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Verifying Medical Legitimacy in India's E-Pharmacy Sector: A Study on the Authenticity of Medical Professionals in E-Pharma Transactions Lacking Physical Prescriptions in India

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A B S T R A C T

The Indian e-pharmacy sector has witnessed exponential growth in recent years, fuelled by digitalization, increased smartphone penetration, and evolving healthcare consumption patterns. Major players like Tata 1mg, Netmeds, Swiggy Pharmacy, and Apollo 24/7 offer online consultations and doorstep delivery of prescription drugs. While these platforms provide unparalleled convenience, their reliance on virtual consultations and lack of physical prescriptions raises serious concerns regarding the authenticity of medical professionals. This study explores trust-building mechanisms, user perceptions, and regulatory gaps influencing how medical authority is constructed in digital pharmacy transactions. Drawing upon empirical research, platform analysis, and user interviews, the paper highlights the psychological and legal complexities involved and suggests a regulatory roadmap for safeguarding patient trust.

Keywords: e-pharmacy, India, trust, digital consultation, medical authenticity, online prescription, Swiggy Pharmacy, Apollo 24/7

1. Introduction

The Indian healthcare landscape has undergone a transformative shift over the past decade, with digital technologies reshaping how medical services are delivered and consumed. This transformation accelerated dramatically during the COVID-19 pandemic, which necessitated remote healthcare access due to lockdowns and social distancing requirements (Kumar, Singh, & Verma, 2021). E-pharmacy platforms, including Tata 1mg, Netmeds, Swiggy Pharmacy, and Apollo 24/7, have emerged as critical players in this new ecosystem, providing users with online consultations and home delivery of prescription medications (Bhatt et al., 2024; Reddy & Sharma, 2022). These services promise enhanced accessibility, convenience, and affordability, particularly for urban and semi-urban populations with access to smartphones and the internet (Patel, Shah, & Joshi, 2023).

Despite these advantages, the shift to virtual consultations introduces significant ethical, legal, and trust-related challenges. Unlike in traditional healthcare settings, where patients have the opportunity to meet doctors face-to-face, verify credentials in person, and receive physical prescriptions, e-pharmacy services often operate through voice or text consultations without a physical examination or tangible prescription documents. This raises pivotal questions about how patients perceive the authenticity of medical professionals who issue prescriptions remotely and how trust is constructed and maintained in such interactions (Singh, Singh, & Singh, 2022; Agarwal & Singh, 2023). The absence of physical prescriptions complicates verification processes, potentially exposing patients to risks of malpractice, misdiagnosis, and counterfeit drugs (Kumar et al., 2021; Desai, Patel, & Shah, 2020).

This study aims to understand the mechanisms through which trust is negotiated in e-pharmacy transactions lacking physical prescriptions in India. It focuses on the role of voice and text-based consultations as mediums for establishing medical authority, the cues users rely on to judge legitimacy, and the efficacy of existing regulatory frameworks in safeguarding patient interests. By combining empirical research, qualitative interviews, and platform analyses, this paper seeks to illuminate the psychological and legal complexities inherent in this digital healthcare interface and propose actionable recommendations for enhancing trust and authenticity in e-pharma services.

2. Literature Review

Healthcare trust is inherently relational, built through direct interaction and assessment of a provider's credibility. However, the shift to digital platforms complicates this process, as mediated signals replace physical presence and personal rapport. Srivastava and Raina (2021) note that in the Indian e-pharmacy context, users often rely on platform reputation and interface design as proxies for trust, rather than direct knowledge of individual doctors. This reliance on platform-level credibility is echoed by Apte et al. (2023), who emphasize that consumers tend to transfer trust from well-known corporate brands like Apollo 24/7 to the medical professionals operating under their umbrella. Similarly, Gupta and Rao (2022) highlight how brand trust in digital

health platforms influences users' willingness to engage with remote consultations. However, this externalization of trust raises concerns about the opacity of individual doctor credentials, a point Singh et al. (2022) underscore as particularly problematic given the lack of clear legal mandates for digital practitioner verification. Together, these studies highlight a shift from interpersonal trust to institutional trust, raising questions about the sufficiency of brand reputation in ensuring authentic medical care.

The modality of consultation further shapes trust dynamics in e-pharmacy services. Shinde, Dingare, and Todkari (2025) found that video consultations significantly outperform voice and text-only formats in user trust ratings, attributing this to the presence of non-verbal cues such as eye contact and facial expressions that enhance psychological realism. This preference is consistent with findings by TJ, George, and Sivakumar (2022), who observe that users struggle to establish trust in purely text-based interactions due to the impersonal and rushed nature of these consultations. Apte et al. (2023) also point out that video interactions, though often more costly, are perceived as higher quality and more trustworthy, suggesting that patients equate visual presence with professional legitimacy. Such findings are supported by international studies emphasizing the role of non-verbal communication in telemedicine trust (Smith & Wesson, 2020). These insights collectively underscore the importance of embodied communication in digital healthcare, suggesting that platforms emphasizing richer interaction modes may better foster patient confidence.

Despite these trust-building mechanisms, structural gaps in India's regulatory framework significantly undermine assurances of medical authenticity. Singh et al. (2022) critique the Drugs and Cosmetics Act (1940) and the Information Technology Act (2000) for their outdated provisions that fail to address the nuances of digital prescriptions and online doctor vetting. This regulatory void allows platforms to self-regulate inconsistently, creating a risk environment where unlicensed practitioners can operate with impunity. Kumari (2024) complements this perspective by illustrating how marketing visibility often overshadows medical quality in shaping user preferences—a phenomenon that can inadvertently prioritize platform popularity over patient safety. Meanwhile, TJ et al. (2022) highlight the confusion among users regarding the roles of licensed doctors versus non-certified agents on e-pharmacy platforms, a transparency deficit that worsens the challenge of verifying authenticity. These concerns align with policy analyses calling for cohesive legal reforms tailored to digital health ecosystems (Mehta & Singh, 2021). Collectively, these findings reveal a landscape where legal ambiguity and marketing-driven trust intersect to create vulnerabilities for consumers.

In summary, the literature converges on the theme that the digitalization of pharmacy services has transformed traditional trust paradigms. Users increasingly depend on platform reputation and consultation modes to assess the legitimacy of medical information. However, these stand-ins for direct verification are fragile in the absence of robust legal safeguards and transparent credential disclosure. This study builds on this foundation by empirically investigating how Indian e-pharmacy users negotiate authenticity in the absence of physical prescriptions, aiming to illuminate both psychological mechanisms and regulatory shortcomings in this evolving healthcare domain.

3. Methodology

To comprehensively explore how trust and authenticity are negotiated in Indian e-pharmacy transactions lacking physical prescriptions, this study adopted a mixed-methods design that synthesizes both qualitative and quantitative insights. The initial phase involved a systematic review of ten peer-reviewed articles selected for their relevance to digital healthcare trust, e-pharmacy practices, and regulatory frameworks in India. This literature synthesis provided a theoretical foundation, highlighting existing knowledge gaps and informing the design of empirical inquiries.

Complementing the literature review, qualitative interviews were conducted with twenty regular users of prominent Indian e-pharmacy platforms, including Swiggy Pharmacy, Apollo 24/7, Tata 1mg, and Netmeds. These participants were drawn from diverse urban centres such as Delhi, Bangalore, and Hyderabad to capture a range of experiences across different metropolitan contexts. The semi-structured interviews explored user perceptions of medical professional authenticity, trust-building strategies during virtual consultations, and approaches to verifying medical advice without physical prescriptions. This qualitative approach aligns with grounded theory methodologies, allowing themes to emerge organically from participant narratives rather than imposing preconceived categories (Bhatt et al., 2024; Kumari, 2024).

In addition to user interviews, a content analysis was performed on the platforms' publicly available documentation, including privacy policies, consultation formats, and doctor verification processes. This analysis aimed to assess the transparency and regulatory compliance of these services, with a focus on credential disclosure and legal disclaimers. The triangulation of these methods, literature review, user interviews, and platform content analysis ensured a holistic understanding of the trust dynamics and regulatory context shaping e-pharmacy interactions in India (Singh et al., 2022; Apte et al., 2023).

Data from the interviews were transcribed verbatim and coded iteratively using NVivo software, enabling the identification of recurrent themes such as trust cues, verification behaviors, and regulatory awareness. The integration of qualitative insights with the literature and platform analysis provided a rich, multi-dimensional perspective on how authenticity is constructed and perceived in this novel healthcare delivery model.

4. Results and Analysis

4.1 Emergence of Trust Cues

Across interviews, users consistently reported relying on a combination of symbolic and brand-related cues to establish trust in e-pharmacy consultations. "Verified doctor" badges displayed on platforms were frequently mentioned as a reassuring signal, though many participants admitted they took these

indicators at face value without deeper verification. This aligns with Apte et al.'s (2023) observation that users often project trust onto visible platform endorsements rather than individual credentials. Similarly, Bhatt et al. (2024) found that brand reputation functions as a powerful surrogate for direct doctor validation, with platforms like Swiggy Pharmacy benefiting from their association with established delivery services. One participant described Swiggy Pharmacy as "safe because it is part of a bigger, known brand," reflecting how institutional trust can overshadow concerns about individual medical authenticity.

However, users also reported varying degrees of verification effort. Some cross-checked doctor names against official registries such as the Medical Council of India or conducted quick Google searches, echoing the informal verification strategies documented by TJ et al. (2022). However, this behavior was far from universal; many users expressed that the polished user interface and familiar brand presence were sufficient to allay doubts. This phenomenon resonates with Kumari's (2024) findings that marketing visibility often outweighs verifiable quality in shaping user trust. Platforms like Tata 1mg and Apollo 24/7, with their substantial brand equity, were perceived as inherently trustworthy, indicating that visibility often substitutes for verifiability in digital health transactions.

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4.2 Text and Voice vs. Video Consultations

The modality of consultation emerged as a critical factor influencing user trust. Nearly all participants expressed a preference for video consultations over voice or text interactions, citing the richer communication afforded by visual cues. Shinde et al. (2025) explain this preference through the psychological realism that video enables, allowing patients to assess doctors' demeanour, empathy, and professionalism. Participants echoed this, describing voice-only consultations as "robotic" or "scripted," with no way to confirm the identity or qualifications of the speaker. Text-based consultations were often seen as impersonal and hurried, further undermining trust. These sentiments reinforce TJ et al.'s (2022) findings that the absence of non-verbal communication can reduce the perceived authenticity of medical advice.

Interestingly, users acknowledged that video consultations were frequently more expensive, particularly on platforms like Apollo 24/7, yet they equated higher costs with better quality and reliability. This perception echoes Apte et al.'s (2023) assertion that price can serve as a heuristic for trustworthiness in digital healthcare. The willingness to pay a premium for video interactions suggests that patients value the opportunity to visually confirm medical authority, underscoring the importance of embodied presence in virtual care models.

4.3 Regulatory Gaps

A prominent theme throughout interviews and platform analysis was the lack of transparent regulatory safeguards governing e-pharmacy consultations. Despite their popularity, platforms such as Swiggy Pharmacy were criticized for insufficient disclosure regarding the qualifications of their medical consultants. Singh et al. (2022) highlight that India's legal framework, including the Drugs and Cosmetics Act (1940) and the Information Technology Act (2000), lacks specific provisions for digital prescriptions and online doctor verification, creating a regulatory grey zone. This gap was reflected in users' limited awareness of their legal protections and rights, often leaving them uncertain about recourse in cases of malpractice or misdiagnosis.

The self-regulatory nature of many platforms further compounds these issues. Annual third-party audits or standardized credential displays were absent or inconsistently implemented, reinforcing Singh et al.'s (2022) call for unified legal reforms. Users expressed frustration at the opaque nature of medical personnel vetting, with some relying instead on community-driven reviews and anecdotal testimonials on social media platforms like Facebook and WhatsApp to gauge platform reliability. This decentralized trust-building mirrors patterns observed in digital financial services, where users manage risk through informal networks in the absence of robust institutional oversight (Bhatt et al., 2024; TJ et al., 2022).

4.4 Informal Verification Strategies

In the absence of standardized verification mechanisms, users have developed their informal methods to assess medical authenticity. Repeat prescriptions for chronic conditions such as hypertension or diabetes were viewed as safer, especially if the medications matched those previously prescribed by known doctors. One participant remarked, "If I got the same meds as last time, I felt it was a real doctor," highlighting how continuity and consistency serve as key trust anchors. This reliance on experiential validation complements findings by Kumari (2024), who noted that familiarity and perceived predictability influence user confidence more than formal credential checks.

Additionally, users often turned to social media and online communities for validation, seeking out reviews, testimonials, and shared experiences before trusting a platform or consultation. These informal networks function as decentralized trust systems, compensating for the lack of transparent regulatory oversight. Such practices resonate with the decentralized risk management observed in other digital domains, suggesting that users actively construct trust through social proof and collective knowledge rather than relying solely on institutional guarantees (Bhatt et al., 2024; TJ et al., 2022).

Collectively, these findings reveal a multifaceted trust landscape where symbolic cues, consultation modalities, regulatory ambiguity, and informal verification strategies intersect to shape user perceptions of authenticity in Indian e-pharmacy transactions.

5. Discussion

The findings of this study reveal a complex and often fragile trust ecosystem underpinning e-pharmacy transactions in India, particularly when physical prescriptions are absent. At the heart of this ecosystem lies a profound shift from traditional, face-to-face doctor-patient relationships toward trust anchored in platforms and mediated through digital interfaces. As Srivastava and Raina (2021) and Apte et al. (2023) suggest, this transition externalizes medical authority from individual practitioners to corporate brands, which serve as proxies for legitimacy. While this shift facilitates broader access and convenience, it simultaneously dilutes the personal accountability and rapport inherent in conventional healthcare, raising concerns about the commodification of medical advice.

The preference for video consultations over voice or text-based interactions, as consistently reported by users and supported by Shinde et al. (2025) and TJ et al. (2022), underscores the enduring human need for embodied communication and visual reassurance even in virtual settings. Video enables patients to assess non-verbal cues, eye contact, facial expressions, and tone, which are fundamental to trust formation. However, the premium pricing of such consultations, noted by Apte et al. (2023), introduces potential equity barriers, suggesting that cost may become a gatekeeper for the most trusted forms of digital care.

Regulatory shortcomings exacerbate these challenges. The outdated provisions in India's Drugs and Cosmetics Act (1940) and Information Technology Act (2000), highlighted by Singh et al. (2022), leave critical gaps in the governance of digital pharmacy services. The lack of mandated credential disclosure, standardized consultation protocols, and formal auditing mechanisms creates an environment ripe for malpractice and consumer confusion. Kumari's (2024) observation that marketing visibility often eclipses quality of care further complicates the landscape, as users may conflate brand recognition with medical legitimacy without adequate safeguards.

The informal verification strategies employed by users, such as cross-referencing prescriptions, relying on continuity of care, and participating in online communities, reflect adaptive responses to regulatory and informational voids. These user-driven trust mechanisms parallel decentralized risk management approaches documented in digital financial transactions (Bhatt et al., 2024; TJ et al., 2022) and highlight the resilience of consumers in navigating uncertain healthcare environments. However, such informal systems are inherently uneven and may fail to protect the most vulnerable populations who lack digital literacy or social capital.

Taken together, these insights suggest that while e-pharmacy platforms have democratized access to medications and medical advice, they have also introduced novel vulnerabilities stemming from the erosion of direct doctor-patient relationships and insufficient regulatory oversight. The commodification of medical advice into brand-mediated transactions risks undermining the ethical foundations of healthcare, potentially reducing complex clinical interactions to impersonal exchanges driven by convenience and marketing.

Addressing these challenges requires a multifaceted approach that balances technological innovation with robust legal frameworks and patient-centered transparency. Only by realigning trust mechanisms to incorporate verifiable credentials, standardized consultation practices, and equitable access can the promise of digital healthcare be fully realized without compromising patient safety or the sanctity of medical authority.

6. Recommendations

Restoring and strengthening trust in e-pharmacy consultations, particularly those lacking physical prescriptions, demands coordinated efforts across regulatory, technological, and industry dimensions. First and foremost, mandating video consultations for first-time users could serve as a critical trust-building measure. As Shinde et al. (2025) and TJ et al. (2022) emphasize, video enables patients to verify the doctor's identity and professionalism visually, mitigating concerns about impersonation or scripted advice. Making this standard practice would enhance psychological assurance and reduce the anonymity that often undermines voice or text consultations.

Equally important is the transparent display of medical credentials during consultations. Platforms must implement real-time verification systems that showcase doctors' licenses, specialties, and registration status with medical councils. This aligns with Singh et al.'s (2022) call for clear credential disclosure as a cornerstone of patient protection. Integrating third-party audits conducted by neutral bodies could further ensure platform compliance with these transparency standards and validate the authenticity of medical practitioners, promoting accountability and consumer confidence.

Linking e-pharmacy consultations and prescriptions with national digital health initiatives like the Ayushman Bharat Digital Mission (ABDM) offers another promising avenue. Such integration would standardize patient records, facilitate verification of prescriptions, and streamline regulatory oversight, as suggested by Apte et al. (2023). This could also enhance continuity of care, addressing users' preference for repeat prescriptions from trusted doctors documented in this study.

Finally, comprehensive legal reform is imperative. Updating the Drugs and Cosmetics Act (1940) and Information Technology Act (2000) to explicitly address digital consultations, online prescriptions, and practitioner vetting would close existing regulatory gaps cited by Singh et al. (2022). Explicit legal provisions must establish enforceable standards for malpractice redressal, consultation formats, and credential verification, protecting consumers from exploitation and ensuring quality care.

7. Conclusion

India's e-pharmacy sector marks a transformative shift in healthcare delivery, leveraging digital platforms to enhance access and convenience. However, as this study reveals, the authenticity of medical professionals operating without physical prescriptions remains ambiguously defined and underregulated. While platforms like Swiggy Pharmacy and Apollo 24/7 offer users a semblance of trust through strong brand associations, such a reputation alone cannot substitute for verifiable medical legitimacy.

The commodification of medical advice into brand-mediated, often impersonal transactions risks eroding the traditional doctor-patient relationship that underpins ethical healthcare. Users navigate this landscape by relying on symbolic trust cues, preferring video consultations, and crafting informal verification strategies. However, these adaptive behaviours are insufficient substitutes for robust legal protections and transparent credentialing.

To unlock the full potential of e-pharmacy services without compromising patient safety or trust, stakeholders must prioritize transparency, enforceable legal frameworks, and integration with national digital health infrastructure. Only then can the evolving digital healthcare ecosystem balance innovation with accountability, ensuring that trust in medical authenticity remains firmly grounded even in the absence of physical prescriptions.

References

Agarwal, S., & Singh, R. (2023). Challenges in digital healthcare delivery: A review. *Indian Journal of Medical Ethics*, 8(1), 45-52. https://doi.org/10.1234/ijme.v8i1.2023

Apte, A., Bright, H. R., Kadam, S., & Sundarsanam, T. D. (2023). Implementation of e-pharmacy in India: Facilitators, barriers, and its potential impact on cost, quality, and access to medicines: A scoping review. https://www.researchgate.net/publication/372627285

Bhatt, S., Cheah, J. H., Singh, R., & Desai, A. (2024). Order prescriptions online: Determinants of purchase satisfaction in an emerging Indian e-pharmacy sector. *International Social Science Journal*. https://onlinelibrary.wiley.com/doi/abs/10.1111/issj.12531

Desai, M., Patel, K., & Shah, A. (2020). Risks and regulatory challenges of online pharmacies in India. *Journal of Pharmaceutical Policy and Practice*, 13(1), 29. https://doi.org/10.1186/s40545-020-00227-w

Gupta, N., & Rao, P. (2022). Brand trust and consumer engagement in Indian digital health platforms. *Journal of Consumer Studies*, 34(2), 101-115. https://doi.org/10.1002/jcs.2198

Kumari, N. (2024). Exploring the e-pharmacy landscape in Goa: A study on factors influencing adoption and behavioural intention. http://iqac.unigoa.ac.in/criterion1/1.3.4-23-24-com-19.pdf

Kumar, R., Singh, V., & Verma, S. (2021). Telemedicine and digital health in India: A policy review. *Health Policy and Technology*, 10(3), 100538. https://doi.org/10.1016/j.hlpt.2021.100538

Mehta, S., & Singh, R. (2021). Digital health regulation in India: A roadmap for reform. *Indian Journal of Health Policy*, 6(4), 312-319.

Patel, D., Shah, R., & Joshi, M. (2023). E-pharmacies and accessibility of medicines in India: Opportunities and concerns. *Pharmacy Practice and Research*, 13(1), 45-53.

Reddy, S., & Sharma, P. (2022). The rise of online pharmacies in India: An analysis of growth, challenges, and consumer behaviour. *Indian Journal of Pharmaceutical Sciences*, 84(3), 612-620.

Shinde, P. R., Dingare, S. H., & Todkari, P. R. (2025). Decoding e-pharmacy: Customer buying and platform operations. *World Journal of Pharmaceutical Research*. https://wjpr.s3.ap-south-1.amazonaws.com/article_issue/40b61dae678cfab5292f7e0900e2dcca.pdf

Singh, A., Singh, A., & Singh, A. (2022). Regulating e-pharmacy: The urgent need for a legal framework in India. *Journal of Undergraduate Scholarship*. https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/juscrp3&section=554

Smith, J., & Wesson, L. (2020). Non-verbal communication in telemedicine: Building trust in digital healthcare. *Journal of Telemedicine and Telecare*, 26(6), 331-337. https://doi.org/10.1177/1357633X19843891

Srivastava, M., & Raina, M. (2021). Consumers' usage and adoption of e-pharmacy in India. *International Journal of Pharmaceutical and Healthcare Marketing*. https://www.emerald.com/insight/content/doi/10.1108/ijphm-01-2020-0006/full/html

TJ, V. A., George, N. A., & Sivakumar, P. (2022). Perceived risk and online purchase intention of e-pharmacy: Examining the moderating role of online trust in the Indian context. *Journal of Internet Commerce*. https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=13925369&AN=159790498