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Do Uniforms Improve Patient Satisfaction? A Systematic Review of Attire-Related Perceptions and Service Quality Impacts

Tsalsa Dzikria Savira[1], Shanaz Hanani Tazuyyun[1*], Jodii Arlan Kurnia[1] Kurnia Widyaningrum[1], Arina Salsabilla Haq[2]
[1*]Master Program in Hospital Management Faculty of Medicine Universitas Brawijaya, Malang, Indonesia
[2]Louis-Leitz-Schule, Weiner Str. 51, 700469 Stuttgart Deutschland, Germany

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ABSTRACT

Objective: *This systematic literature review synthesizes empirical evidence on how healthcare professional uniforms influence patient satisfaction and perceived service quality, while examining their strategic role in organizational value creation and competitiveness.* ***Method:*** *Studies published between 2010 and 2025 were identified through Scispace, PubMed, and Google Scholar. Following the PRISMA screening process, seven eligible studies were included for narrative synthesis. seven studies met the inclusion criteria and were included in the final narrative synthesis.* ***Results:*** *The included studies consistently reported that healthcare uniforms influenced perceptions of professionalism, trust, and role recognition, although preferences varied across clinical settings and patient characteristics. White coats were generally preferred in outpatient settings, whereas scrubs were favored in emergency and surgical contexts. Evidence also indicated that uniforms had limited direct influence on patient satisfaction, which was more strongly associated with communication quality, empathy, and responsiveness.* ***Novelty:*** *This review proposes a SERVQUAL-based framework distinguishing uniform-related perceptions of service quality from the determinants of actual patient satisfaction, while positioning healthcare uniforms as strategic service cues for organizational competitiveness.*

INTRODUCTION

Patient satisfaction and perceptions of service quality have become key indicators of healthcare performance in various countries (Ishak et al., 2026; Singh & Dixit, 2020; Utomo et al., 2023), as they not only reflect clinical outcomes but also the overall patient experience during care. As competition among healthcare organizations increases, patient perceptions also become a strategic asset influencing reputation, public trust, and organizational competitiveness. From an business perspective, value creation in healthcare also refers to the organization's ability to create a positive service experience for patients (Srivastava & Singh, 2026; Zhang et al., 2015). One visual attribute contributing to this process is healthcare uniforms. As easily recognizable service cue, uniforms have the potential to shape patients' perceptions of professionalism, credibility, trust, and to reinforce the healthcare organization's image.

From a service quality perspective, the impact of healthcare uniforms can also be explained through the SERVQUAL model, especially in the tangibles and assurance dimensions. The appearance of healthcare staff as part of the tangibles serves as physical evidence that shapes patients' initial perceptions of service quality, while the assurance dimension relates to the uniform's ability to build patient trust and confidence in the professionalism of healthcare staff (Sadiq & Sadiq, 2018; Tam et al., 2018). It's worth noting that uniforms not only function as operational attributes but also as a strategic

element that can influence perceptions of service quality and patient experience (Fiorini et al., 2025; Pawłowski et al., 2019).

Recent studies reveal that patient preferences for healthcare attire vary considerably depending on clinical setting, perceived risk, and situational expectations. Kim et al., (2025) found that patients are more likely to accept or prefer scrubs in high-risk situations such as emergency care, whereas in lower-acuity settings, combinations such as white coats worn over professional or semi-casual clothing may be perceived as both approachable and credible. In parallel, clinicians' experiences during the pandemic indicate that infection-control concerns and laundering practices contributed to broader adoption of scrubs, with some perceiving changes in patient responses when dressed in scrubs rather than traditional professional attire (Nordrum et al., 2022).

Beyond general attire type, specific design elements such as uniform color and standardization also influence perceptions of warmth, competence, and credibility. Hribar et al., (2023) demonstrated that scrub color is not neutral, as patients associate different colors with varying characteristics, shaping judgments such as perceived skill or suitability for surgical roles. Collectively, these findings suggest that uniform features may affect patient perceptions through multiple pathways, signaling professionalism and authority, enhancing approachability and interpersonal comfort, and providing clear recognition of role and responsibility.

An additional layer of complexity emerges from the tension between uniforms as symbols of trust and as potential sources of infection. Tsagkaris et al., (2024) conducted an umbrella review highlighting ongoing concerns about microbial contamination on white coats and debates surrounding coatless policies, while also noting that identifiable attire supports patient expectations and trust. This tension intensified after the pandemic, when patients increasingly viewed medical attire and protective equipment as clear indicators of professional responsibility and safety (Hedges et al., 2023). Simultaneously, infection-prevention cultures within institutions have shaped uniform policy decisions regarding sleeve length, laundering standards, and PPE integration, which can indirectly affect patient judgments of service quality through perceived hygiene and risk management.

Even though research on healthcare uniforms continues to grow, empirical evidence on their impact on patient satisfaction and perceived service quality is still fragmented. Most large-scale studies focus on specific professions and use various measurement tools, making results hard to compare. Also, past research tended to emphasize patient perception, while the policy implications of uniforms as part of strategies to improve service quality and the competitiveness of healthcare organizations are rarely discussed. This situation highlights the need for a synthesis of evidence that integrates findings and provides a comprehensive conceptual framework on the role of healthcare uniforms in service delivery.

This systematic literature review aims to integrate empirical findings on how healthcare professional uniforms influence patient satisfaction and perceived service quality. Specifically, the review seeks to: 1.) synthesize evidence on how uniform

characteristics, including attire type, colour, standardization, and hygiene cues, influence perceptions of professionalism, trust, role clarity, safety, service quality, and patient satisfaction; 2.) identify methodological and conceptual limitations in existing studies; and 3.) develop a conceptual framework explaining how healthcare uniforms function as service cues that influence patient perceptions and support service quality improvement and organisational value creation.

Unlike previous studies, this systematic review brings together evidence from various health professions, uniform characteristics, and different service settings, resulting in a more comprehensive understanding of the relationship between healthcare uniforms and patient perceptions. The findings are expected to provide a foundation for developing effective healthcare uniform policies, while also enriching the theory on the role of visual service attributes in shaping service quality, patient experience, and value creation in healthcare organisations.

RESEARCH METHOD

General Background of Research

This study employs a systematic literature review methodology to synthesize existing empirical evidence on the relationship between healthcare professional uniforms and patient perceptions of service quality and satisfaction. Systematic literature reviews are recognized as rigorous approaches for identifying, evaluating, and integrating findings from multiple studies to answer specific research questions and inform evidence-based practice. Unlike narrative reviews, systematic reviews follow explicit, reproducible protocols that minimize bias and enhance transparency throughout the search, selection, and synthesis processes.

This methodology is particularly appropriate for examining how observable environmental cues such as healthcare attire influence patient evaluations, as it allows for comprehensive assessment of diverse study designs, settings, and measurement approaches across the available literature. By systematically reviewing studies conducted in various clinical contexts and patient populations, this approach enables identification of consistent patterns, contextual variations, and gaps in current knowledge that can guide future research and inform practical uniform policy decisions in healthcare organizations.

Study Design and Protocol

This systematic literature review was conducted following established evidence-synthesis principles and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021). The review protocol was designed to ensure systematic identification, screening, and evaluation of all relevant studies examining the influence of healthcare professionals' appearance or uniforms on patient satisfaction and perceived service quality in healthcare settings. The review process consisted of four main stages: identification of relevant literature through database searching, screening of retrieved records against

predefined eligibility criteria, assessment of full-text articles for inclusion, and systematic data extraction and synthesis.

This study did not register a review protocol on PROSPERO or any other registration database. Instead, all stages of the review were planned before the literature search started and carried out consistently according to PRISMA 2020 guidelines to ensure research transparency.

Information Sources and Search Strategy

A comprehensive literature search was conducted across three electronic databases: Scispace, PubMed, and Google Scholar. Selecting PubMed was considered because it's the main database for health publications. Google Scholar was used to broaden the search coverage, reaching articles that might not be indexed in the main databases. Scispace served as a supplementary scientific search engine to boost search sensitivity through cross-publisher indexing.

The search strategy was developed through iterative testing and refinement to balance sensitivity (capturing all relevant studies) with specificity (limiting irrelevant retrieval). The strategy combined two main concept groups using Boolean operators. The first concept group included terms related to healthcare uniforms and professional appearance: "employee uniform," "professional attire," "staff appearance," "workwear," "white coat," "scrubs," "medical dress," and "healthcare clothing." The second concept group included terms related to patient outcomes: "patient satisfaction," "patient perceptions," "patient preferences," "service quality," "patient trust," "professionalism," and "patient experience." Boolean operator AND was used to combine the two concept groups, while OR was used to connect synonymous terms within each group.

This approach aligns with recommended practices for systematic searching and reproducible search strategies in health sciences research. The literature search was limited to articles published between 2010 and 2025 to gather empirical evidence relevant to the development of modern healthcare practices, including changes in patient preferences after the COVID-19 pandemic.

Study Selection and Eligibility Criteria

Studies were screened for eligibility according to predefined inclusion and exclusion criteria established prior to database searching. Inclusion criteria required that studies: 1.) empirically investigate the relationship between healthcare professional attire or uniforms and patient perceptions, satisfaction, or service quality evaluations; 2.) be conducted in healthcare settings with actual patients or patient proxies (e.g., caregivers); 3.) employ quantitative, qualitative, or mixed-methods designs; and 4.) be published in English-language peer-reviewed journals. Exclusion criteria eliminated studies that: 1.) focused solely on healthcare worker preferences or comfort without patient perspectives; 2.) examined uniforms only in the context of infection control without measuring patient perceptions; 3.) were opinion pieces, editorials, or non-empirical commentaries; or 4.) lacked sufficient methodological detail for quality assessment. The screening process was conducted in two stages. First, titles and abstracts of all retrieved records were reviewed

to identify potentially relevant studies. Second, full-text articles of all records passing initial screening were obtained and assessed in detail against the eligibility criteria.

The article screening process was carried out systematically by the researcher and two reviewers at the abstract and full-text assessment stages. Each article was evaluated based on the previously mentioned inclusion and exclusion criteria. If there were differences in determining the eligibility of an article, the final decision was made through a consensus discussion. The article selection process followed the PRISMA flow. All articles obtained from the database were first manually checked in Microsoft Excel to remove duplicates. Articles that passed were then reviewed through a full-text assessment.

Quality Assessment

Each selected study that meets the inclusion criteria then goes through a quality assessment process to evaluate the research's methodological quality. This assessment is based on several aspects, including clarity of research objectives, appropriateness of study design, sample characteristics, data collection procedures, data analysis techniques, and consistency of result reporting. This quality assessment is emphasized to support the interpretation of the synthesis results that will emerge.

Data Extraction and Synthesis

Data from included studies were extracted systematically using a standardized template developed specifically for this review. The extraction template captured: 1.) study characteristics including authorship, publication year, country, and stated objectives; 2.) sample characteristics including setting (e.g., inpatient, outpatient, emergency), patient population, sample size, and demographic information; 3.) methodological features including study design, data collection methods, and measurement instruments; 4.) uniform characteristics examined such as attire type (white coat, scrubs, business attire), color, standardization, and hygiene-related features; and 5.) key findings related to patient satisfaction, perceived professionalism, trust, role identification, and service quality. Data extraction was carried out by researchers and reviewers using a pre-prepared extraction format to ensure the consistency of the information gathered. If there were any doubts during the extraction or interpretation process, the original article was reviewed again based on the established inclusion criteria. This systematic extraction process followed established guidance for conducting rigorous systematic reviews and evidence synthesis.

Data Analysis

Given the heterogeneity in study designs, settings, measurement approaches, and outcomes across the included studies, a narrative synthesis approach was employed rather than quantitative meta-analysis. The narrative synthesis followed a structured process that involved: 1.) organizing extracted findings by uniform characteristics (attire type, color, design elements) and outcome domains (professionalism, trust, satisfaction, role clarity); 2.) identifying patterns, consistencies, and variations across studies; 3.) examining how contextual factors such as clinical setting, patient demographics, and

cultural background moderate the relationship between uniforms and patient perceptions; and 4.) assessing methodological quality and identifying limitations that affect interpretation and generalizability of findings. This analytical approach allowed for comprehensive integration of diverse evidence while maintaining transparency about the strength and limitations of the evidence base, consistent with current standards for systematic review methodology in healthcare research.

Heterogeneity between studies is handled by grouping studies based on uniform characteristics studied, healthcare settings, study design, and measured outcomes. This approach is used to identify patterns of consistent findings as well as variations in results across research contexts. In addition, quantitative and qualitative research are not analyzed separately, but through a narrative synthesis approach focusing on the main emerging themes. The narrative synthesis process follows the stages recommended by Popay et al., (2006), which are developing an initial synthesis, exploring relationships between studies, and assessing the strength of the evidence.

RESULTS AND DISCUSSION

Results

A systematic search of Scispace, PubMed, and Google Scholar identified 240 records consisting of 200 articles from Scispace, 20 articles from PubMed, and 20 articles from Google Scholar. After applying inclusion and exclusion criteria, duplicate removal, publication period screening, and relevance assessment, seven studies were included in the final review. Only seven studies met all the inclusion criteria, indicating that research on the impact of healthcare uniforms on patient perceptions is still relatively limited, which means the results of this review should be understood as a synthesis of the available evidence, not as a basis for broad generalization.

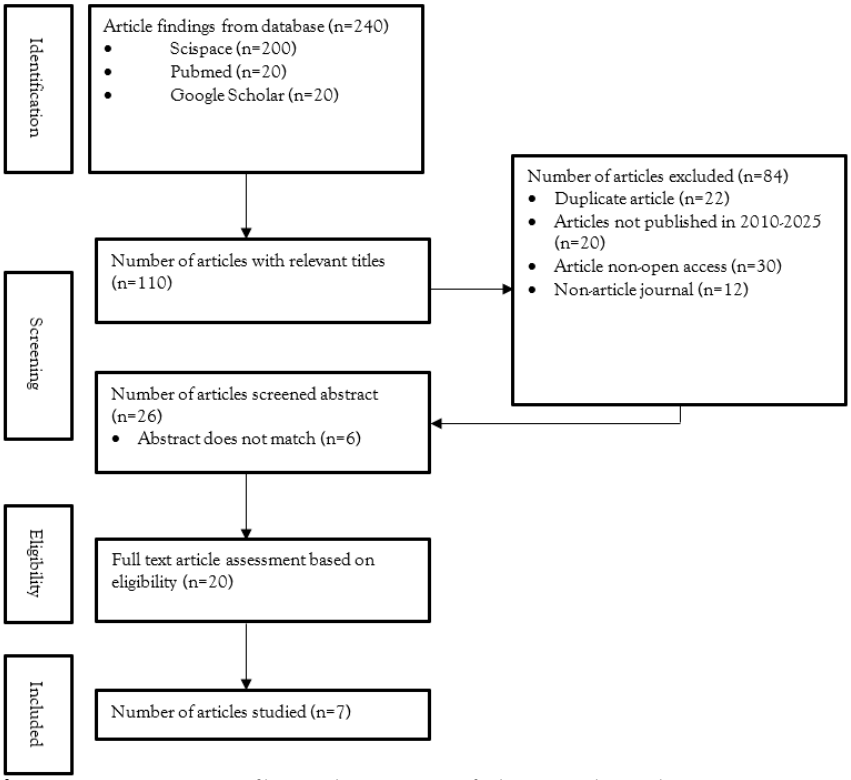

Figure 1. PRISMA flow diagram of the study selection process.

Figure 1 illustrates the article identification, screening, eligibility assessment, and inclusion process. From the initial 240 records retrieved, 84 articles were excluded during the screening stage due to duplication, publication period mismatch, non-open access status, and publication type. After abstract and full-text assessment, seven studies met all eligibility criteria and were included in the final synthesis.

These studies were conducted in different countries, including the United States, Switzerland, Japan, China, and Ghana, and examined patient perceptions regarding healthcare professionals' attire in various clinical settings. No studies have found any research looking into other health professions, like physiotherapists, radiographers, or other healthcare workers.

Table 1. Characteristics of Included Studies

Author (Year)	Country	Sample	Study Design	Main Findings
Hossler et al., (2018)	USA	7.702 patients	Retrospective cohort	Change from formal attire to scrubs did not significantly affect patient satisfaction.
Petrilli et al., (2018)	USA	4.062 patients	Cross-sectional survey	Formal attire with a white coat was most preferred overall.
Zollinger et al., (2019)	Switzerland	834 patients	Cross-sectional survey	White scrubs combined with a white coat received the highest ratings.
Agyeman, (2013)	Ghana	319 patients	Survey study	Patients appreciated nurses' appearance, but dissatisfaction was related to staff attitudes and responsiveness.
Kamata et al., (2020)	Japan	2020 patients	Multicenter survey	Casual attire with a white coat was preferred overall, while scrubs were preferred in emergency settings.
De Lott et al., (2019)	USA	1.297 patients	Survey cohort	Formal attire with a white coat received the highest preference scores.
Zou et al., (2023)	China	126 patients	Cross-sectional survey	Scrubs combined with a white coat scored highest across all evaluation domains.

Most studies suggest that healthcare uniforms affect perceptions of professionalism and patient trust. However, not all research shows the same impact on patient satisfaction. For example, Hossler et al., (2018) found that switching from formal attire to scrubs didn't significantly change patient satisfaction, while other studies often looked at patient preferences for types of uniforms rather than actual satisfaction. On the other hand, most studies reported that white coats were preferred in outpatient and consultation settings, whereas scrubs were more commonly preferred in emergency departments and surgical environments.

In terms of evidence strength, most research uses a cross-sectional survey design which can show patient preferences but cannot explain causal relationships. Hossler et al., (2018) research is methodologically stronger because it uses actual patient satisfaction data with a large sample size (7,702 respondents). On the other hand, some other studies focus more on assessing perceptions through photo-based questionnaires, so the results reflect preferences rather than actual service experiences.

Several studies also found that patient preferences vary according to demographic and contextual factors (Monzani et al., 2020; Oktora et al., 2022). Older patients generally placed greater importance on physician attire and were more likely to prefer formal clothing combined with a white coat. In contrast, younger patients demonstrated greater acceptance of less formal attire. Across the included studies, uniforms were more frequently associated with perceived professionalism than with patient satisfaction.

Uniforms and Professional Image

Across all included studies, attire functioned as a visual cue that influenced judgments of professional competence and credibility. White coats were consistently associated with expertise, authority, and trust. In Japan, the United States, and Switzerland, attire combinations involving white coats received the highest preference ratings.

Uniforms and Patient Satisfaction

Among the included studies, patient satisfaction was assessed using various outcome measures. Several studies reported no significant association between changes in healthcare attire and overall patient satisfaction, whereas communication quality, empathy, responsiveness, and waiting time were also reported as factors associated with patient satisfaction.

Measurement Approaches in Existing Studies

The literature employed several measurement instruments to assess attire-related perceptions.

Table 2. Measurement Instruments Used in Previous Studies

Measurement Objective	Instrument	Main Domains
Attire preference	Standardized photo questionnaire	Knowledgeable, Trustworthy, Caring, Approachable, Comfortable
Professional image	Likert-based perception scales	Professionalism, Reliability, Responsibility
Satisfaction influence	Satisfaction questionnaires	Importance of attire and satisfaction impact
Actual patient satisfaction	Press Ganey Survey	Provider performance and patient satisfaction
Service quality	SERVQUAL	Tangibles, Reliability, Responsiveness, Assurance, Empathy

Most studies use photo-based questionnaires which are effective for evaluating preferences regarding healthcare staff appearance, but they have limitations as they do not reflect real interactions between patients and staff. On the other hand, using actual satisfaction data such as the Press Ganey Survey provides a closer picture of patient experience, although it has only been used in one study. Additionally, no instrument has been found that specifically measures the relationship between uniform characteristics, service quality, and patient satisfaction in an integrated way. The standardized photo questionnaire was the most frequently used instrument for assessing patients' perceptions of healthcare attire.

Discussion

Based on seven reviewed studies, most research consistently shows that healthcare uniforms act as visual cues that influence patients' initial perceptions of professionalism, credibility, trust, and healthcare competence. This finding is seen in the studies by Kamata et al., (2020), Petrilli et al., (2018), Zollinger et al., (2019), all of which indicate that the type of uniform affects patient assessments before clinical interactions take place.

The recurring preference for white coats across multiple studies highlights the enduring symbolic value of traditional medical attire (Bokek-Cohen, 2026; Gao, 2025; Töret, 2021). Patients commonly associate white coats with professional authority, clinical expertise, and trustworthiness. However, preferences varied according to clinical context. In emergency departments and surgical environments, scrubs were often perceived as more appropriate because they signal readiness, efficiency, and adherence to hygiene standards. This suggests that patient expectations regarding attire are context-dependent rather than universal.

The context includes the type of service (outpatient, emergency department, and operating room), the severity of the patient's condition, patient demographic characteristics like age, and cultural background. For example, patients in the emergency department are more accepting of scrubs because they are associated with readiness and hygiene, whereas outpatients prefer white coats which are seen as reflecting professional authority.

A key finding of this review is the distinction between perceived professionalism and patient satisfaction. While uniforms clearly influence professional image, their direct effect on satisfaction appears limited. Studies that measured actual satisfaction outcomes found little evidence that changing attire alone improves patient evaluations (Cui et al., 2025). Instead, satisfaction was more strongly influenced by interpersonal and service-related factors such as communication quality, empathy, responsiveness, waiting time, and perceived competence (Silva-Aravena et al., 2026; Uprety et al., 2025; Venetis & Brown, 2022; Wang et al., 2023). These findings indicate that uniforms may shape expectations, but patients ultimately evaluate healthcare services based on their lived experiences during care delivery.

As a note, that influence doesn't automatically boost patient satisfaction. Hossler et al., (2018), who used actual patient satisfaction data, showed that switching from formal clothes to scrubs didn't significantly improve satisfaction. Instead, patient satisfaction is more affected by the quality of communication, empathy, responsiveness, and the

competence of healthcare staff during the service process (Chen et al., 2025; Nusairat et al., 2025; Venetis & Brown, 2022). This shows that uniforms mostly shape initial expectations, while patient satisfaction is shaped through real experiences when receiving healthcare.

From a healthcare entrepreneurship perspective, organizations are required to provide quality clinical services as well as create valuable patient experiences through value proposition (Amir et al., 2025; Hanafi et al., 2025). Although healthcare uniforms do not directly increase patient satisfaction, these visual elements play a role in shaping initial expectations and perceptions of professionalism that can influence patients' evaluation of the services provided (Krewulak et al., 2026; Lopez-Ruiz et al., 2024; Théroux et al., 2023). As a note, uniforms should be seen as intangible resources that are part of value creation supporting long-term relationships between healthcare providers and patients (Ejigu et al., 2022; Matsuhisa et al., 2021; Roehrens et al., 2022).

From a SERVQUAL perspective, uniforms are part of the tangibles dimension that shapes patients' initial perception of service quality. Uniforms also align with the assurance dimension because a professional appearance boosts patients' confidence in healthcare staff competence. It's no wonder that, even though uniforms don't directly increase patient satisfaction, they still form part of the organization's value proposition by creating a positive service experience from the very first contact between patients and the hospital.

Healthcare uniforms can also be seen as part of service design that creates service differentiation (Desselle et al., 2021; Khorasani et al., 2025). Unlike digital services, which are relatively easy for other organizations to copy, visual elements integrated with the service culture can build a distinctive organizational identity and enhance the patient experience. Uniform policies are not just an administrative decision, but also a strategic investment in building brand image and increasing perceived value. In the long run, this consistency can strengthen patient loyalty, boost recommendation rates, and further support the competitiveness of healthcare organizations.

Based on the synthesized evidence, a contextual theoretical framework is proposed. This framework suggests that healthcare attire influences patient perceptions through psychological mechanisms such as professionalism, trust, role clarity, and perceived safety (Jennings et al., 2016; Leduc et al., 2025). The strength of these relationships is moderated by clinical setting, patient demographics, and cultural context. Therefore, no single uniform style can be considered universally optimal across all healthcare environments. This finding expands the application of the SERVQUAL model by showing that the tangibles dimension also includes the appearance of healthcare staff as part of the service experience that affects perceptions of service quality.

In this context, uniforms don't just serve as part of an organization's strategy to create a positive patient experience. When combined with good service quality, uniforms can boost the hospital's professional image and support service differentiation. However, given the limited amount of empirical evidence, these implications should be seen as strategic potential that still needs to be validated through further research.

Attention needs to be directed at the visual elements in healthcare services, as they have the potential to be integrated into hospital business models. In an entrepreneurial

approach, every aspect that affects customer perception can become a source of economic value through enhancing organizational reputation, patient loyalty, and patients' likelihood to recommend services to others (Brindha et al., 2026; Khan & Kulshreshtha, 2020). Inevitably, uniform policies are highly relevant to be integrated into human resource management strategies and service development and organisational sustainability strategies in the long term with a stable competitive level.

From a managerial perspective, hospitals should avoid implementing rigid uniform policies based solely on tradition. Instead, uniform strategies should be integrated into broader patient-centered service quality initiatives. Flexible attire policies that consider clinical context, infection control requirements, staff comfort, and patient expectations are likely to be more effective (Abbas & Bearman, 2022; Damonti et al., 2025). Furthermore, visual identification systems such as standardized uniforms, role-specific colors, and identification badges may enhance role clarity and patient confidence, thereby contributing indirectly to perceived service quality.

Future research should focus on several aspects. First, longitudinal or experimental studies are needed to test the causal relationship between uniform characteristics and patient satisfaction. Second, research should be expanded to health professions beyond doctors, such as nurses, pharmacists, physiotherapists, and other healthcare workers. Third, there is a need to develop instruments that simultaneously measure uniform characteristics, perceptions of professionalism, service quality, and patient satisfaction. Fourth, cross-cultural studies, especially in developing countries like Indonesia, are needed to evaluate the impact of cultural context on patients' perceptions of healthcare uniforms.

CONCLUSION

Fundamental Finding: Healthcare uniforms act as a visual service cue that shapes patients' first impressions of professionalism, credibility, trust and service quality. The characteristics of the uniform play a role in forming initial expectations before clinical interaction, while patient satisfaction is more influenced by the quality of communication, empathy, responsiveness, competence and effectiveness of the service process. The impact of uniforms is contextual. In the SERVQUAL model, the tangibles dimension also includes the appearance of healthcare staff as part of the service experience that shapes perceptions of service quality. **Implication:** Healthcare organizations need to adopt adaptive uniform policies that fit the service context. White coats for consultation services and scrubs in the emergency unit, supported by clear professional identification systems, help boost patient trust and make it easier for them to recognize healthcare staff. Uniforms are part of service design and value creation strategies as they are a service touchpoint. All this needs to go hand in hand with good communication, responsiveness, and the essential competence of healthcare workers. **Limitation:** First, only seven studies met the inclusion criteria, so the empirical evidence is still limited. Second, most studies used a cross-sectional design, so they cannot yet explain causal relationships. Third, all the reviewed articles were dominated by research from developed countries, which limits generalization to developing countries. **Future Research:** Further research should use a longitudinal or quasi-experimental design to

test the causal relationship between uniform characteristics, patient perceptions, service quality and patient satisfaction. Studies also need to be extended to various service settings and cultures, especially in developing countries. Developing instruments that integrate SERVQUAL dimensions and perceived value so that the mechanism of how uniforms affect service quality is also important.

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Tsalsa Dzikria Savira
Master Program in Hospital Management Faculty of Medicine
Universitas Brawijaya, Malang
Address: Jl. Veteran No.10-11, Malang, Indonesia
Email: tsalsadzikria63@gmail.com

***Shanaz Hanani Tazuyyun (Corresponding Author)**
Master Program in Hospital Management Faculty of Medicine
Universitas Brawijaya, Malang
Address: Jl. Veteran No.10-11, Malang, Indonesia
Email: shanazhanani@gmail.com

Jodii Arlan Kurnia
Master Program in Hospital Management Faculty of Medicine
Universitas Brawijaya, Malang
Address: Jl. Veteran No.10-11, Malang, Indonesia
Email: jodiarlan@gmail.com

Kurnia Widyaningrum
Master Program in Hospital Management Faculty of Medicine
Universitas Brawijaya, Malang
Address: Jl. Veteran No.10-11, Malang, Indonesia
Email: kurnia.fk@ub.ac.id

Arina Salsabilla Haq
Louis-Leitz-Schule
Address: Weiner Str. 51, 700469, Stuttgart, Deutschland Germany
Email: arina.haq@gmx.de