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Halal Pharmacy Literacy and Practice: A Qualitative Study of Community Pharmacy Personnel

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Abstract

Purpose – This study aims to deeply explore the understanding, experiences, and practices of pharmacy personnel in applying the principles of halal pharmacy, while identifying obstacles and adaptation strategies in community pharmacies in the Tamantirto area, Yogyakarta City.

Methodology – This study applies a qualitative approach with an exploratory descriptive design. Data collection was carried out through in depth interviews with 30 informants consisting of pharmacists and pharmaceutical technical personnel in community pharmacies. The interview data were systematically analyzed using ATLAS.ti 9 software through the interactive stages of Miles, Huberman, & Saldana.

Findings – Qualitative findings indicate that the majority of pharmacy personnel have a systemic conceptual understanding and rely on the halal logo verification from BPJPH. The main obstacle faced is the structural limitation of definitive halal certified pharmaceutical products. As an adaptation strategy, the vast majority of pharmacy personnel proactively prioritize selection during product procurement and overwhelmingly expect digital regulatory support through a real time halal information application.

Implications – These findings provide insights for policymakers (BPJPH and BPOM) regarding the urgency of accelerating halal certification for medicines and the need to create an integrated digital information system for community service frontlines.

Originality – Unlike previous literature that focuses on the macro pharmaceutical industry or sharia hospitals, this research originally explores the literacy and resilience of pharmacy personnel practices directly at the community level.

Introduction

Indonesia holds a highly strategic position as the country with the largest Muslim population in the world. Recent demographic data indicates that the number of Muslim citizens in the country has surpassed 242.7 million individuals, constituting approximately 88.3% of the total national population (CNBC Indonesia, 2025). This massive demographic dominance directly shapes the domestic consumption landscape, where Islamic values are no longer merely spiritual guidelines but have transformed into a critical ethical standard for selecting healthcare products and pharmaceutical services (Rasnawati et al., 2025). In the global economic arena, the halal pharmaceutical sector is experiencing highly accelerative growth. International institutional reports reveal that global Muslim expenditure on certified halal pharmaceutical products reached USD 108 billion and is projected to surge to USD 142 billion, expanding at a compound annual growth rate (CAGR) of 5.7% (DinarStandard,

2023). On the domestic scale, the market capitalization of halal pharmaceuticals in Indonesia has reached approximately USD 80 billion (DinarStandard, 2023). Conceptually, halal pharmacy practice represents an integrated ecosystem ensuring that the entire supply chain workflow extending from upstream operations (procurement of active raw materials and excipients) and midstream processes (manufacturing and storage) to downstream segments (distribution and clinical dispensing to patients) must strictly adhere to halalan thayyiban principles and remain sterile from any contamination of prohibited (haram) or impure (najis) elements as mandated by Islamic law (LPPOM MUI, 2020).

Despite the immense market potential and the pressing spiritual demands of the public, empirical realities reveal a wide structural implementation gap. Official documents from the Halal Product Assurance Organizing Agency (BPJPH, 2025) present a contradictory portrait, showing that only about 0.5% of all active medicinal products circulating in Indonesia have officially obtained halal certification. This condition triggers a structural scarcity of sharia compliant therapeutic options for Muslim consumers. This barrier is generally rooted in the bureaucratic complexity of certification, the high dependence of the national pharmaceutical industry on imported raw materials with unverified halal status, and limited systemic awareness at the manufacturer level (DinarStandard, 2023). To address this structural imbalance, the Government of Indonesia has implemented aggressive regulatory interventions through Law Number 33 of 2014 concerning Halal Product Assurance, which was further reinforced by Government Regulation Number 39 of 2021. This regulation mandates a phased implementation of halal certification for all consumer goods, establishing a strict law enforcement deadline for non food sectors, including medicinal commodities, by October 2026. Nevertheless, the readiness of frontline primary healthcare units to navigate this legal mandate still leaves substantial room for operational uncertainty.

The practical urgency of ensuring the thayyib (wholesomeness and safety) dimension in pharmacy has been further highlighted by recent public health shocks. For instance, the national crisis involving ethylene glycol (EG) contamination in pediatric cough syrups served as clear empirical evidence of the fragile quality control mechanisms regarding pharmaceutical excipients at the macro level (BPOM, 2023; Fikri et al., 2023). From a halal pharmacy perspective, this incident offers a valuable lesson regarding the critical necessity of rigid material verification and the enhancement of practitioners' understanding of product safety. On the other hand, classic issues such as the unlabelled use of porcine derived gelatin in capsule shells, which are frequently marketed without adequate transparency, continue to provoke profound psychological and spiritual anxiety among Muslim patients (Aida, 2025). Under the Halal Assurance System (HAS 23000) frameworks authorized by LPPOM MUI (2020), frontline pharmacy personnel bear ultimate ethical and professional responsibilities. They are legally and professionally required to actively conduct product screening, implement inventory segregation to prevent cross contamination, maintain accountable internal documentation, and provide transparent education to patients during drug dispensing.

Although studies addressing halal pharmaceuticals have been widely published, the current academic literature map still exhibits a significant research gap. The absolute majority of prior research tends to concentrate on macro industrial analyses, supply chain complexities in manufacturing, or regulatory policy hurdles at the corporate level (Kasri et al., 2023; Ramadhan et al., 2024). Other studies focus on identifying the chemical structures of industrial pharmaceutical excipients (Margaretha & Saptarini, 2025) or mapping global bibliometric trends (Herdiana et al., 2024). Meanwhile, empirical research involving healthcare workers remains largely restricted to large, formally certified sharia hospitals or is limited to evaluating broad consumer awareness (Rahmawati & Fathurohman SW, 2024; Wijayanti et al., 2024). A fundamental research gap lies in the complete lack of academic attention directed toward community pharmacies at the grassroots level. In fact, data from relevant authorities confirms that community pharmacies serve as the primary gateway for public healthcare access, controlling up to 51.7% of the total distribution of over the counter and limited over the counter medicines nationwide (BPS, 2023). Consequently, the successful implementation of the upcoming 2026 national halal mandate will heavily depend on the literacy levels and behavioral adaptation of these frontline community practitioners. So far, the existing literature indicates that halal literacy among field practitioners suffers from high inconsistency, particularly regarding unclear raw material origins, the absence of standardized internal Operating Procedures (SOPs), and ambiguity regarding alcohol tolerance limits in liquid formulations (Ramadhani et al., 2025; Asmawi & Lutfiadi, 2026).

In this context, this study establishes its analytical scope within community pharmacies operating in the Tamantirto area, Yogyakarta. The Tamantirto region presents an ideal yet paradoxical case study: the area is characterized sociologically by a highly religious and active Muslim community; however, not a single community pharmacy operating in this region has adopted or implemented a formal, structured halal assurance system. This environment generates real operational friction, where the burden of sharia compliance is shifted into a personal initiative and an ethical choice made by individual pharmacy personnel. Therefore, the core research problem in this study focuses on how these frontline health professionals navigate their practices to balance clinical responsibilities (drug safety) with the spiritual rights of Muslim patients amidst a severe structural shortage of certified products. To examine this problem, this study is guided by three core research questions. First, it investigates the depth of conceptual halal pharmacy literacy and the understanding of raw material critical control points among community pharmacy personnel. Second, it explores how halal pharmacy principles are operationally integrated into daily pharmacy service practices, encompassing procurement selection, storage management, and patient education. Lastly, it identifies the specific structural barriers encountered by pharmacy personnel in the field and examines the localized adaptation strategies they deploy to build operational resilience ahead of the October 2026 mandate.

To answer these research questions, this study applies a purely qualitative approach with an exploratory descriptive research design. This methodology was selected based on the need to capture in depth, nuanced subjective experiences, ethical dilemmas, and operational tactics of pharmacy practitioners directly from their arena of practice. Primary empirical data were gathered via structured in depth interviews with 30 key informants, comprising Managing Pharmacists and Pharmaceutical Technical Personnel actively serving the community in the Tamantirto area. The descriptive textual datasets obtained from the field were organized, coded, and analyzed systematically using ATLAS.ti 9 software, adhering to the interactive qualitative analysis model of Miles, Huberman, and Saldana to maintain high interpretive objectivity and transparency.

The primary objective of this paper is to evaluate the operational realities, professional literacy capacities, and systemic barriers in enforcing halal pharmacy principles from the perspective of frontline practitioners. By uncovering these dynamics at the micro organizational level, this research contributes significantly to the existing body of knowledge by shifting the analytical focus away from macro industrial manufacturing toward adaptive organizational behavior in primary healthcare settings. Practically, the empirical findings provide data driven insights for regulators (such as BPJPH and BPOM) to align macro level policies with localized clinical realities. The potential outcomes of this study demonstrate that pharmacy personnel act as vital agents of resilience, mitigating supply shortages through proactive procurement screening and advocating for structural digital solutions, such as real time integrated application databases.

The remainder of this paper is structured and organized into subsequent distinct sections. Section 2 establishes the theoretical framework, reviewing current literature surrounding healthcare literacy and the critical control points of active and excipient pharmaceutical ingredients. Section 3 outlines the qualitative methodology in detail, detailing the selection criteria for the informants, data collection protocols, and thematic analysis workflows. Section 4 presents the empirical findings and thematic discussions regarding operational tensions and localized mitigation strategies. Section 5 evaluates the concrete policy and management implications for the pharmaceutical sector, and Section 6 concludes the study by identifying research limitations and outlining future avenues for sustainable healthcare management.

Literature Review

Theoretical Framework: The Synergy of Nutbeam's Health Literacy Matrix and Rogers' Innovation Diffusion

Deciphering the cognitive depth and operational maneuvers of pharmaceutical personnel requires an integrative analytical architecture. This study reconstructs the classic Health Literacy Framework advanced by Nutbeam (2000), adapting it into a specialized Halal Pharmacy Literacy Model. Nutbeam asserts that literacy is not a static binary attribute of basic reading comprehension, but rather an evolutionary, multi tiered construct consisting of three progressive levels: (1) Functional Literacy: Represents the foundational cognitive tier, denoting the ability of pharmacy practitioners to comprehend fundamental terminology, identify explicitly prohibited (haram) or ambiguous (syubhat) chemical compounds, and accurately interpret standard regulatory

texts, fatwas, or product labels; (2) Interactive Literacy: Evaluates a more advanced social and operational dimension, measuring how practitioners actively trace, verify, and incorporate authentic data from official institutional databases (such as BPJPH or LPPOM MUI) directly into their procurement workflows and patient dispensing practices; (3) Critical Literacy: Represents the pinnacle of cognitive capability and professional agency. This dimension evaluates how pharmaceutical personnel critically analyze structural supply chain deficits, detect systemic information asymmetries in labeling, and formulate localized mitigation tactics to protect the spiritual and clinical safety of patients amidst a highly constrained marketplace.

This literacy architecture is further reinforced by the paradigms of Nadiansyah et al. (2025), who classify halal pharmacy literacy into three operational pillars: foundational conceptual knowledge, information accessibility, and professional ethical disposition. To explain how these cognitive capacities materialize into overt behaviors, Nutbeam's matrix is synergized with the Diffusion of Innovations Theory formulated by Rogers (2003). Rogers posits that the adoption of any institutional mandate is heavily governed by individual perceptions regarding its relative advantage, value compatibility, and operational complexity. Within this conceptual framework, frontline community pharmacy practitioners are positioned as micro organizational agents driven by professional ethics to act as early adopters, proactively modifying their internal workflows long before macro distribution networks achieve institutional equilibrium.

Global Perspectives on Halal Pharmaceuticals and Critical Control Points (CCPs)

The discourse surrounding halal pharmaceuticals has rapidly transitioned from a localized theological concern into a highly complex global economic management and supply chain challenge. Global empirical metrics confirm that international Muslim expenditure on certified healthcare commodities has surpassed USD 108 billion and is expanding at a compound annual growth rate (CAGR) of 5.7%, moving toward an estimated market capitalization of USD 142 billion (DinarStandard, 2023). Parallelly, the valuation of the domestic halal pharmaceutical footprint within Indonesia is estimated to approach the USD 80 billion mark (DinarStandard, 2023). Nonetheless, global literature strongly emphasizes that enforcing halalan thayyiban integrity faces immense friction due to the pervasive and highly concealed nature of Critical Control Points (CCPs) across multi tiered chemical manufacturing networks (LPPOM MUI, 2020).

International scholarship highlights the acute ethical and spiritual dilemmas that manifest when clinical interventions collide with patients' religious doctrines. Padela et al. (2012) demonstrate that Muslim patients experience profound psychological distress and spiritual anxiety when confronted with therapeutic selections containing non-compliant elements. This phenomenon is severely exacerbated by widespread transparency and labeling failures regarding common porcine derived excipients, such as the ubiquitous use of porcine gelatin in both soft and hard capsule shells (Aida, 2025).

Furthermore, industrial pharmaceutical research reveals that primary chemical synthesis remains heavily reliant on animal derived stabilizers, emulsifiers (such as magnesium stearate), and active pharmaceutical ingredients (APIs) processed using non-compliant industrial enzymes. A critical analysis by Margaretha & Saptarini (2025) reveals that up to 62% of industrial pharmaceutical excipients failed to meet Halal Assurance System (HAS 23000) documentation requirements due to fragmented tracking mechanisms across secondary global chemical suppliers. Another critical operational bottleneck debated in international literature involves the alcohol tolerance threshold in liquid formulations and pediatric medications, where the total absence of uniform technical guidelines forces frontline practitioners to bear the burden of individual interpretation during clinical dispensing (Wijayanti et al., 2025).

Macro Industrial Analysis vs. The Micro Organizational Community Pharmacy Gap

A systematic evaluation of the current academic literature exposes a distinct methodological bias that systematically overlooks primary healthcare ecosystems. The absolute majority of peer reviewed publications tend to concentrate their analytical focus on macro industrial logistics, corporate supply chain traceability, or regulatory bottlenecks encountered by large scale manufacturers. For instance, Ramadhan et al. (2024) and Kasri, et al. (2023) direct their research lenses toward national policy execution failures and structural constraints within corporate manufacturing supply chains. Conversely, empirical research involving direct

interaction with healthcare professionals remains largely confined to formally certified sharia compliant hospital environments or generic consumer awareness surveys. This is exemplified by the findings of Rahmawati & Fathurohman SW (2024), who observe that while baseline halal awareness among hospital healthcare workers is relatively high, their technical understanding of fiqh jurisprudence and institutional certification procedures remains superficial.

Consequently, the strategic position of community pharmacies at the grassroots level has suffered from acute marginalization within the academic research map. This omission is highly problematic considering that macro demographic datasets confirm that community pharmacies serve as the primary gateway for public healthcare accessibility, controlling up to 51.7% of the total nationwide distribution of over the counter and limited over the counter medicines (BPS, 2023).

Frontline community practitioners comprising Managing Pharmacists and Pharmaceutical Technical Personnel represent the final articulators where macro regulations intersect with individual end consumers. International primary healthcare management literature indicates that enacting top down regulations without providing corresponding operational infrastructure at the lower tiers inevitably triggers a severe implementation gap. Field practitioners are left to manage immense operational stress driven by inconsistent material origins, a total absence of standardized internal Operating Procedures (SOPs) for halal product handling, and a severe scarcity of certified choices from major distributors (Rahmadhani et al., 2025; Asmawi & Lutfiadi, 2026).

Regulatory Mandates and the Reality of the Implementation Gap

To bridge the deep chasm between public religious requirements and market availability, the Indonesian government intervened by enacting Law Number 33 of 2014 concerning Halal Product Assurance, which was further reinforced by Government Regulation Number 39 of 2021. This statutory framework introduces a strict, phased law enforcement deadline requiring all non-food consumer commodities, including medicinal goods, to achieve formal halal certification by October 2026.

Nevertheless, critical analysis reveals a sharp contradiction between this legal idealism and current market realities. Recent data from the Halal Product Assurance Organizing Agency (BPJPH, 2025) discloses that only approximately 0.5% of all active medicinal products circulating in the domestic market have successfully obtained official halal certification. This empirical reality implies that nearly 99.5% of the pharmaceutical sector remains technically uncertified or suspended in regulatory limbo.

Comparative international policy studies demonstrate that such massive implementation gaps are typically driven by bureaucratic certification complexities, an over reliance on imported active materials, and limited systemic awareness among middle tier chemical suppliers (DinarStandard, 2023).

The urgency of evaluating how primary care units survive this gap is further highlighted by public health shocks. For instance, the national crisis involving ethylene glycol (EG) and diethylene glycol contamination in pediatric cough syrups demonstrated the fragile state of macro level quality control for pharmaceutical excipients (BPOM, 2023; Fikri et al., 2023). In the context of halal pharmacy, this crisis offers an empirical warning: when material verification is weak and practitioner literacy is compromised, both clinical safety (thayyib) and spiritual integrity (halal) are placed at immediate risk.

Synthesis and Research Re alignment: Fitness for Purpose

A critical synthesis of both global and local literature highlights a clear analytical gap that this study aims to address. While the existing literature has extensively documented the macroeconomic value of the halal market and the biochemistry of pharmaceutical excipients, it fails to explain how individual healthcare practitioners build resilience against structural market failures on the ground. Furthermore, international studies confirm that a positive professional disposition toward religious requirements can only improve healthcare quality if backed by clear internal guidelines and robust information access. Mahliza & Ardianti (2022) state that positive attitudes toward halal principles correlate strongly with successful Halal Assurance System compliance in healthcare facilities, yet research on how this operates in a predominantly uncertified marketplace remains limited.

This study directly addresses this gap by examining community pharmacies in the Tamantirto region, Yogyakarta. Sociologically, the area features a highly religious, active Muslim community; yet, structurally, not

a single community pharmacy there has adopted a formal, certified halal assurance system. By focusing on this paradoxical environment, this study shifts the academic focus away from corporate manufacturing to construct a micro organizational model of operational resilience and literacy ahead of the upcoming October 2026 national mandate. larger field of study.

Research Methods

Research Design and Paradigm

This investigation was structured around a qualitative paradigm utilizing an exploratory descriptive design. This methodological framework was deliberately chosen to deeply examine the relatively unexplored phenomenon of how grassroots healthcare practitioners navigated halal regulatory compliance. A qualitative approach provided the necessary flexibility to capture nuanced subjective perceptions, ethical dilemmas, and frontline operational tactics that could not be adequately measured through rigid numerical metrics.

Study Setting and Chronology

Fieldwork was carried out across several community pharmacies situated in the Tamantirto administrative area, Kasihan District, Bantul Regency, Special Region of Yogyakarta. This locale presented a compelling paradox: despite housing a highly devout Muslim demographic, the primary healthcare facilities in the area completely lacked certified halal assurance infrastructures. Data generation and the subsequent analytical procedures were completed over a two months timeframe, spanning from December 2025 to January 2026.

Participant Selection and Sampling Strategy

The target population consisted of pharmaceutical professionals practicing within the Tamantirto region. A cohort of 30 key informants was enlisted utilizing a purposive sampling technique. Inclusion criteria mandated that participants held a formal pharmaceutical education (licensed as either Managing Pharmacists or Pharmaceutical Technical Personnel), were actively involved in clinical service and medication dispensing, possessed a minimum of one year of operational experience at their current facility, and explicitly consented to transparently share their professional experiences. The sample size was capped at 30 individuals as data saturation was achieved; at this juncture, thematic responses became repetitive and no novel conceptual insights were generated during the interview sessions.

Data Generation Protocols

To ensure the validity and depth of the empirical evidence, data compilation was executed through two primary methods: (1) In Depth Semi Structured Interviews: The core primary data was extracted via direct, face to face interviews conducted at the informants' respective pharmacies. Utilizing a flexible interview guide, this format facilitated a dynamic, two ways dialogue designed to comprehensively explore the professional ethics, structural constraints, and localized adaptation strategies of each practitioner; (2) Documentary Analysis: To serve as a cross validation mechanism, the researcher also scrutinized internal pharmacy documentation. Procurement logs, standard operating procedures (SOPs) where available, and internal policy manuals were evaluated to align the informants' verbal statements with tangible administrative evidence.

Research Instrumentation Framework

The qualitative interview protocol was formulated upon an integrated theoretical base. Cognitive literacy parameters were adapted from Nutbeam (2000) Health Literacy model, which were subsequently harmonized with the regulatory compliance standards of the Halal Product Assurance Organizing Agency (BPJPH) and current empirical literature. The specific operational alignment of these instruments is detailed in Table 1.

Table 1. Operational Matrix of Qualitative Research Instruments

No	Operational Focus	Theoretical Reference	Research Indicator	Specific Sub Indicators Evaluated

1	Halal Knowledge and Comprehension	Nutbeam (2000); Nadiansyah et al. (2025)	Conceptual Grasp of Halal Pharmacy	Ability to define *halalan thayyiban*, identification of prohibited (*haram*) or doubtful (*syubhat*) substances, comprehension of regulations/fatwas, and application of the clinical necessity (*dharurah*) concept.
2	Accessibility of Halal Product Data	BPJPH (2020); Ramadhan at al. (2024)	Halal Information Tracing	Utilization of official platforms (BPJPH/MUI digital apps), precision in reading packaging labels, and confirmation protocols with distributors/manufacturers.
3	Pharmacy Level Implementation	Herdiana et al. (2024)	Halal Based Dispensing and Service	Routine verification of product certification during procurement, internal record keeping, formulation of localized SOPs, and educational communication with patients.
4	Field Operational Constraints	Rahmawati & Fathurohman SW (2024); Kasri et al. (2023)	Service Delivery Impediments	Information asymmetry regarding active pharmaceutical ingredients and the systemic shortage of certified product options from major pharmaceutical wholesalers.

Analytical Procedures and Software

All textual data gathered from the fieldwork was systematically processed utilizing the ATLAS.ti 9 qualitative analysis software. This analytical dissection strictly followed the interactive model developed by Miles, Huberman, and Saldana. The analytical workflow encompassed three continuous phases: (1) Data Reduction: Information was distilled by applying thematic color coding to the interview transcripts, thereby isolating and abstracting the most crucial data points; (2) Data Display: The condensed findings were then organized into narrative matrices and thematic charts, allowing for a comprehensive understanding of the interrelationships between various concepts; (3) Conclusion Drawing and Verification: In the final phase, emergent patterns were cross verified to produce credible conclusions capable of fully addressing all research questions.

Results and Discussion

Result

Demographic Profile and Field Setting

The qualitative field inquiry successfully engaged 30 key informants, all of whom are credentialed pharmaceutical practitioners actively operating within community pharmacies across the Tamantirto administrative territory. This purposively selected cohort comprised Managing Pharmacists and Pharmaceutical Technical Personnel, thereby ensuring a holistic empirical representation of frontline clinical dispensing, patient counseling, and inventory management experiences.

Primary Thematic Findings

The qualitative data extraction and coding procedures yielded five central themes that characterize the operational realities of implementing halal pharmaceutical practices at the community level: (1) Robust Conceptual Halal Literacy: The interview transcripts unveiled a sophisticated cognitive grasp of halal parameters among frontline practitioners. A substantial majority of informants accurately articulated the halalan thayyiban principle and specifically identified regulatory bodies such as the Halal Product Assurance Organizing Agency (BPJPH). Furthermore, they demonstrated the capacity to apply intricate Islamic jurisprudential concepts, such as the doctrine of clinical necessity (dharurah), during critical patient care scenarios involving life saving but uncertified medications; (2) Accessibility of Information and Hierarchical Verification: In tracing product compliance status, the empirical data highlighted the widespread execution of a highly structured Hierarchical Verification Process by the informants.

Practitioners detailed an operational routine wherein they initially inspect the physical packaging labels for official halal logos, subsequently scrutinize the derivation of active pharmaceutical ingredients (APIs), and ultimately cross reference ambiguous (syubhat) items via official digital tracking portals provided by the government or MUI: (1) Grassroots Implementation and Patient Reception: The integration of halal verification protocols into daily clinical dispensing routines generated highly positive psychosocial outcomes for consumers. Informants consistently noted that transparently communicating the halal status of prescribed

medications at the pharmacy counter significantly mitigated patients' spiritual anxiety, which in turn dramatically fostered greater therapeutic trust and adherence among the predominantly Muslim demographic in Tamantirto; (2) Structural Bottlenecks and Information Asymmetry: Despite exhibiting high individual literacy, practitioners remain constrained by severe macro structural impediments. The most prominent operational hurdle identified during the interviews was the systemic scarcity of definitively certified pharmaceutical alternatives supplied by primary pharmaceutical wholesalers. Informants expressed profound professional frustration regarding the acute information asymmetry surrounding critical excipients such as the origin of animal derived capsule gelatin and liquid solvent thresholds which are frequently distributed without transparent compliance documentation; (3) Resilience Frameworks and Localized Adaptive Strategies: To sustain service integrity amidst supply deficits, practitioners demonstrated robust organizational agency by deploying grassroots mitigation strategies. The thematic distribution of these adaptive maneuvers is systematically outlined in Table 2.

Table 2. Thematic Distribution of Localized Adaptive Strategies

Strategic Category	Operational Manifestation in Community Pharmacies	Informant Consensus
Procurement Prioritization	Actively screening and prioritizing inventory orders for explicitly verified halal products whenever equivalent therapeutic substitutes exist.	High
Digital Integration Advocacy	Utilizing and strongly advocating for the implementation of real time, synchronized mobile applications linked directly to BPJPH databases for rapid counter verification.	High
Internal Policy Formulation	Designing and enforcing localized Standard Operating Procedures (SOPs) for halal screening within the specific confines of the pharmacy unit.	Moderate
Professional Collaboration	Establishing informal communication networks among local pharmaceutical peers and wholesalers to mutually verify ambiguous drug components.	Moderate

Discussion

The Paradox of Professional Literacy Versus Structural Scarcity

A critical synthesis of the empirical findings exposes a profound operational paradox at the primary healthcare frontline. The informants manifested an exceptional degree of conceptual and interactive literacy. However, this robust cognitive readiness is effectively paralyzed by macro level supply chain deficiencies.

This finding directly reinforces prior research by Saputri et al. (2026) and Faller et al. (2020), which posits that pharmaceutical personnel's comprehension of Islamic ethics and halal concepts has fundamentally taken root as a core professional competency. Nevertheless, high downstream literacy cannot compensate for the scarcity of certified upstream raw materials. This condition aligns with the conclusions of Herdiana et al. (2022), who argued that the national halal pharmaceutical ecosystem cannot solely rely on practitioner and consumer literacy; rather, it necessitates an adequate supply of materials at the distributor level. Essentially, community pharmacists are fully cognizant of halal product criteria and identification methods, yet they are systematically restricted from procuring them consistently.

Navigating the Implementation Gap Ahead of the 2026 Mandate

The supply impediments and information asymmetry reported by the informants underscore a sharp implementation gap between idealistic macro regulatory frameworks and the technical realities of grassroots healthcare delivery. With the October 2026 mandatory certification deadline for non-food commodities rapidly approaching, empirical evidence confirms that community pharmacies are positioned in a highly vulnerable regulatory environment.

The limited disclosure from manufacturers regarding critical excipients (such as porcine gelatin in capsule shells) forces frontline personnel to bear the ethical burden of compliance individually. This field finding confirms and extends previous studies by Kasri, et al. (2023) and Kasri, et al. (2023), which critically highlighted the weak synergy among upstream industries, regulators, and downstream service providers due to a massive reliance on unverified imported raw materials. Similarly, the empirical study by Ramadhani et al. (2025) is corroborated by this research, wherein the difficulties faced by practitioners in selecting medications represent a downstream manifestation of the lack of supply chain transparency within the upstream industry.

Ethical Dispensing as a Pillar of Patient Centric Care

The highly appreciative consumer response to halal conscious dispensing reframes halal certification from a mere bureaucratic hurdle into an essential instrument of patient centric care. The results of this study indicate that fulfilling a patient's religious rights directly reduces psychological distress, which is crucial for improving therapeutic success rates.

Amidst declining public trust following the recent public health crisis involving ethylene glycol (EG) contamination in pediatric syrup preparations in 2023 (BPOM, 2023; Fikri et al., 2023), the proactive steps taken by community pharmacies to verify both the safety (thayyib) and purity (halal) aspects of medications serve as a strategic measure to reconstruct primary care accountability. This theme strongly aligns with prior research by Rahmawati & Fathurohman SW (2024), which postulates that clarity regarding the halal status of medications is an inseparable, integral component of the spiritual protection owed to Muslim patients. This analysis is further reinforced by Butler et al. (2018), who concluded that honest communication between technical pharmaceutical personnel and patients serves as a primary mechanism to resolve the professional dilemma between clinical medical urgency and sharia compliance.

Digitalization and Internal SOPs as Catalysts for Operational Resilience

In reaction to systemic market failures, the intense demand among practitioners for centralized digital integration reflects the emergence of operational resilience. Informants' calls for real time interface access to the BPJPH database indicate that technological adoption is viewed as a critical mechanism for defense at the operational tier.

These localized mitigation initiatives provide a novel empirical contribution that supports the prior literature by Rahmawati & Fathurohman SW (2024), which theoretically advocated for strengthening human resource competencies and internal documentation systems. By designing independent internal screening SOPs even if the pharmacy has not yet achieved formal institutional sharia certification the pharmaceutical personnel in Tamantirto are acting as proactive early adopters. They are successfully generating localized micro environments of halal assurance, ensuring that patient care remains clinically safe and religiously compliant, even when confronted with a national supply chain that remains in a state of transition.

Conclusion

Synthesis of Core Findings

This qualitative study demonstrates that community pharmaceutical professionals possess robust conceptual literacy regarding halal pharmaceuticals and effectively deploy structured verification protocols. While this halal conscious dispensing successfully enhances patient trust, psychological tranquility, and therapeutic adherence, it is severely bottlenecked by macro structural supply chain constraints. Frontline practitioners face an acute scarcity of certified alternatives and profound information asymmetry from wholesalers regarding critical ingredients, such as animal derived capsule gelatin. This mismatch creates a critical implementation gap ahead of the mandatory October 2026 certification deadline, compelling pharmacists to design localized SOPs and seek digital solutions as grassroots resilience mechanisms.

Policy and Practical Implications

To bridge the existing regulatory execution gap before the 2026 enforcement, three strategic actions are necessary: (1) Upstream Transparency: Pharmaceutical manufacturers and wholesalers must guarantee absolute traceability of excipients and raw materials down to retail pharmacy units; (2) Real Time Digitalization: The Halal Product Assurance Organizing Agency (BPJPH) needs to provide decentralized, synchronized digital database interfaces for instantaneous counter verification; (3) Standardized Protocols: Professional pharmaceutical associations should establish uniform internal halal screening guidelines to safeguard both clinical delivery and religious compliance.

Avenues for Future Research

To extend the academic contribution of this field, subsequent inquiries should focus on: (1) Upstream Supply Chain Readiness: Evaluating regulatory compliance and bottlenecks directly within raw material manufacturing networks and major distributors; (2) Longitudinal Post Mandate Impact: Monitoring the long

term operational survival and compliance trends of community pharmacies after the October 2026 deadline; (3) Socio Clinical Correlations: Investigating the direct empirical link between transparent halal counseling and quantifiable clinical recovery outcomes among patients.

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