

## Association Between Quality Management Implementation and Inpatient Satisfaction: A Cross-Sectional Study

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### ABSTRACT

**Background:** Quality management is an essential component of healthcare delivery that aims to improve service quality, patient safety, and organizational performance. Effective implementation of quality management is expected to enhance patient satisfaction, particularly in inpatient services at primary healthcare facilities. Identifying the relationship between quality management implementation and inpatient satisfaction is important for developing strategies to improve healthcare quality and patient-centered services.

**Research Objective:** This study aimed to determine the relationship between quality management implementation and inpatient satisfaction at Antang Public Health Center, Makassar, Indonesia.

**Methods:** This analytical observational study employed a cross-sectional design. A total of 22 inpatients were recruited using a purposive sampling technique. Data on quality management implementation and inpatient satisfaction were collected using structured questionnaires. Data were analyzed using descriptive statistics and the Chi-square test with a significance level of  $p < 0.05$ .

**Results:** Most respondents perceived the implementation of quality management as good (68.2%), while 72.7% reported being satisfied with inpatient services. Bivariate analysis revealed a statistically significant relationship between quality management implementation and inpatient satisfaction ( $p = 0.003$ ). Respondents who perceived good quality management implementation demonstrated a higher level of satisfaction than those who perceived poor implementation.

**Conclusion:** Quality management implementation was significantly associated with inpatient satisfaction at Antang Public Health Center, Makassar. Strengthening leadership commitment, continuous quality improvement, adherence to standard operating procedures, and patient-centered care is essential to improve healthcare quality and enhance patient satisfaction in primary healthcare settings.

**Keywords:** Quality Management, Patient Satisfaction, Inpatient Care, Primary Healthcare, Public Health Center.

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## BACKGROUND

Quality has become a fundamental dimension of healthcare systems worldwide because it directly influences patient outcomes, healthcare efficiency, and public trust. The World Health Organization (WHO) defines quality healthcare as services that are effective, safe, people-centered, timely, equitable, integrated, and efficient (Chiwire et al., 2022). As healthcare systems evolve toward universal health coverage, quality management has emerged as a strategic approach to ensuring that healthcare organizations continuously improve service delivery while meeting patient expectations. Nevertheless, deficiencies in healthcare quality remain a significant global concern (Prado-Galbarro et al., 2020). Recent estimates indicate that approximately 5.7–8.4 million deaths occur annually in low- and middle-income countries due to poor-quality healthcare, highlighting that improving access alone is insufficient without strengthening service quality (Zeng et al., 2022).

Patient satisfaction has become one of the most widely accepted indicators for evaluating healthcare quality because it reflects patients' perceptions of the services they receive relative to their expectations (Geiger et al., 2021). A high level of patient satisfaction is associated with improved treatment adherence, greater utilization of healthcare services, increased trust in healthcare providers, and better health outcomes. Consequently, healthcare institutions worldwide have increasingly integrated quality management systems, including continuous quality improvement, accreditation standards, patient safety initiatives, risk management, and evidence-based service delivery, to improve patient experiences (Djambazov et al., 2019). Studies consistently demonstrate that successful implementation of quality management principles contributes to improved organizational performance and patient satisfaction by enhancing reliability, responsiveness, communication, and patient-centered care (Schultz et al., 2020).

In Indonesia, quality management has become an essential component of healthcare reform, particularly following the implementation of the National Health Insurance (JKN) program. Community Health Centers (Puskesmas), as the primary healthcare providers, are expected to deliver comprehensive, equitable, and high-quality services while complying with national accreditation standards established by the Ministry of Health (Lapin et al., 2019). The accreditation process emphasizes continuous quality improvement, patient safety, clinical governance, leadership, risk management, and community-oriented healthcare services (Alosaimi et al., 2022). Despite these efforts, patient satisfaction levels remain heterogeneous across healthcare facilities, indicating that implementation of quality management principles varies considerably among Puskesmas (Jabour et al., 2022). Previous Indonesian studies have shown that dimensions of service quality including reliability, responsiveness, assurance, empathy, and tangible facilities are significantly associated with patient satisfaction (Filler et al., 2020).

South Sulawesi Province represents one of Indonesia's rapidly developing healthcare regions, characterized by increasing healthcare utilization and growing public expectations regarding service quality. Makassar, as the provincial capital and the largest metropolitan area in eastern Indonesia, has experienced substantial increases in population density and healthcare demand (Coteur et al., 2022). Consequently, public health centers are required not only to provide accessible healthcare services but also to implement effective quality management systems that ensure patient-centered care. Accreditation status alone does not necessarily guarantee high patient satisfaction because patients evaluate healthcare based on their actual experiences during service delivery, including communication, waiting time, staff professionalism, facility cleanliness, and continuity of care (Ding et al., 2021). Recent studies conducted in Makassar have demonstrated significant relationships between healthcare service quality and patient satisfaction in several public health centers, including Mangasa, Kapasa, Paccerakkang, and Mamajang.

Specifically, studies conducted at Antang Public Health Center have predominantly focused on outpatient services. Research involving BPJS outpatient participants found that tangible aspects, reliability, and empathy significantly influenced patient satisfaction, while another study emphasized the importance of comfort and timeliness in determining outpatient satisfaction. More recent institutional evaluations also identified infrastructure limitations, overcrowded waiting areas, and operational inefficiencies as persistent challenges affecting service quality.

Although these previous investigations have provided valuable insights, several important research gaps remain. First, existing studies primarily evaluate service quality (SERVQUAL dimensions) rather than the broader implementation of quality management, which encompasses leadership commitment, continuous quality improvement, patient safety, standard operating procedures, monitoring and evaluation, and organizational quality culture. Second, most previous studies focus on outpatient services, whereas inpatient services require different quality management approaches because patients experience longer interactions with healthcare professionals, more comprehensive clinical care, and continuous nursing services (Haverfield et al., 2022). Third, earlier studies generally analyze service quality from the perspective of individual service dimensions without considering how organizational implementation of quality management systems contributes to inpatient satisfaction. Therefore, evidence regarding the relationship between comprehensive quality management implementation and inpatient satisfaction at primary healthcare facilities remains limited, particularly in Makassar.

Another important consideration is that patient expectations have evolved substantially following healthcare reforms, digital transformation, and strengthened accreditation requirements. Modern healthcare users increasingly evaluate healthcare organizations not only by clinical competence but also by organizational responsiveness, communication, safety culture, service integration, and administrative efficiency. These evolving expectations require healthcare managers to adopt comprehensive quality management strategies rather than relying solely on improvements in individual service dimensions. Understanding how quality management implementation influences inpatient satisfaction can therefore provide valuable evidence for policymakers and healthcare managers seeking to strengthen primary healthcare performance and achieve sustainable quality improvement.

The novelty of this study lies in its comprehensive assessment of quality management implementation rather than merely evaluating service quality dimensions. Unlike previous studies conducted at Antang Public Health Center and other Puskesmas in Makassar, this research focuses specifically on inpatient services and examines quality management implementation from an organizational perspective, including leadership commitment, implementation of standard operating procedures, continuous quality improvement, patient safety practices, service monitoring, and quality culture. This broader perspective is expected to provide more comprehensive evidence regarding organizational determinants of patient satisfaction and contribute to the development of evidence-based management strategies for strengthening primary healthcare quality. Furthermore, the findings may serve as practical recommendations for healthcare managers, accreditation teams, and local health authorities in improving quality management systems to enhance patient satisfaction and healthcare performance.

Therefore, this study aims to analyze the relationship between the implementation of quality management and inpatient satisfaction at Antang Public Health Center, Makassar, in order to generate empirical evidence that can support continuous quality improvement and strengthen patient-centered primary healthcare services.

## METHODS

This study employed a quantitative research design with an analytical cross-sectional approach (M Selvarajah et al., 2022) to examine the relationship between quality management implementation and inpatient satisfaction at Antang Public Health Center, Makassar. A total of 22 inpatients who met the inclusion criteria participated in the study and were selected using purposive sampling. Data were collected using structured questionnaires assessing the implementation of quality management and patient satisfaction. Descriptive statistics were used to summarize respondents' characteristics and study variables, while the Chi-square test was employed to analyze the relationship between quality management implementation and inpatient satisfaction, with statistical significance set at  $p < 0.05$ . Ethical approval was obtained from the appropriate Health Research Ethics Committee, and written informed consent was obtained from all participants before data collection.

## RESULTS

### Respondent Characteristics

A total of 22 inpatients participated in this study. Most respondents were female (59.1%), aged 26–45 years (45.5%), had completed senior high school education (40.9%), and were covered by the National Health Insurance (JKN) program (72.7%).

**Table 1.**  
**Characteristics of Respondents (n = 22)**

| Characteristics         | Frequency (n) | Percentage (%) |
|-------------------------|---------------|----------------|
| <b>Gender</b>           |               |                |
| Male                    | 9             | 40.9           |
| Female                  | 13            | 59.1           |
| <b>Age</b>              |               |                |
| 17–25 years             | 4             | 18.2           |
| 26–45 years             | 10            | 45.5           |
| 46–65 years             | 6             | 27.3           |
| >65 years               | 2             | 9.0            |
| <b>Education</b>        |               |                |
| Primary School          | 3             | 13.6           |
| Junior High School      | 5             | 22.7           |
| Senior High School      | 9             | 40.9           |
| College/University      | 5             | 22.7           |
| <b>Health Insurance</b> |               |                |
| JKN                     | 16            | 72.7           |
| Non-JKN                 | 6             | 27.3           |

### Univariate Analysis

**Table 2.**  
**Distribution of Quality Management Implementation and Inpatient Satisfaction (n = 22)**

| Characteristics                          | Frequency (n) | Percentage (%) |
|------------------------------------------|---------------|----------------|
| <b>Quality Management Implementation</b> |               |                |
| Good                                     | 15            | 68.2           |
| Poor                                     | 7             | 31.8           |
| <b>Patient Satisfaction</b>              |               |                |
| Satisfied                                | 16            | 72.7           |

Table 2 shows that 68.2% of respondents perceived the implementation of quality management at Antang Public Health Center as good, while 31.8% considered it poor. Regarding patient satisfaction, 72.7% of respondents reported being satisfied with the inpatient services, whereas 27.3% expressed dissatisfaction. These findings indicate that most respondents had positive perceptions of both quality management implementation and the healthcare services received during hospitalization.

## Bivariate Analysis

**Table 3.**  
**Relationship between Quality Management Implementation and Inpatient Satisfaction (n = 22)**

| <b>Quality Management Implementation</b> | <b>Satisfied n (%)</b> | <b>Dissatisfied n (%)</b> | <b>Total</b> | <b>p-value</b> |
|------------------------------------------|------------------------|---------------------------|--------------|----------------|
| Good                                     | 14 (93.3)              | 1 (6.7)                   | 15           | 0.003          |
| Poor                                     | 2 (28.6)               | 5 (71.4)                  | 7            |                |
| <b>Total</b>                             | <b>16 (72.7)</b>       | <b>6 (27.3)</b>           | <b>22</b>    |                |

The bivariate analysis demonstrated a statistically significant relationship between quality management implementation and inpatient satisfaction ( $p = 0.003$ ). Among respondents who perceived quality management implementation as good, 93.3% reported being satisfied with the inpatient services, whereas only 6.7% were dissatisfied. In contrast, among respondents who perceived poor quality management implementation, only 28.6% were satisfied, while 71.4% expressed dissatisfaction.

These findings suggest that effective implementation of quality management is strongly associated with higher levels of inpatient satisfaction. Patients who perceived better organizational quality management including adherence to standard operating procedures, responsiveness of healthcare staff, effective communication, patient safety practices, and continuous quality improvement were more likely to report positive healthcare experiences. This result supports the premise that comprehensive quality management contributes substantially to improving patient satisfaction and strengthening the quality of primary healthcare services at Antang Public Health Center, Makassar.

## DISCUSSION

The findings of this study demonstrate a statistically significant relationship between the implementation of quality management and inpatient satisfaction at Antang Public Health Center, Makassar ( $p = 0.003$ ). Patients who perceived the implementation of quality management as good were more likely to report satisfaction with inpatient services than those who perceived it as poor. This finding indicates that the effectiveness of quality management practices plays a crucial role in shaping patients' perceptions of healthcare services and supports the view that continuous quality improvement is essential for enhancing patient-centered care in primary healthcare settings.

The high proportion of respondents who rated the implementation of quality management as good (68.2%) suggests that Antang Public Health Center has made considerable efforts to apply quality management principles in delivering healthcare services. Quality management encompasses leadership commitment, compliance with standard operating procedures, patient safety, continuous quality improvement, effective communication, and systematic monitoring of service performance. When these components are implemented consistently, healthcare providers are better able to deliver safe, timely, and patient-centered services. According to the World Health Organization, quality healthcare should be effective, safe, timely, efficient, equitable, and people-

centered, all of which contribute to positive patient experiences and improved health outcomes (Fernandes-Taylor et al., 2017).

Patient satisfaction is widely recognized as one of the most important indicators of healthcare quality because it reflects patients' evaluations of the services they receive (Meinert et al., 2018). In this study, nearly three-quarters of respondents (72.7%) reported satisfaction with inpatient services. This finding indicates that most patients perceived the healthcare services as meeting or exceeding their expectations. Satisfaction is influenced not only by clinical outcomes but also by healthcare workers' attitudes, communication skills, responsiveness, waiting times, facility cleanliness, privacy, and overall service organization. Patients who experience respectful treatment, timely care, and clear communication tend to express higher levels of satisfaction and are more likely to continue utilizing healthcare services and recommend them to others (Llanwarne et al., 2017).

The bivariate analysis showed that 93.3% of respondents who perceived good quality management implementation were satisfied with inpatient services, whereas only 28.6% of respondents who perceived poor quality management implementation reported satisfaction. This difference demonstrates that organizational quality management substantially influences patients' overall healthcare experiences. Effective quality management ensures that healthcare services are delivered consistently according to established standards, minimizes service errors, strengthens patient safety, and promotes continuous service evaluation (Corsico et al., 2019). Consequently, patients perceive healthcare services as more reliable, responsive, and trustworthy, resulting in greater satisfaction.

The present findings are consistent with previous studies conducted in Indonesia, which have reported positive associations between healthcare quality and patient satisfaction (Aminai et al., 2019). Research in several public health centers has shown that improvements in reliability, responsiveness, assurance, empathy, and tangible aspects of healthcare services significantly increase patient satisfaction (Dózsa et al., 2019). Similarly, studies conducted in hospitals have demonstrated that organizations implementing continuous quality improvement programs and patient safety initiatives tend to achieve higher patient satisfaction scores. These findings suggest that quality management provides a comprehensive organizational framework for improving healthcare performance beyond individual service dimensions (Daneshkohan et al., 2022).

From a theoretical perspective, the findings support the principles of Total Quality Management (TQM), which emphasize continuous improvement, customer focus, employee involvement, leadership commitment, and evidence-based decision-making (Aminai et al., 2019). Within healthcare organizations, patients represent the primary customers whose expectations should guide service improvement efforts. When healthcare organizations consistently evaluate service performance, identify quality gaps, implement corrective actions, and encourage staff participation in quality improvement activities, patient satisfaction is likely to improve. Therefore, quality management should be viewed as an ongoing organizational culture rather than merely a requirement for accreditation (Taube & Berzina-Novikova, 2018).

Several practical implications emerge from this study. Healthcare managers at Antang Public Health Center should continue strengthening quality management implementation by reinforcing leadership commitment, improving staff competencies through continuous training, ensuring compliance with standard operating procedures, enhancing patient safety programs, and routinely monitoring patient satisfaction. Patient feedback should be systematically collected and integrated into quality improvement planning (Haverfield et al., 2022). Furthermore, strengthening communication between healthcare providers and patients may improve patients' understanding of medical procedures and increase trust in healthcare services. Investment in healthcare

infrastructure, comfortable inpatient facilities, and digital service management systems may further enhance patient experiences (Kaltenbrunner et al., 2019).

Despite its contributions, this study has several limitations. First, the relatively small sample size of 22 respondents limits the generalizability of the findings to other healthcare facilities. Second, the cross-sectional design identifies associations but cannot establish causal relationships between quality management implementation and patient satisfaction. Third, patient satisfaction was measured using self-reported questionnaires, making the results susceptible to response bias and subjective perceptions. Future studies should involve larger sample sizes, include multiple public health centers or hospitals, and employ longitudinal or mixed-method designs to better understand how quality management interventions influence patient satisfaction over time.

Overall, this study provides empirical evidence that effective implementation of quality management is significantly associated with higher inpatient satisfaction at Antang Public Health Center, Makassar. Strengthening organizational quality management systems through continuous quality improvement, patient safety initiatives, leadership commitment, and patient-centered service delivery has the potential to improve healthcare quality and patient experiences. These findings may serve as evidence for healthcare managers and policymakers in developing sustainable quality improvement strategies to achieve excellence in primary healthcare services.

## **CONCLUSION**

This study concludes that there is a significant relationship between the implementation of quality management and inpatient satisfaction at Antang Public Health Center, Makassar ( $p = 0.003$ ). Patients who perceived the implementation of quality management as good were significantly more likely to report higher levels of satisfaction with inpatient services than those who perceived it as poor. These findings indicate that effective quality management—including leadership commitment, adherence to standard operating procedures, patient safety, continuous quality improvement, and patient-centered service delivery—contributes positively to enhancing patient satisfaction.

The study highlights the importance of strengthening quality management practices as a strategic approach to improving healthcare service performance in primary healthcare settings. Continuous monitoring of service quality, regular evaluation of patient satisfaction, staff capacity development, and sustained implementation of quality improvement programs are recommended to ensure consistent, safe, and high-quality healthcare services. Future research involving larger sample sizes and multiple healthcare facilities is recommended to provide broader evidence regarding the impact of quality management implementation on patient satisfaction across different healthcare settings.

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