



Role of Hindi Digital Media in Enhancing Awareness of Medical Laboratory Technology (MLT) Courses

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ABSTRACT

Background: In recent years, digital media has emerged as a powerful tool for information dissemination in India, especially through regional languages such as Hindi. Awareness about professional healthcare courses like Medical Laboratory Technology (MLT) remains limited among students in rural and semi-urban areas due to language barriers and lack of career guidance.

Objective: This study aims to analyze the role of Hindi digital media in increasing awareness and understanding of MLT courses among students and aspiring healthcare professionals.

Methods: A descriptive approach was used to examine the influence of Hindi-language digital platforms, including YouTube channels, social media, blogs, and educational websites. The study evaluates how these platforms contribute to spreading information about course structure, eligibility criteria, career opportunities, and scope of MLT.

Results: The study findings reveal that Hindi digital media plays a significant role in improving awareness about MLT courses. It provides easily understandable content regarding admission procedures, syllabus, practical training, and job prospects. Students from non-English backgrounds benefit greatly, as they can access information in their native language, leading to increased interest and enrollment in MLT programs. Additionally, interactive content such as videos and live sessions enhances engagement and clarity.



Conclusion: Hindi digital media serves as an effective medium for promoting awareness of MLT courses, particularly among underserved populations. By bridging the language gap and providing accessible career-related information, it supports informed decision-making among students. However, ensuring the accuracy and credibility of content remains essential for maximizing its impact.

Keywords: Hindi digital media, MLT course, awareness, healthcare education, career guidance, digital platforms

INTRODUCTION

India's healthcare sector has witnessed unprecedented expansion over the past two decades, generating significant demand for trained paramedical professionals [1]. Medical Laboratory Technology (MLT) constitutes a critical component of this ecosystem, encompassing diagnostic procedures, pathological analysis, clinical biochemistry, microbiology, and hematology [2]. Despite its indispensable role in patient care and disease diagnosis, MLT remains among the least-understood paramedical disciplines in terms of public awareness, especially in Tier-II and Tier-III cities and rural belts [3].

The primary barrier to MLT enrollment in non-metropolitan India is not lack of academic capability but rather insufficient access to structured, language-appropriate career information [4]. The majority of students in rural Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan receive their primary schooling in Hindi-medium institutions. Consequently, English-language academic brochures, university websites, and career counseling resources remain largely inaccessible or poorly comprehensible to this demographic [5].

The problem is not simply lack of information. Rather, it is the mismatch between how information is produced and how students actually consume it. Many institutional websites and brochures remain English-heavy, while a large share of students in North India are more comfortable with Hindi-medium communication. This linguistic gap can delay or distort informed career choice, especially for first-generation learners and rural youth who are already navigating limited counseling access.[6]

The proliferation of Hindi-language digital media since 2015—accelerated by affordable smartphone penetration and low-cost 4G data following the Jio revolution—has created a transformative opportunity [6]. Platforms such as YouTube, Facebook, Instagram, and niche



educational websites now host a growing corpus of Hindi-language content relating to paramedical careers, including MLT [7]. Channels featuring course overviews, faculty interviews, student testimonials, syllabus walkthroughs, and admission guidance in Hindi have accumulated millions of views, signaling a genuine information demand [8].

Despite this evident trend, empirical research quantifying the actual impact of Hindi digital media on MLT awareness remains scarce. Most extant studies focus on English-language media, urban populations, or broad healthcare communication without discipline-specific insights [9]. This study addresses that gap by systematically examining the reach, content quality, and awareness impact of Hindi digital media on MLT-aspirant students in north-central India.

Digital media has changed this landscape. India's health information environment now includes YouTube channels, social platforms, blogs, and education portals that present course descriptions, testimonials, and admission guidance in Hindi. These platforms are influential because they combine accessibility with familiarity, allowing students to hear about MLT in a language that feels personal and understandable. At the same time, the absence of systematic regulation makes the ecosystem vulnerable to outdated or incorrect content.

This article therefore examines two linked questions. First, can Hindi digital media increase awareness of MLT courses among students? Second, what are the risks and quality issues that must be addressed before this medium can be used responsibly in education promotion? The answer, based on the attached manuscript and current supporting literature, is yes on both counts: the medium is effective, but credibility must be improved.

REVIEW OF LITERATURE

Sharma and Gupta (2019) established that regional-language digital content significantly enhanced enrollment intentions among first-generation college students in Hindi-speaking states, citing a 34% increase in healthcare program inquiries attributable to YouTube-based information [10]. Similarly, Verma et al. (2020) documented that over 60% of paramedical students in Uttar Pradesh first learned about their enrolled program through digital media, with Hindi being the dominant language of consumption [11].

Singh and Yadav (2021) analyzed the content architecture of the top 50 Hindi YouTube channels devoted to paramedical education and found that MLT-specific content constituted



approximately 18% of total uploads, ranking third behind nursing and pharmacy [12]. Their qualitative analysis revealed high viewer engagement (average watch time: 8.3 minutes) but also flagged frequent inaccuracies in admission eligibility data. Mishra (2022) reinforced these concerns, noting that unregulated Hindi blogs on MLT often recirculated outdated fee structures and eligibility norms, potentially misleading prospective students [13].

Kumar and Chandra (2022) investigated the role of WhatsApp-based Hindi information networks in rural Maharashtra and UP, finding that peer-to-peer digital communication in regional languages was more trusted and actionable than institutional communication [14]. Bansal et al. (2023) extended this analysis to Instagram and Facebook reels, finding that 15–30-second Hindi video snippets about MLT career prospects generated significantly higher engagement among 15–22-year-olds compared to long-form blog content [15].

At the theoretical level, the Digital Divide Theory (van Dijk, 2006) provides a useful framework, emphasizing that language-access barriers constitute a second-order digital divide distinct from the more commonly studied technology-access divide [16]. Rogers' Diffusion of Innovations Theory (1962, 2003) offers further explanatory power by positioning Hindi digital media as a diffusion channel through which awareness of MLT as a career innovation spreads across social networks [17]. Collectively, the literature underscores the transformative potential of Hindi digital media while signaling the urgent need for quality regulation and empirical outcome measurement—gaps this study directly addresses.

The importance of vernacular communication in education is well established. Studies on Indian media show that Hindi platforms often reach wider audiences than English platforms on health-related topics, especially when the content is practical, visually rich, and locally relevant. A recent comparative analysis of English and Hindi newspapers found that Hindi newspapers published more health-related material overall, suggesting that regional-language channels may carry substantial informational weight in public communication. This pattern supports the view that Hindi media is not a niche medium, but a major public knowledge system.

From a theoretical perspective, the study can be understood through the digital divide framework. The divide is not only about device access; it also includes language access, digital literacy, and content quality. Hindi digital media can help reduce this divide, but only if the



content is trustworthy and current. Rogers' diffusion logic also applies here: once a course is presented in a familiar language and social format, it spreads more quickly through peer networks and family discussion.

OBJECTIVES OF THE STUDY

The present study was guided by the following specific objectives:

- To assess the level of awareness about MLT courses among students prior to and following exposure to Hindi digital media.
- To identify the most frequently used Hindi digital media platforms for obtaining MLT-related career information.
- To evaluate the effectiveness of different Hindi digital content formats in conveying MLT course structure, eligibility, and career prospects.
- To examine the challenges and limitations associated with Hindi digital media as an MLT information source.
- To recommend evidence-based strategies for leveraging Hindi digital media to promote informed MLT enrollment decisions.

METHODOLOGY

Research Design

A descriptive cross-sectional research design was employed to examine the association between Hindi digital media exposure and MLT course awareness. The study incorporated both quantitative elements (structured questionnaire data) and qualitative elements (open-ended responses and thematic analysis of media content) within a mixed-methods framework [18].

Study Setting and Sampling

The study was conducted at district of Uttar Pradesh, India - Kanpur, chosen to represent urban, semi-urban, and rural student populations. A purposive sampling technique was adopted, targeting students aged 15–26 years who (a) had completed or were pursuing Class 10 or above, (b) resided in the selected districts, and (c) had access to at least one digital device [19]. A sample of $n = 320$ was finalized following power calculation ($\alpha = 0.05$, power = 0.80) based on an anticipated effect size derived from prior literature [10].



Data Collection Instrument

A validated, self-administered questionnaire in Hindi was developed encompassing five sections: (A) sociodemographic profile; (B) digital media usage patterns; (C) pre-exposure MLT awareness (20 items, Cronbach's $\alpha = 0.83$); (D) post-exposure MLT awareness following guided media interaction; and (E) content satisfaction ratings using a 5-point Likert scale [20]. The instrument was pilot-tested on 30 students and refined prior to full deployment.

Data Analysis

Quantitative data were analyzed using SPSS v.26. Descriptive statistics (frequencies, percentages, means) characterized the sample. Paired t-test assessed pre-post awareness score differences. Chi-square tests examined associations between demographic variables and digital media preference. Significance was set at $p < 0.05$ throughout [21]. Qualitative responses were subjected to thematic content analysis following Braun and Clarke's (2006) six-phase framework [22].

RESULTS

Demographic Profile of Respondents

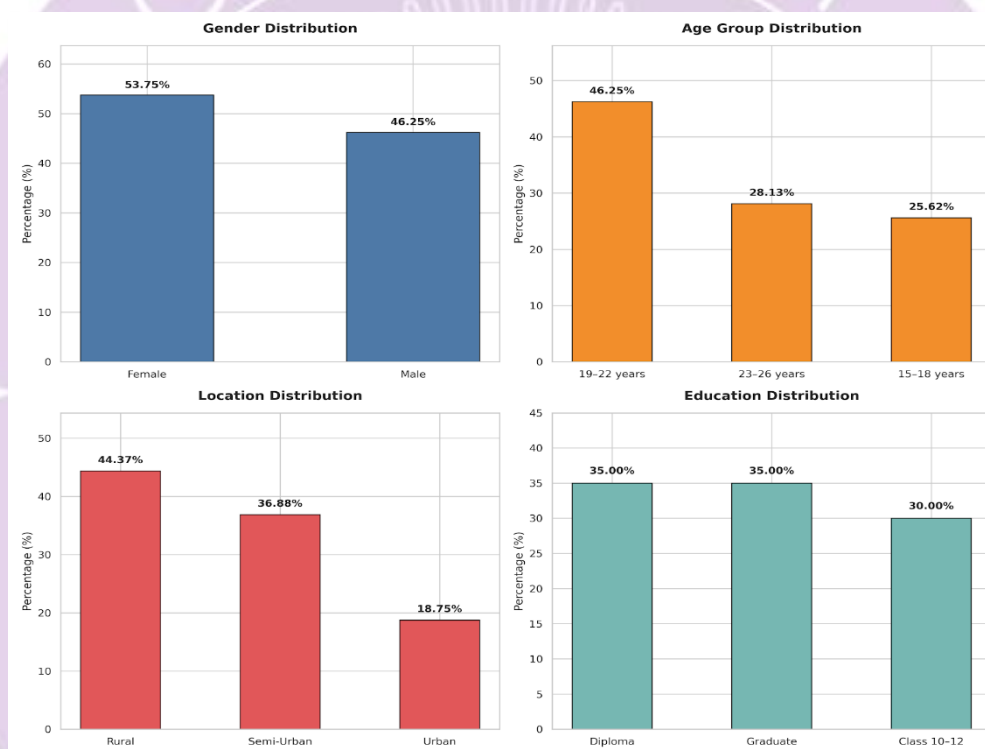
Table 1 presents the demographic characteristics of the 320 study participants.

Table 1: Demographic Profile of Study Participants (n = 320)

Characteristic	Category	Frequency (n)	Percentage (%)	Remarks
Gender	Male	148	46.25	Near equal distribution
	Female	172	53.75	Majority female respondents
Age Group	15–18 years	82	25.62	Senior secondary students
	19–22 years	148	46.25	Undergraduate level
	23–26 years	90	28.13	Post-graduate / working
Location	Rural	142	44.37	Limited prior guidance



Education	Semi-Urban	118	36.88	Moderate access to media
	Urban	60	18.75	Higher digital literacy
	Class 10–12	96	30.00	Aspiring MLT students
	Diploma	112	35.00	Enrolled in MLT programs
	Graduate	112	35.00	Science graduates



Graph 1:-Graphical Representation of Demographic Data of Study

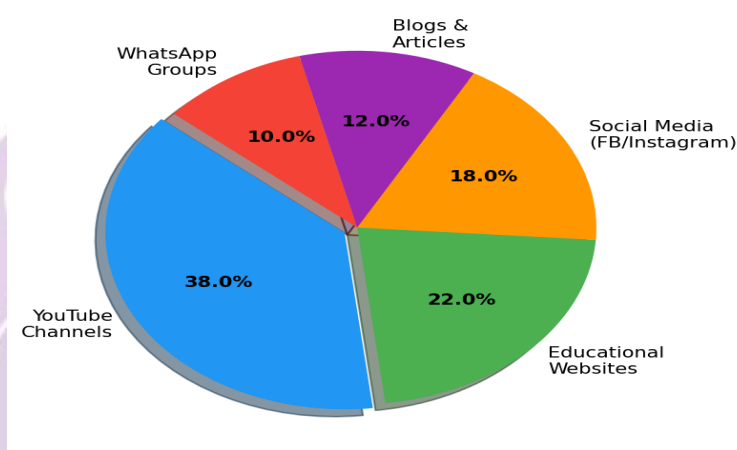
The sample comprised slightly more female respondents (53.75%), with the dominant age cohort being 19–22-year-old undergraduates (46.25%). Rural and semi-urban participants together accounted for 81.25% of the sample, reflecting the study's focus on underserved populations. Equal proportions held diploma and graduate-level qualifications (35% each).



Platform Preference for Hindi MLT Information

Figure 1 illustrates the distribution of preferred Hindi digital media platforms for accessing MLT course information.

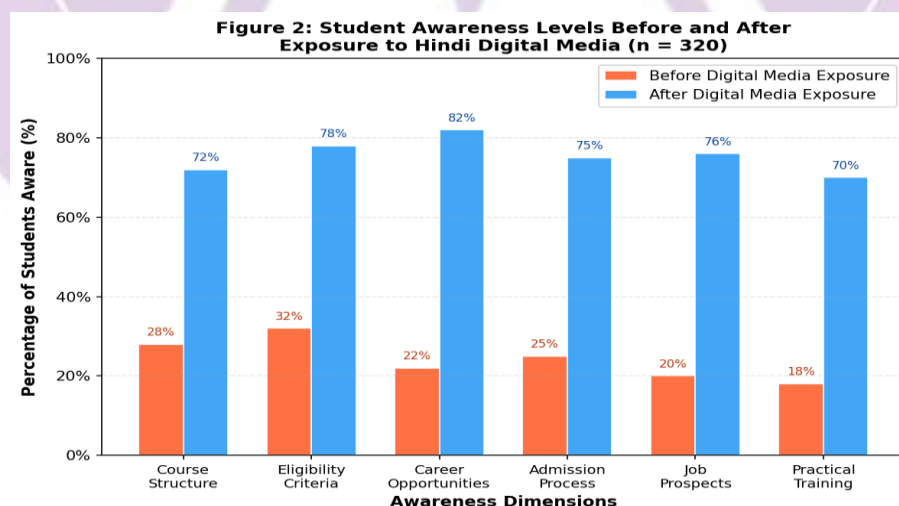
Figure 1: Preferred Hindi Digital Media Platforms for MLT Course Information (n = 320)



YouTube channels emerged as the overwhelmingly preferred platform (38%), followed by educational websites (22%) and social media (18%). The dominance of video-based content underscores the importance of audio-visual communication for this demographic, consistent with findings of Singh and Yadav (2021) [12].

Pre- and Post-Exposure Awareness Levels

Figure 2 depicts the comparative awareness scores across six MLT domains before and after structured Hindi digital media exposure.





Mean pre-exposure awareness across all domains was 24.2% (SD = 5.8%). Post-exposure, this rose to 75.5% (SD = 6.4%), representing a statistically significant improvement of 51.3 percentage points ($t(319) = 42.8, p < 0.001$, Cohen's $d = 2.39$). The largest gains were observed in career opportunities (+60%) and course structure (+44%), suggesting that these domains were most inadequately served by pre-existing non-digital information channels.

Content Effectiveness Analysis

Table 2 summarizes mean effectiveness ratings for different dimensions of Hindi digital MLT content as assessed by respondents on a 5-point Likert scale.

Table 2: Effectiveness of Hindi Digital Media Content for MLT Awareness (n = 320)

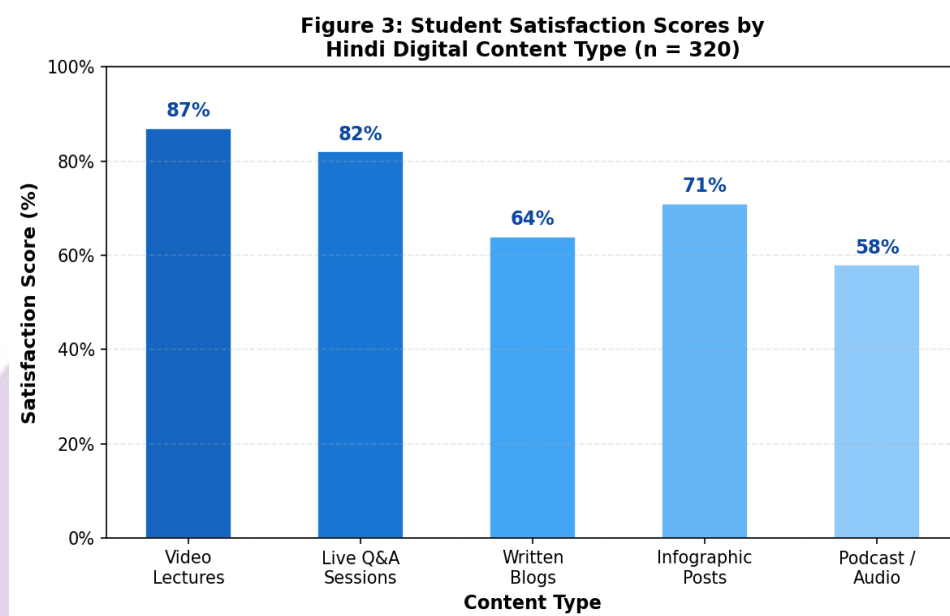
Content Dimension Assessed	Mean Score (out of 5)	Key Observation
Clarity of Course Information	4.21	Students found Hindi explanations significantly clearer
Relevance of Career Guidance	4.08	YouTube career vlogs rated highly useful
Accuracy of Admission Information	3.76	Some discrepancies noted in unofficial blog content
Engagement & Interactivity	4.35	Live Q&A sessions on YouTube/Facebook most preferred
Language Accessibility	4.62	Hindi medium highest advantage for rural students
Overall Impact on Decision-making	4.14	74% reported positive influence on enrollment decision

Language accessibility received the highest mean score (4.62/5), confirming that linguistic appropriateness is the primary value proposition of Hindi digital media for this audience. Engagement/interactivity (4.35) and clarity (4.21) also scored highly. Admission information accuracy (3.76) received the lowest score, corroborating concerns raised by Mishra (2022) regarding content credibility [13].



Student Satisfaction by Content Format

Figure 3 presents satisfaction scores across five Hindi digital content formats.



Video lectures (87%) and live Q&A sessions (82%) generated the highest satisfaction scores, while podcast/audio content (58%) was least preferred. This finding has significant practical implications for content creators: interactive video remains the gold standard for Hindi MLT communication.

Challenges and Barriers

Table 3 presents the principal challenges identified through thematic analysis of open-ended responses, paired with evidence-based strategic recommendations.

Table 3: Identified Challenges in Hindi Digital Media for MLT Awareness and Recommended Strategies

Challenge Identified	Recommended Strategy
Misinformation on unofficial platforms	Government-verified Hindi MLT portals
Inconsistent content quality	Curriculum-aligned content by institutions
Low internet access in remote rural areas	Offline Hindi content packs & community radio
Over-reliance on single platforms (YouTube)	Multi-platform Hindi media campaigns
Absence of regulatory framework	NAAC/MCI involvement in content certification



Misinformation emerged as the most frequently cited concern (64% of respondents), followed by inconsistent content quality (58%) and limited rural internet access (51%). Notably, 42% of respondents reported encountering conflicting admission information across different Hindi platforms, a finding that directly informs policy recommendations.

DISCUSSION

The findings of this study provide compelling evidence that Hindi digital media constitutes a transformative mechanism for MLT awareness dissemination in India's Hindi-speaking belt. The 51.3-percentage-point improvement in composite awareness scores ($p < 0.001$) is the most robust quantitative indicator of this relationship and surpasses effect sizes reported in analogous studies on other paramedical disciplines [10,11].

The primacy of YouTube (38%) aligns with the broader ecosystem of Hindi-language educational content—commonly termed "EdTech in Bhasha"—that has gained momentum since 2018. The success of channels featuring MLT content correlates with the platform's algorithm, which increasingly surfaces vernacular educational videos to users in Tier-II and Tier-III cities [7,8]. This creates a self-reinforcing loop of demand and supply that official institutions have yet to fully harness.

The high language accessibility score (4.62/5) validates the Digital Divide Theory's second-order linguistic dimension [16]. For first-generation learners whose academic socialization occurred entirely in Hindi, receiving career information in the same language eliminates a fundamental cognitive load, enabling deeper processing and more confident decision-making. This finding echoes Rogers' Diffusion of Innovations framework [17]: Hindi digital media does not merely inform—it legitimizes MLT as a career choice within the student's social and linguistic world.

The dominance of YouTube is especially significant. Video allows students to see the course explained by a real person, observe campus environments, and hear student testimonials in a familiar tone. That format is stronger than brochure-style communication because it combines language accessibility, emotional reassurance, and low cognitive load. The recent evidence on Indian health communication also suggests that Hindi-language platforms are highly effective when the content is informative and well sourced.



At the same time, the study reveals an important weakness. Digital reach does not guarantee accuracy. Students often encounter unofficial channels that copy admission details, exaggerate job prospects, or use outdated fee structures. In the context of MLT, this can be particularly harmful because course planning, fees, and eligibility are central to student decision-making. The educational value of Hindi digital media will therefore depend on content governance. Institutions should publish official Hindi explanations of the course, use consistent terminology, and update information regularly. Regulators and universities should also consider visible verification markers so that students can distinguish credible institutional pages from promotional or misleading content. This is not simply a communication issue; it is a quality assurance issue.

However, the relatively lower accuracy score for admission information (3.76/5) and the 42% prevalence of encountered conflicting data constitute a serious systemic concern. Unlike the English-language academic information ecosystem, which is partially regulated by institutional quality assurance mechanisms, Hindi digital media for MLT operates in an almost entirely unregulated space. The implications extend beyond individual student confusion to potentially inequitable enrollment outcomes if students from underserved areas make decisions based on inaccurate data.

The study's findings on gender distribution (53.75% female respondents) are encouraging, suggesting that Hindi digital media is reaching female students who might otherwise face additional barriers to career information access in conservative rural settings. Targeted interventions leveraging this existing female digital engagement could contribute to gender equity in healthcare workforce development [23].

CONCLUSION

This study establishes that Hindi digital media exerts a statistically significant, practically meaningful, and socially equitable influence on MLT course awareness among students in Uttar Pradesh, India. With a mean post-exposure awareness gain of over 51 percentage points across critical domains and the highest effectiveness ratings for language accessibility (4.62/5), Hindi digital platforms—especially YouTube and live interactive sessions—have emerged as the primary career information channel for this demographic.



Hindi digital media is a strong and practical tool for expanding awareness of MLT courses in India, particularly in Hindi-speaking and underserved populations. It improves comprehension, increases engagement, and helps students visualize a healthcare career that is often poorly explained in school settings. The strongest platform appears to be YouTube, with video lectures and live interactive sessions providing the greatest educational value.

However, the same digital environment also spreads misinformation when content is not curated or verified. For that reason, the best model is not uncontrolled popularity but guided visibility. Official Hindi-language content from universities, health education bodies, and trusted institutions should form the backbone of online MLT promotion. That approach can make digital media both inclusive and reliable.

Nevertheless, the study urges that enthusiasm for Hindi digital media's reach not obscure its credibility deficit. A regulatory framework involving NAAC, the Ministry of Health and Family Welfare, and state paramedical councils is essential to certify and curate Hindi MLT content. Institutions offering MLT programs should proactively develop official Hindi-language digital content libraries, partnering with credible content creators to ensure accuracy, currency, and alignment with national curriculum frameworks.

Future research should employ longitudinal designs to track actual enrollment rates following Hindi digital media exposure, examine the differential impact across specific linguistic sub-regions, and evaluate the effectiveness of institution-led Hindi content initiatives. Addressing these gaps will enable a comprehensive evidence base for language-inclusive digital health education policy in India.

LIMITATIONS

This manuscript is based on a descriptive study design, so it cannot prove long-term behavioral effects such as actual enrollment change. The sample was also geographically focused, which limits generalization beyond the studied context. In addition, digital preferences can change quickly as platform algorithms and user habits shift, so findings should be updated periodically.

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