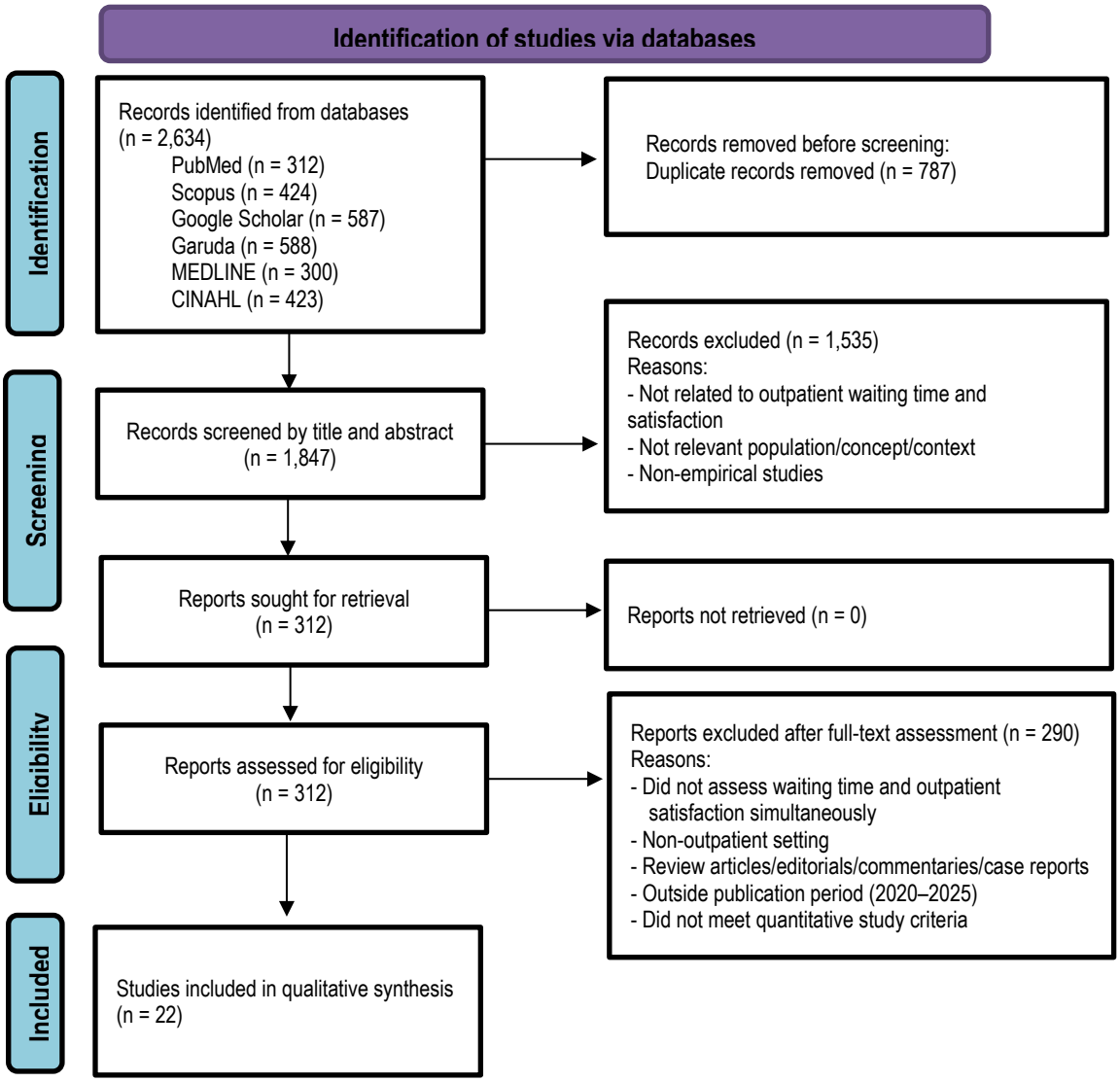


Figure 1. PRISMA flow diagram of the study selection process.

The characteristics of the 22 included studies varied across geographical location, healthcare setting, and methodological approach. Most studies were conducted in Indonesia (n = 18; 81.8%), reflecting the primary focus of this review on the Indonesian outpatient healthcare context. The remaining studies were conducted internationally, including Vietnam (n = 1), Nigeria (n = 1), China (n = 1), and Japan (n = 1).

Regarding healthcare settings, the included studies were predominantly conducted in hospitals (n = 14), followed by community health centers (n = 4) and clinics (n = 4). In terms of research methodology, all included studies applied quantitative approaches, with the majority using cross-sectional designs, including descriptive, analytical survey, and correlational studies. A smaller proportion employed experimental approaches to evaluate interventions aimed at improving waiting time or patient satisfaction.

Overall, the included studies demonstrated that outpatient waiting time remains a consistent determinant of patient satisfaction across different healthcare settings. Although variations existed in measurement instruments, service contexts, and analytical methods, most studies focused on evaluating the direct association between waiting time and satisfaction, while only limited studies explored broader organizational, patient-related, or service-level factors influencing this relationship.

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Table 1. Study Selection and Characteristics of Included Studies

(Author, Year) Country	Design	Samples	Main Findings
(Hasibuan, 2025) Indonesia	Comparative observational cross-sectional	300 patients	There was a significant difference in waiting times at the government hospital (Dr. Pirngadi) and the private Islamic hospital (Malahayati) in Medan, but no significant difference in satisfaction levels. Key satisfaction factors included waiting room ventilation, availability of counters and seating, and efficiency of waiting times.
(Nguyen et al., 2020) Vietnamese	Cross-sectional	4,949 patients at district hospitals; 1,724 patients at community health centers	The average wait time at the district hospital was 32.58 minutes, and at the community health center 11.58 minutes. Wait times were longer at the district hospital. Significant factors included province, age, health status, wealth, ethnicity, and health insurance. Vulnerable populations experienced longer wait times.
(Zhang et al., 2023b) China	Cross-sectional survey (mixed method)	292 valid respondents	Patient satisfaction was not directly influenced by actual waiting time (AWT, p=0.365), but was influenced by subjective waiting time: expected (EWT), perceived (PWT), and tolerated (TWT). Satisfaction was significantly influenced by the difference between EWT and AWT (p=0.000).
(Isaruk & Isaruk, 2024) Nigeria	Cross-sectional survey (mixed method)	227 patients (out of 560 population)	Patients reported satisfaction with the service, but still faced long wait times. Contributing factors included negative staff behavior, understaffing, and poor medical records systems. Additional staffing and regular training are recommended.
(Arliyanti & Khairiah, 2024) Indonesia	Descriptive analytical cross-sectional	112 patients	Waiting time correlated with outpatient satisfaction at the General Clinic of Pelabuhan Hospital Jakarta (p=0.003). The majority of patients were satisfied (69.6%), but 77.7% waited >60 minutes.

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(Author, Year) Country	Design	Samples	Main Findings
(Lestari et al., 2020) Indonesia	Descriptive analytical cross-sectional	59 respondents	Waiting time correlated with outpatient satisfaction at the Internal Medicine Polyclinic at Bogor City Hospital ($p<0.05$; $r=0.290$). Ninety-four percent of patients waited >60 minutes. Only 39 percent reported satisfaction.
(Sholihah & Parinduri, 2020) Indonesia	Descriptive analytical cross-sectional	59 respondents	Waiting time correlated with satisfaction with BPJS outpatients at the RSI Bogor Heart Polyclinic ($p<0.05$; $r=0.261$). Ninety-four percent of patients waited more than 60 minutes, while 55.9 percent were dissatisfied.
(Lukas et al., 2025) Indonesia	Quantitative cross-sectional	78 respondents	Patient knowledge, human resources, administrative services, and infrastructure significantly influenced waiting times ($p<0.001$). Dominant factors were: infrastructure (OR=46.03), human resources (OR=30.15), administration (OR=24.87), and patient knowledge (OR=16.47).
(Habibi et al., 2023) Indonesia	Cross-sectional analytical correlation	72 respondents	Waiting time and length of stay (LOS) were not significantly correlated with patient satisfaction in the emergency department at Royal Prima Marelan Hospital ($p=0.157$). Seventy-two percent of patients were satisfied with the waiting time and LOS.
(Narulitha et al., 2025) Indonesia	Quantitative cross-sectional	152 respondents	Registration waiting time ($p=0.0001$), examination at the polyclinic ($p=0.0113$), taking non-prescription drugs ($p=0.0000$), and prescription drugs ($p=0.0000$) were significantly correlated with outpatient satisfaction at Ibnu Sina Hospital YW-UMI Makassar.
(Amanulloh et al., 2026) Indonesia	Analytical quantitative cross-sectional	96 respondents	Waiting time correlated significantly with outpatient satisfaction at Kamarang Community Health Center ($p=0.000$). 77.1% of patients waited within the standard time (≤60 minutes), with an average of 38.01 minutes. 76% of patients were satisfied.

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(Author, Year) Country	Design	Samples	Main Findings
(Toga-Sato et al., 2021) Japan	Observational quantitative study with **cross-sectional design** using actual waiting time measurements and patient satisfaction survey (DTSQ)	336 outpatients with diabetes mellitus or impaired glucose tolerance	**Actual waiting time** does not significantly correlate with patient satisfaction. However, **perceived waiting time does.** significantly correlated with patient satisfaction. Patients who perceived long wait times had lower satisfaction scores than those who perceived short wait times. A positive response from doctors and staff can reduce perceived long wait times and increase patient satisfaction.
(Kuncara et al., 2025) Indonesia	Systematic Review	5 articles (2019–2024)	Outpatient satisfaction is influenced by a number of factors: service quality (reliability, responsiveness, assurance, empathy, tangibles), service quality (waiting time, communication, professionalism), patient perspective (cost), and sociodemographic aspects (education, income, age, insurance).
(Nurfadillah & Setiatin, 2021) Indonesia	Cross-sectional descriptive statistics	25 patients (saturated sample)	Satisfaction with registration services at Clinic X Bandung (p=0.004) was influenced by waiting time. The average waiting time was 70 minutes (68% >60 minutes). Satisfaction was in the less satisfied category (48%).
(Wijayanti et al., 2023) Indonesia	Cross-sectional observational analytic	20 patients (total sampling)	Waiting time correlated significantly with patient satisfaction at the Mitra Sehat Clinic in Karanganyar (p=0.005). Ninety percent of patients waited less than 45 minutes and were satisfied.
(Dewi & Marsepa, 2021) Indonesia	Cross-sectional analytical survey	100 respondents	Patient satisfaction at the Mauk Tangerang Community Health Center (p=0.000) was influenced by waiting time, but the strength of the influence was very low.
(Nggule et al., 2025) Indonesia	Quantitative cross-sectional	100 respondents	Waiting time correlated significantly with outpatient satisfaction at Dr. MM Dunda Limboto Gorontalo Regional Hospital (p<0.05). Satisfaction decreased with longer waiting times. Causes included suboptimal queues, insufficient medical personnel, and complicated administrative procedures.

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(Author, Year) Country	Design	Samples	Main Findings
(Yantika et al., 2024) Indonesia	Quantitative cross-sectional	100 patients	Waiting time did not significantly correlate with outpatient satisfaction at RSI Ibnu Sina Bukittinggi (p=0.231). Forty-seven percent of patients waited >60 minutes, and 55% were satisfied.
(Kirana et al., 2024) Indonesia	Quantitative cross-sectional	150 respondents	Waiting time correlated significantly with outpatient satisfaction at Cengkareng Regional Hospital, Jakarta (p<0.000).
(Paganini et al., 2024) Indonesia	Quantitative descriptive	97 respondents	68% of BPJS patients experienced waiting times of >60 minutes at Siti Khadijah Islamic Hospital in Palembang. Factors include inconsistent doctor schedules and high visit volume. Recommendations include implementing standard operating procedures (SOPs), increasing staffing, and optimizing schedules.
(Santosa & Purnama, 2025) Indonesia	Cross-sectional (PLS-SEM)	Not specifically mentioned	Patient satisfaction is positively influenced by hospital facilities and waiting times. Patient loyalty is positively influenced by patient satisfaction. Loyalty is not directly influenced by waiting times, but is mediated by patient satisfaction.
(Fauziah et al., 2024) Indonesia	Cohort analytics	Non-specific (purposive sampling, Teras & Sawit Boyolali Health Center)	Waiting time correlated significantly with customer satisfaction at the Teras and Sawit Community Health Center Pharmacy Installation in Boyolali (p=0.000). Ninety-five percent of service times met standards.

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Relationship Between Waiting Time and Patient Satisfaction

The synthesis of the included studies demonstrated that waiting time was consistently associated with outpatient satisfaction. Among the 22 included articles, 14 studies (63.6%) reported a statistically significant relationship between waiting time and patient satisfaction. Overall, these studies indicated that patient satisfaction tended to decline as waiting time increased, particularly when the waiting duration exceeded the recommended outpatient service standard of 60 minutes.

Several studies provided evidence supporting this association. A study conducted at Cengkareng Regional Hospital reported a significant relationship between outpatient satisfaction and waiting time, with a highly significant statistical result ($p < 0.001$) (Kirana, Septiani, & Wahyudi, 2024). Similarly, a study at Bogor City Hospital found that 94.9% of patients experienced waiting times exceeding 60 minutes, and longer waiting times were significantly associated with lower patient satisfaction ($p < 0.05$; $r = 0.290$) (Lestari et al., 2020). Furthermore, research conducted at Mauk Community Health Center, Tangerang, demonstrated that waiting time significantly influenced patient satisfaction, although the strength of the correlation was relatively weak (Dewi & Marsepa, 2021).

Collectively, these findings indicate that waiting time represents an important determinant of outpatient service experience. Prolonged waiting periods may not only increase patient discomfort but also negatively influence patients' perceptions of overall healthcare service quality. Therefore, reducing unnecessary delays in outpatient processes is an essential strategy for improving patient satisfaction and optimizing healthcare service performance.

Non-Significant Findings and the Role of Subjective Factors

Although most included studies demonstrated a significant association between waiting time and outpatient satisfaction, several studies reported non-significant findings. Among the 22 included articles, eight studies (36.4%) found no statistically significant relationship between waiting time and patient satisfaction. These findings suggest that patient satisfaction is influenced not only by objective waiting duration but also by contextual factors, patient characteristics, service conditions, and individual perceptions of the waiting experience.

Several studies illustrate the contextual factors underlying these non-significant findings. A study conducted at a community health center in Jambi reported no significant association between waiting time and patient satisfaction ($p = 0.322$), with the average waiting time remaining relatively short (31.90 minutes) (Wulandari, Listiawaty, & Hafiz, 2020). Similarly, research at PGI Cikini Hospital found no significant relationship between waiting time and patient satisfaction ($p = 0.942$), indicating that other aspects of healthcare delivery may have played a more dominant role in shaping patients' evaluations of service quality (Sianturi, Hadiwiarjo, & Anisah, 2020). In emergency care settings, the absence of a significant association may be explained by differences in patient priorities, as emergency patients generally emphasize clinical safety, rapid treatment, and medical outcomes rather than administrative waiting processes (Habibi, Juando, & Ginting, 2023).

Furthermore, international evidence highlights the importance of the subjective dimension of waiting time. A study demonstrated that actual waiting time (AWT) was not significantly associated with patient satisfaction ($p = 0.365$), whereas perceived waiting time (PWT) and expected waiting time (EWT) showed significant associations with satisfaction ($p < 0.05$) (Zhang et al., 2023b). Similar findings were reported in an experimental study showing that managing patients' expectations regarding waiting duration could improve satisfaction levels (Paramita, 2024).

Overall, these findings indicate that waiting time is a multidimensional construct in outpatient care. Patients do not evaluate healthcare services solely based on the actual duration of waiting but also consider whether the waiting period aligns with their expectations, perceptions of fairness, communication received during the waiting process, and the overall service experience.

Factors Influencing Waiting Time and Patient Satisfaction

Beyond examining the association between waiting time and patient satisfaction, the synthesis identified several factors that influence both variables. These factors were categorized into three major domains: institutional factors, service process factors, and patient perception factors.

At the institutional level, healthcare organization and resource management emerged as important determinants of outpatient waiting time. Ineffective

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physician scheduling was identified as one of the key contributors to prolonged waiting duration. A study reported that physician availability, scheduling practices, and staff attitudes were among the dominant factors associated with longer outpatient waiting times (Rizany et al., 2021). In addition, service characteristics within pharmacy units also influenced waiting duration. Longer waiting times were observed for compounded medications (75.44 ± 28.36 minutes) compared with finished medications (26.29 ± 5.31 minutes), suggesting that differences in service complexity may affect patient experience and satisfaction (Yuswantina, Dyahariesti, Falkhatiana, & Syari, 2022).

At the service process level, operational factors such as queuing systems, registration procedures, and staff responsiveness played an important role in shaping outpatient experiences. Inefficient service flows and delays in administrative processes may contribute to longer waiting periods and dissatisfaction among patients. Research has indicated that the responsiveness dimension of healthcare services may contribute more strongly to patient dissatisfaction compared with the reliability dimension, highlighting the importance of timely communication and staff responsiveness during service delivery (Tursini, Setiawati, Ferdian, Gondodiputro, Wiwaha, & Sunjaya, 2022).

At the patient perception level, subjective evaluations of waiting time, clarity of information, and initial service expectations emerged as important factors influencing satisfaction. Patients may evaluate waiting experiences not only based on the actual duration of waiting but also on whether the waiting process is perceived as understandable, fair, and consistent with their expectations. These findings suggest that waiting time management should not be considered solely a matter of reducing service duration but should also incorporate strategies aimed at improving the overall patient experience through effective communication, expectation management, and service process optimization.

DISCUSSION

Relationship Between Waiting Time and Patient Satisfaction

The findings of this review indicate that waiting time represents an important determinant of outpatient satisfaction; however, its influence is shaped by broader factors, including patient perceptions, expectations, and the quality of interactions throughout the healthcare process. Among the 22 included studies, 14 articles (63.6%) demonstrated a significant association between waiting time and patient satisfaction, whereas 8 articles (36.4%) reported no significant relationship. This pattern suggests that although waiting time remains a critical component of outpatient service quality, its relationship with patient satisfaction should be interpreted within the broader context of healthcare service delivery and patient experience (Zhang et al., 2023a; Zhang et al., 2023b).

The majority of studies included in this review consistently demonstrated that longer waiting times were associated with lower levels of outpatient satisfaction. Conversely, shorter waiting durations were generally associated with more positive evaluations of healthcare services. These findings highlight that waiting time is one of the important service attributes considered by patients when evaluating healthcare quality. Prolonged waiting periods may not only cause physical discomfort but also influence patients' perceptions regarding the efficiency, responsiveness, and patient-centeredness of healthcare delivery (Lestari et al., 2020; Dewi & Marsepa, 2021; Kirana et al., 2024).

The association between waiting time and satisfaction becomes more apparent when waiting duration exceeds established outpatient service standards. Several studies reported that patient dissatisfaction increased when waiting times exceeded the recommended maximum standard of 60 minutes. Patients experiencing longer waiting periods tended to report lower satisfaction due to perceptions of inefficient service processes and inadequate responsiveness from healthcare providers (Lestari et al., 2020; Nurfadillah & Setiatin, 2021; Arliyanti & Khairiah, 2024). Similar findings were also reported in studies conducted in different outpatient settings, demonstrating that delays in service delivery were consistently related to reduced patient satisfaction (Dewi & Marsepa, 2021; Kirana et al., 2024).

From a healthcare management perspective, these findings emphasize that waiting time management is an essential strategy for improving outpatient service quality. Healthcare facilities that are able to optimize service flow, minimize unnecessary delays, and align service delivery with patient expectations are more likely to achieve higher levels of patient satisfaction. Nevertheless, reducing waiting time alone may not be sufficient, as effective

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communication, transparency regarding expected waiting duration, and positive patient–provider interactions also contribute significantly to the overall waiting experience (Wulandari & Keni, 2024; Zhang et al., 2023b).

Non-Significant Findings and the Role of Subjective Factors

Although the majority of studies included in this review demonstrated a significant association between waiting time and patient satisfaction, several studies reported non-significant findings. These results indicate that patient satisfaction is not determined solely by the actual duration of waiting but is also influenced by subjective factors, including patients' perceptions, expectations, and interpretations of the service experience (Sianturi et al., 2020; Zhang et al., 2023b).

Evidence from international research demonstrated that actual waiting time alone may not fully explain variations in patient satisfaction. A study by Zhang, Ma, Zhou, et al. (2023) found that patient satisfaction was not significantly associated with actual waiting time, whereas perceived waiting time and expected waiting time showed significant relationships with satisfaction. These findings suggest that the waiting experience is a multidimensional construct in which patients evaluate not only the actual duration of waiting but also whether the waiting period corresponds with their expectations and perceptions (Zhang et al., 2023b).

The availability of clear information regarding estimated waiting duration may influence how patients interpret and tolerate waiting periods. Patients who receive adequate explanations about service processes and expected waiting times may demonstrate higher acceptance of delays compared with patients who experience uncertainty during the waiting process. Conversely, dissatisfaction may occur even when waiting times are relatively short if patients perceive that the service does not meet their expectations regarding responsiveness, communication, or quality of care (Wulandari & Keni, 2024; Zhang et al., 2023a).

These findings highlight the complex relationship between waiting time and patient satisfaction. Therefore, strategies to improve outpatient satisfaction should not focus solely on reducing actual waiting duration but should also incorporate expectation management, effective communication, and transparency throughout the service process. By addressing both operational efficiency and patients' subjective experiences, healthcare facilities may improve perceptions of service quality and overall patient satisfaction (Wulandari & Keni, 2024; Zhang et al., 2023b).

Factors Affecting Waiting Time and Patient Satisfaction

The findings of this review indicate that waiting time and patient satisfaction are influenced by multiple interconnected factors, including institutional characteristics, service processes, and patient-related perceptions. These factors demonstrate that waiting time is not merely a consequence of service duration but reflects the overall efficiency and organization of outpatient healthcare delivery.

At the institutional level, limited human resources, high patient volumes, and inconsistencies in healthcare provider availability were identified as important contributors to prolonged waiting times. Inadequate staffing capacity and inefficient administrative systems may disrupt service flow and increase patient waiting duration (Isaruk & Isaruk, 2024). Similarly, high outpatient visit volumes and inconsistent physician scheduling have been reported as factors contributing to longer waiting times and reduced patient satisfaction (Paganini et al., 2024).

Regarding service processes, waiting time is influenced by multiple stages throughout the outpatient pathway, including registration, physician consultation, and pharmaceutical services. Delays occurring at any stage of the service process may accumulate and affect patients' overall perceptions of healthcare quality. Previous research demonstrated that waiting times for registration, medical examinations, and medication collection were significantly associated with patient satisfaction, indicating that the patient waiting experience is shaped throughout the entire care process rather than at a single service point (Narulitha et al., 2025).

Beyond organizational and operational factors, patient perceptions also play an important role in determining satisfaction levels. Patients who receive clear explanations regarding service delays and estimated waiting duration may perceive waiting periods more positively compared with patients who experience uncertainty during the process. Therefore,

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improving patient satisfaction requires a comprehensive approach that combines efforts to reduce actual waiting times with optimization of service systems, effective queue management, and transparent communication with patients (Wulandari & Keni, 2024; Zhang et al., 2023b).

Overall, the findings of this review emphasize that waiting time remains an important determinant of outpatient satisfaction; however, its influence is shaped by various organizational, operational, and perceptual factors. Healthcare facilities should therefore implement integrated strategies that address both service efficiency and patient experience to achieve sustainable improvements in outpatient service quality.

CONCLUSIONS

The findings of this literature review indicate that waiting time is a key determinant of outpatient satisfaction. In general, longer waiting periods are associated with lower levels of patient satisfaction. However, this relationship is not solely determined by actual waiting duration but is influenced by various contextual factors, including patients' perceptions and expectations regarding waiting time, the quality of communication between healthcare providers and patients, service responsiveness, and organizational factors such as scheduling systems and queue management.

These findings highlight that improving outpatient satisfaction requires a comprehensive approach that extends beyond simply reducing waiting time. Healthcare facilities should focus on optimizing service processes, strengthening patient-centered communication, managing patient expectations, and improving organizational efficiency to create a more positive waiting experience. Effective queue management, transparent information delivery, and continuous evaluation of service quality are essential strategies for enhancing patient satisfaction and improving outpatient care performance.

Future research should further investigate the psychological, behavioral, and organizational mechanisms underlying the relationship between waiting time and patient satisfaction. Studies incorporating multidimensional approaches, including perceived waiting time, expected waiting time, communication quality, and healthcare system factors, are needed to provide a more comprehensive understanding of how outpatient experiences are formed across different healthcare settings.

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