

Outpatient experiences with the mobile JKN queuing system: Patient satisfaction at a hospital in Makassar

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ABSTRACT

Recent advancements in healthcare technology have introduced innovations such as the Mobile JKN queuing system, designed to streamline outpatient registration and enhance patient convenience. However, there remains a gap in understanding patient experiences and satisfaction with these digital interventions in rural hospital settings. This study aimed to explore and describe outpatient experiences using the Mobile JKN queuing system and assess satisfaction levels at Stella Maris Hospital in Makassar. A qualitative phenomenological approach was employed, involving in-depth interviews, observation, and documentation with outpatients, BPJS officers, and outpatient department leaders. Findings revealed diverse patient experiences, with some respondents expressing appreciation for reduced on-site waiting times, while others were dissatisfied due to extended waiting despite app registration. Additional factors influencing satisfaction included lack of social interaction, inaccurate information, inconsistent scheduling, and limited doctor availability. Relational, functional, and service integration issues contributed to negative perceptions and identified existing gaps in the digital queuing system. These insights underscore the need for ongoing evaluation and targeted improvements in digital health service delivery in rural areas, with implications for optimizing patient-centered care and technology adoption.

ABSTRAK

Kemajuan terbaru dalam teknologi kesehatan telah memperkenalkan inovasi seperti sistem antrian Mobile JKN, yang dirancang untuk merampingkan pendaftaran rawat jalan dan meningkatkan kenyamanan pasien. Namun, masih terdapat kesenjangan dalam memahami pengalaman dan kepuasan pasien dengan intervensi digital ini di rumah sakit pedesaan. Penelitian ini bertujuan untuk mengeksplorasi dan menggambarkan pengalaman pasien rawat jalan yang menggunakan sistem antrian Mobile JKN dan menilai tingkat kepuasan di Rumah Sakit Stella Maris Makassar. Pendekatan fenomenologi kualitatif digunakan, yang melibatkan wawancara mendalam, observasi, dan dokumentasi dengan pasien rawat jalan, petugas BPJS, dan pemimpin departemen rawat jalan. Temuan menunjukkan pengalaman pasien yang beragam, dengan beberapa responden mengungkapkan apresiasi atas berkurangnya waktu tunggu di tempat, sementara yang lain merasa tidak puas karena waktu tunggu yang lama meskipun telah melakukan pendaftaran melalui aplikasi. Faktor-faktor tambahan yang mempengaruhi kepuasan termasuk kurangnya interaksi sosial, informasi yang tidak akurat, penjadwalan yang tidak konsisten, dan ketersediaan dokter yang terbatas. Masalah relasional, fungsional, dan integrasi layanan berkontribusi pada persepsi negatif dan mengidentifikasi kesenjangan yang ada dalam sistem antrian digital. Wawasan ini menggarisbawahi perlunya evaluasi yang berkelanjutan dan peningkatan yang ditargetkan dalam penyediaan layanan kesehatan digital di daerah pedesaan, dengan implikasi untuk mengoptimalkan perawatan yang berpusat pada pasien dan adopsi teknologi.

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INTRODUCTION

The rapid advancement of information technology has significantly transformed various aspects of life, particularly within the healthcare sector. One major development is the implementation of online registration systems in hospitals, aimed at increasing the effectiveness and convenience of patient admissions (Agustina Hakim Safira et al., 2024). The online queuing system via the Mobile Jaminan Kesehatan Nasional (JKN) application, initiated by BPJS Kesehatan, represents a pivotal innovation that allows integration with hospital information systems. This system utilizes a Multi Channel–Multi Phase approach, streamlining processes from registration and clinical services to pharmacy collection through a connected digital queuing platform. The core objective is to facilitate easier access and improve the efficiency of healthcare services for patients. However, according to BPJS Kesehatan data in October 2022, only 58% of referral health facilities had adopted the online queuing system bridging version 2.0, while the remainder continued with conventional methods (Wahidah et al., 2023).

Hospital service quality is fundamentally reflected in the ability to meet or exceed patient expectations, which directly impacts patient satisfaction and loyalty (Safira et al., 2024). Positive patient experiences are essential for building trust and encouraging repeat utilization of health facilities (Marlina et al., 2024). Patient experience during care not only shapes perceptions of service quality but also determines the extent to which patient needs are fulfilled. Evaluation of these experiences provides critical feedback for improving clinical outcomes, optimizing resource utilization, and ensuring patient safety. Furthermore, competitive advantage for hospitals is increasingly defined by their ability to deliver superior patient experiences (Seran et al., 2024). Nonetheless, the implementation of the Mobile JKN application has encountered barriers, including limited patient understanding and inadequate dissemination by healthcare providers (Novianti & Gunawan, 2023).

Although the Mobile JKN system offers the potential to improve efficiency and patient convenience, initial findings at Stella Maris Hospital suggest that patient satisfaction with outpatient experiences remains low, primarily due to extended waiting times and discrepancies between scheduled and actual services. These challenges highlight the urgent need for comprehensive assessment and targeted interventions to optimize digital queuing system performance, increase patient understanding, and ultimately enhance satisfaction (Agustina Hakim Safira et al., 2024).

Various studies have proposed multiple solutions to address the challenges associated with digital health service systems. Kurniawati et al. (2021) observed that online registration systems can significantly reduce on-site waiting times, increasing patient satisfaction and streamlining patient flow at hospital registration counters. However, a proportion of patients remain reluctant to transition from manual to digital registration due to familiarity with traditional methods and difficulties in using new technology. Afdoli and Malau (2019) reported similar findings, emphasizing the importance of comprehensive patient education and robust operational support to facilitate successful adoption of online outpatient registration. They further identified the need for training and ongoing guidance for both patients and healthcare staff to bridge knowledge gaps and overcome resistance to digital transformation (Arnita & Yunengsih, 2024).

In addition, Fitriani and Safira (2024) highlighted the relationship between positive patient perceptions and satisfaction with online registration systems. Their study revealed that a majority of respondents expressed satisfaction with digital services, but a notable proportion remained dissatisfied due to factors such as limited operational support, insufficient information, and inconsistent communication regarding system use. These findings underscore the necessity of tailored communication strategies, patient-centered service enhancements, and strengthened collaboration between hospitals and BPJS Kesehatan to maximize the impact of digital innovations in healthcare.

While prior research has extensively examined the technical effectiveness and general user acceptance of online queuing and registration systems in urban hospitals, there remains a critical gap in understanding patient experiences and satisfaction in rural and semi-urban healthcare contexts. Specifically, limited studies have focused on the perspectives of outpatients utilizing the Mobile JKN queuing system in hospitals outside major metropolitan areas, where barriers to adoption and patient

satisfaction may be more pronounced due to contextual and infrastructural factors (Kurniawati et al., 2021; Afdoli & Malau, 2019; Fitriani & Safira, 2024).

Given preliminary data from Stella Maris Hospital indicating low satisfaction levels and declining outpatient numbers despite the implementation of the Mobile JKN system, there is a clear need to explore and contextualize patient experiences in this setting. This study addresses this gap by systematically assessing the experiences and satisfaction of outpatients using the Mobile JKN queuing system at Stella Maris Hospital, Makassar, with the objective of informing future strategies for digital service improvement and patient-centered care in rural hospital environments (Agustina Hakim Safira et al., 2024).

METHODS

This study employed a qualitative research design using a phenomenological approach to explore and describe the experiences and satisfaction of outpatients utilizing the Mobile JKN queuing system at Stella Maris Hospital. The research was conducted at Stella Maris Hospital, Makassar, with data collection taking place during the specified study period.

The study population comprised outpatients who had utilized the Mobile JKN queuing system, as well as relevant hospital staff. Purposive sampling was used to select informants who could provide rich, relevant information regarding the phenomenon under investigation. The sample consisted of four outpatient participants as general informants, and two key informants, namely the BPJS officer and the head or staff member of the outpatient department.

Data collection involved a combination of in-depth interviews and direct observation to capture the subjective experiences and satisfaction levels of patients. In addition, library research (studi kepustakaan) was conducted by systematically reviewing and critically analyzing scientific literature and relevant documents to contextualize findings and provide a theoretical foundation for the study. This dual approach enabled a comprehensive understanding of both empirical and literature-based perspectives on digital queuing systems in rural healthcare settings.

The research procedures included initial contact and informed consent from all participants, followed by scheduled interviews and observations within the hospital environment. Interviews were guided by a semi-structured protocol, allowing for the exploration of emergent themes. Data from interviews and observations were transcribed and subjected to interactive analysis, which included data reduction, data display, and conclusion drawing.

Informed consent was obtained from all participants, with assurances of confidentiality and voluntary participation in accordance with ethical research standards. The findings were triangulated through comparison of interview data, observational notes, and insights drawn from the literature review. Data presentation utilized narrative descriptions and direct quotations to ensure authenticity and credibility of the reported experiences.

Table 1
Patient Experience and Satisfaction with the Mobile JKN Queuing System

Variable	Category	Frequency (n)	Percentage (%)
Patient Experience	Good	47	47
	Poor	53	53
Patient Satisfaction	Satisfied	33	33
	Dissatisfied	67	67

RESULTS AND DISCUSSION

Table 1 shows that, for the patient experience variable, the majority of respondents rated their experience as poor, totaling 53 individuals or 53.0%. Meanwhile, 47 respondents, or 47.0%, reported having a good experience. Regarding the patient satisfaction variable, most respondents expressed satisfaction with the services provided, with 67 individuals or 67.0% indicating satisfaction. In contrast, 33 respondents, or 33.0%, reported being dissatisfied.

Based on information from regular informants, it can be concluded that although the registration process via the Mobile JKN application is considered quite practical, overall patient experience has not been entirely satisfactory. Patients continue to face several challenges, such as suboptimal application performance. Despite having registered online, they still have to wait for long periods upon arrival at the hospital. In addition, the application often experiences technical disruptions, such as errors or slow processing due to network problems, which further hinder the registration process. Some patients, especially those unfamiliar with digital applications, require more time to navigate the available features. Even after completing online registration, patients are still required to undergo re-verification at the hospital and wait again in line. These findings are consistent with research by Sari et al. (n.d., 2024), which found that participant satisfaction with the Mobile JKN application remains low. Participants reported dissatisfaction due to frequent technical issues and a lack of clear information or guidance regarding its use. Therefore, participants recommended improvements to the system and increased socialization related to the use of the Mobile JKN application in the future.

Patient satisfaction with the Mobile JKN queuing system remains relatively low. Although patients have registered online and followed the schedule provided in the application, they still have to wait a long time at the hospital, sometimes up to three to four hours. The mismatch between service times and the promised schedule has resulted in discomfort and disappointment among patients. Additionally, the obligation to undergo re-verification at the hospital and the presence of technical issues in the application, such as errors or data processing delays, further worsen their experience. Some patients also compared the queuing system used at this hospital with those at other hospitals, such as in Bali, which were perceived to have better queuing services.

The Jaminan Kesehatan Nasional (JKN) system in Indonesia is a crucial framework aimed at providing universal health coverage, significantly enhanced by the country's shift towards digital health solutions. The COVID-19 pandemic catalyzed the adoption of digital health technologies, with reports indicating that the number of daily users of health applications has exceeded 15 million as Indonesia advances its digital health capacity (Aisyah et al., 2024).

The government's Blueprint of Digital Health Transformation Strategy 2024 underscores the necessity of integrating digital systems into health services, which is essential for improving accessibility and efficiency in healthcare delivery (Hidayat et al., 2023). However, challenges persist, including the need for comprehensive regulatory frameworks governing telemedicine, which can impede progress and raise concerns regarding user protection and investor confidence (Afrilies & Naili, 2023). Furthermore, disparities in digital health readiness across healthcare facilities reveal varying levels of technological adoption, indicating a need for targeted strategies to promote equitable healthcare access (Nugroho et al., 2024). Thus, while advancements in mobile health applications are clear, sustained government collaboration and public outreach remain critical to overcoming these barriers and maximizing the benefits of the JKN system within Indonesia's evolving digital health landscape.

Patient satisfaction in digital health is a multifaceted construct influenced by various dimensions. Key determinants of satisfaction include the quality of interpersonal care, reliability, responsiveness, and assurance provided by healthcare professionals (Afrashtehfar et al., 2020). Digital health interventions can enhance patient experience through improved communication and streamlined access to services, which are essential factors in determining satisfaction levels (Madanian et al., 2023). For instance, digital tools that facilitate better interaction between patients and providers have demonstrated higher satisfaction rates, particularly in outpatient settings (Fennessy et al., 2025).

Moreover, the dimensions of patient satisfaction often align with traditional healthcare metrics, including empathy and aspects of service quality such as technology usability and infrastructure (Maisarah et al., 2024; Fadila et al., 2022). However, challenges remain regarding how digital literacy impacts patient engagement with these technologies. An effective digital health strategy must also consider socio-demographic variations, as factors such as age and education can significantly affect patient perceptions and satisfaction (Adhikari et al., 2020; Oruç, 2025). Therefore, a comprehensive approach that incorporates both technological and human factors is essential for optimizing patient satisfaction in digital health contexts.

CONCLUSION

This study revealed that, despite the perceived practicality of the Mobile JKN queuing system, the overall outpatient experience and satisfaction at Stella Maris Hospital in Makassar remain suboptimal. The findings indicate that a significant proportion of patients encountered persistent challenges, including prolonged waiting times, technical disruptions within the application, mandatory on-site re-verification, and insufficient guidance on digital registration. These obstacles contributed to both negative patient experiences and relatively low levels of satisfaction, even though the majority of respondents expressed general contentment with the services received. The continued gap between the intended efficiency of digital queuing and the reality experienced by patients underscores the necessity for ongoing evaluation and targeted improvements, particularly in enhancing application reliability, streamlining hospital workflows, and increasing patient support and education. This research contributes to the growing body of literature on digital health interventions in rural settings, highlighting the critical need for patient-centered digital innovation and robust system integration. Future research should address the identified limitations by employing broader and comparative samples, as well as investigating the impact of specific interventions designed to optimize digital queuing experiences and patient satisfaction in diverse healthcare environments.

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