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Health Information Sharing in Urban Slums: Dynamics of Access, Understanding, and Confidence

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Abstract
Health communication plays a critical role in improving health outcomes, particularly in urban slum settings where access to healthcare resources is often limited due to high population density. This study examines the dynamics of health message sharing in the slums of Dharavi, Mumbai, with focus on the relationship between preferred communication channels, message comprehension, and the confidence to disseminate health information. Using a mixed-methods approach, quantitative data from a structured survey and qualitative insights from interviews were analysed to identify key factors influencing health information sharing behaviours. The study highlights the importance of understanding message accessibility and clarity, with education and gender emerging as significant determinants of sharing dynamics. Additionally, the study underscores the critical role of self-confidence in fostering community-wide health knowledge dissemination. These insights offer actionable strategies for designing effective health communication interventions tailored to the unique needs of urban slum populations.
Keywords: Health Communication, Health Information Sharing, Urban Slums, Understanding, Confidence, Community Health, Antibiotic Preference.

1.1 Introduction

Health information sharing is integral to promoting well-being, especially in underserved urban environments such as slums. Slum populations often face a unique combination of socio-economic and infrastructural challenges that amplify health vulnerabilities, including overcrowding, inadequate sanitation, and limited access to formal healthcare services. These factors make the effective sharing of health information critical, as it directly influences health literacy, disease prevention, and timely healthcare-seeking behaviour (WHO, 2021).

Urban slums are characterized by diverse and dynamic social networks, where informal communication channels such as community leaders, neighbours, and local organizations often play a pivotal role in disseminating health information. These networks, while resourceful, may also propagate misinformation, unintended information, or fail to reach all subpopulations due to variations in literacy levels, cultural practices, and technological access. Understanding the dynamics of how health information is accessed, shared, and understood in these settings is essential for designing interventions that reflect local realities.

1.2 Background of Health Communication in Slums

Health communication is a critical tool for improving health outcomes, particularly in marginalized communities. Slums, characterized by overcrowding, poor sanitation, and limited access to healthcare services, present unique challenges for health communication. With over one billion people living in slum conditions globally, the dissemination of health information in these settings is both urgent and complex (UN-Habitat, 2020). Residents of slums face

systemic barriers such as low literacy rates, language diversity, and limited access to technology, which hinder the effective delivery and reception of health messages.

Slum environments are also marked by socio-economic disparities, making traditional health communication strategies less effective. Factors such as mistrust in formal healthcare systems, reliance on informal networks, and cultural practices further complicate health interventions (Agarwal & Taneja, 2016). However, these same factors provide an opportunity for tailored, community-centred approaches that leverage local knowledge and participatory communication methods.

In India, where slums like Dharavi are home to millions, health communication takes on added significance due to the high burden of communicable and non-communicable diseases. Government initiatives, non-governmental organizations (NGOs), and grassroots campaigns attempt to address these challenges, yet gaps remain in aligning strategies with the socio-economic realities of slum dwellers.

This study seeks to explore the nuances of health communication in slum settings, focusing on the interplay of socio-economic variables and the adoption of health messages. By understanding these dynamics, the research aims to inform more effective, inclusive communication strategies that resonate with the lived experiences of slum residents.

1.3 Importance of Message Sharing for Community Health Improvements

Message sharing is a cornerstone of community health improvements, particularly in vulnerable and resource-constrained settings like slums. Effective communication and dissemination of health information can lead to increased awareness, improved health-seeking behaviour, and enhanced adoption of preventive measures (Rimal & Lapinski, 2009). In slum communities, where traditional healthcare infrastructure is often inaccessible or underutilized, message sharing fills critical gaps by fostering grassroots-level engagement and promoting collective responsibility for health outcomes.

Health messages shared within the community can empower individuals with knowledge about disease prevention, hygiene practices, vaccination campaigns, and emergency responses (Chib, Van Velthoven, & Car, 2013). For example, during public health crises such as the COVID-19 pandemic, rapid and widespread sharing of accurate health messages was vital in promoting mask-wearing, social distancing, and vaccination uptake. In slum settings, this kind of sharing often happens through informal networks — neighbours, community leaders, or local organizations — making it a culturally rooted and trusted mode of information dissemination.

Importantly, message sharing does not just disseminate information but creates opportunities for dialogue and feedback. This two-way communication ensures that health interventions are not only received but also adapted to meet the specific needs of the community. Furthermore, collective sharing fosters a sense of community ownership over health issues, encouraging cooperative action and reducing the stigma associated with certain conditions (Freeman, Chapman, & Rosenberg, 2017).

However, the impact of message sharing depends on the quality, credibility, and accessibility of the information (Banerjee & Duflo, 2011). Utilizing local languages, visual aids, and participatory approaches enhances comprehension and engagement. Digital platforms and social media have emerged as additional tools for amplifying message reach, though their efficacy in slums may be constrained by digital divides.

By leveraging existing social networks and fostering a culture of shared responsibility, message sharing can transform community health dynamics, promoting sustainable improvements in well-being and resilience to future health challenges.

2.1 Research Question
How do access to health information, understanding of health information and self-confidence impact the sharing of health information in the community?

3. Objectives of the Study
1. To analyse preferred channels for accessing health messages.
2. To assess the relationship between sharing likelihood and access to health information, understanding of health information, and self-confidence respectively.
3. To evaluate the role of confidence in sharing health information.
4. To provide actionable recommendations.

4. Review of Literature
Health communication plays a critical role in fostering behaviour change, particularly in underprivileged communities such as urban slums. Effective communication strategies have the potential to bridge knowledge gaps, promote preventive behaviours, and improve overall health outcomes (WHO, 2021). This literature review explores three key dimensions: access to health information, the comprehension of health messages, and the role of confidence in sharing health information.

4.1 Access to Health Information
Access to health information is foundational to effective health communication. Studies have highlighted that slum populations often rely on diverse channels, including community health workers, mobile phones, and informal social networks, to receive health-related messages (Rimal & Lapinski, 2009). Digital health interventions, though promising, are often limited by digital literacy and infrastructure deficits in low-income settings. Dharavi, which is one of Asia's largest slums, exemplifies the complex interplay of socio-economic and infrastructural challenges affecting access to reliable health information (Banerjee & Duflo, 2011).

4.2 Understanding of Health Messages
The clarity and cultural relevance of health messages significantly influence their impact. Research suggests that individuals with limited literacy or education levels may struggle to understand health communication, particularly when messages are delivered in technical language (Nutbeam, 2008). Language preferences and localized content have been shown to improve message comprehension and subsequent behaviour change (Sarkar, 2017). In urban slum contexts, message customization tailored to the audience's linguistic and cultural norms has proven critical to enhancing understanding (Zarcadoolas, Pleasant, & Greer, 2006).

4.3 Confidence in Sharing Health Information
Confidence, or self-efficacy, in sharing health information is an emerging area of interest in health communication research. The social cognitive theory posits that individuals are more likely to engage in behaviours, such as sharing health information, when they feel confident in their knowledge and communication skills (Bandura, 1977). Another study found that community members who actively shared health information were perceived as informal health advocates, further amplifying the reach and impact of health messages in slum settings (Vishwanath, 2012). However, socio-cultural barriers, such as gender norms and power dynamics, often impede women's participation in information-sharing networks in patriarchal societies (Hay K, 2019).

4.4 Gaps in Existing Research

While there is extensive research on health communication in low-income settings, few studies specifically address the interconnected dynamics of access, understanding, and confidence in urban slums. Most studies focus on isolated aspects, such as access to digital health interventions or the role of education in message comprehension (Nutbeam, 2008). The unique socio-cultural context of Dharavi presents an opportunity to examine these dimensions holistically, providing valuable insights for designing more effective health communication strategies.

5. Research Methodology

This study employed a sequential explanatory research design, integrating quantitative and qualitative methods to provide a comprehensive understanding of health information sharing dynamics in urban slums. The research began with a quantitative phase, utilizing surveys to collect data on access to, understanding of, and confidence in health information among slum residents. This phase aimed to identify patterns, trends, and correlations within the population. Following the quantitative analysis, a qualitative phase was conducted, involving in-depth interviews to explore the findings in greater depth. This sequential approach allowed the study to first establish broad generalizations and then contextualize them within the lived experiences of the community. By combining these methods, the research design ensured a robust examination of the complex socio-economic, cultural, and structural factors influencing health information sharing in urban slums.

6. Data Collection

Data collection for this study was conducted in two phases, combining quantitative and qualitative methods to capture a comprehensive view of health information sharing in Dharavi, one of the largest slums in the world.

In the quantitative phase, a survey was administered to 100 residents of Dharavi using a convenience sampling method. This approach was chosen due to the logistical constraints and challenges of random sampling in densely populated and resource-limited environments. The survey collected data on participants' primary sources of health information, the barriers they face in accessing and understanding health messages, and their level of confidence in various information sources.

The qualitative phase followed the quantitative analysis and involved semi-structured interviews with participants from the surveyed population. The interviews aimed to delve deeper into themes emerging from the survey data, exploring participants' lived experiences, perceptions, and the cultural context of health information sharing. Interviews were conducted until thematic saturation was reached, ensuring a thorough understanding of the issues without redundancy.

The quantitative data provided a broad overview of the patterns and trends in health information sharing, while qualitative insights added depth and contextual understanding, enabling a richer interpretation of the dynamics at play in Dharavi.

7. Quantitative Analysis

The quantitative analysis revealed key trends in health information sharing among residents of Dharavi.

Preferred Communication Channels to Access Health Information	**Count**
Face-to-face interactions with healthcare workers; Messaging (WhatsApp, SMS)	23
Face-to-face interactions with healthcare workers; Social media (Facebook, Instagram); Messaging (WhatsApp, SMS)	20
Face-to-face interactions with healthcare workers; Television	19
Face-to-face interactions with healthcare workers; Television; Social media (Facebook, Instagram); Messaging (WhatsApp, SMS)	9
Face-to-face interactions with healthcare workers; Television; Social media (Facebook, Instagram)	6
Television; Newspapers/Magazines; Social media (Facebook, Instagram)	6
Face-to-face interactions with healthcare workers	4
Face-to-face interactions with healthcare workers; Social media (Facebook, Instagram)	3
Face-to-face interactions with healthcare workers; Social media (Facebook, Instagram); Posters/Banners in the community; Messaging (WhatsApp, SMS)	2
Face-to-face interactions with healthcare workers; Newspapers/Magazines; Posters/Banners in the community; Messaging (WhatsApp, SMS)	2
Face-to-face interactions with healthcare workers; Newspapers/Magazines; Community meetings	2
Face-to-face interactions with healthcare workers; Television; Messaging (WhatsApp, SMS)	2
Television; Messaging (WhatsApp, SMS)	2

7.1 Dominance of Face-to-Face Interactions

Personal interactions with healthcare workers emerged as the most preferred and trusted channel, with 92% of respondents identifying it as their primary source of health information in conjunction with one or more of the other channels. However, as a solo source of health information, only 4% relied completely on face-to-face communication.

7.2 Emergence of Digital Channels

Digital communication methods complemented face-to-face communication, such as 23% with WhatsApp/SMS, 20% with social media and WhatsApp, and 19% with television. However, traditional media like newspapers (2.0%) and community-based methods (posters, banners, community meetings) had minimal impact.

7.3 Demographic Variables and Sharing Likelihood

7.3.1 Gender and Health Information Sharing

	Always	Often	Sometimes	Rarely
Female	1	16	9	4
Male	2	38	24	6

- Males are more likely to share health information "Often" (38 counts) compared to females (16 counts).
- Females are slightly more likely to share "Sometimes" (9 counts) than "Rarely" or "Always."

7.3.2 Age and Health Information Sharing

	Always	Often	Sometimes	Rarely
18-25	0	15	4	1
26-35	0	22	16	3
36-45	1	11	4	3
46-55	1	4	7	0
56 and above	1	2	2	3

- The 26-35 age group shares health information "Often" the most (22 counts), followed by the 18-25 group (15 counts).
- Older age groups (46-55 and 56+) show lower sharing frequencies overall.

7.3.3 Education and Health Information Sharing

	Always	Often	Sometimes	Rarely
Graduate	3	21	4	2
Higher secondary	0	9	8	2
No formal education	0	1	1	0
Post Graduate and above	0	2	0	0
Primary	0	7	9	3
Secondary	0	14	11	3

- Graduates are the most frequent sharers, with 21 counts for "Often."
- Secondary and Primary education levels also show moderate sharing frequencies, while post-graduate levels have minimal representation.

7.4 Understanding and Sharing Likelihood

Statistical analysis demonstrated a significant relationship ($p = 0.0498$) between understanding health messages and the likelihood of sharing them. Respondents with higher comprehension levels were more likely to share information frequently, whereas those with low understanding rarely engaged in sharing.

7.5 Confidence and Sharing Behaviour

Confidence significantly influenced information sharing ($p = 0.00196$). Individuals with high confidence frequently shared health messages, while those with neutral or low confidence were less active in sharing.

8.1 Qualitative Analysis

The qualitative findings, based on in-depth interviews with 11 participants, provided nuanced insights into the dynamics of health information sharing in Dharavi. A key theme that emerged was the relationship between confidence in health message sharing and the mode of exposure to health information. Respondents who expressed high confidence in sharing health messages reported frequent face-to-face interactions with health workers and doctors within the community. These interactions played a pivotal role in establishing trust and reinforcing the importance of disseminating accurate health information.

Participants highlighted the significant influence of their experiences during the COVID-19 pandemic. Many stated that witnessing the adverse effects of ignoring medical advice during the crisis increased their trust in health workers and doctors as reliable sources of information. This trust translated into a proactive attitude toward acting on and sharing health advice within their social networks.

Another prominent finding was the perspective of women regarding the prevalence of infectious diseases in Dharavi. Women emphasized the widespread and recurring nature of these diseases in their community, which reinforced their belief in the importance of sharing health information. They viewed this as a vital step in preventing disease spread and protecting lives, particularly in an environment where healthcare resources are often limited.

These qualitative insights underscore the critical role of trust, firsthand exposure to credible health sources, and a sense of communal responsibility in fostering health information sharing in slum settings. They also highlight the impact of lived experiences on shaping attitudes toward health communication and community well-being.

8.2 Thematic Summary of the Qualitative Findings

Confidence and Trust: Confidence in sharing health messages is directly linked to trusted, face-to-face interactions with credible health professionals.

COVID-19 as a Catalyst: The pandemic served as a turning point, increasing trust in health workers and inspiring proactive communication.

Women's Advocacy: Women play a crucial role in promoting health information sharing to address recurring infectious diseases.

Community Responsibility: A collective sense of responsibility underpins the proactive dissemination of health messages in Dharavi.

9. Conclusion and Recommendations

The findings illustrate a complex interplay between access, understanding, and confidence in health information sharing in Dharavi. Quantitative data highlighted that face-to-face interactions are the most effective channel, underpinned by high trust in health workers and doctors. Digital platforms are gaining traction but remain secondary to personal interactions.

Qualitative insights provided a deeper context, emphasizing that trust in healthcare workers and doctors was bolstered by firsthand experiences during the COVID-19 pandemic. Residents, especially women, acknowledged the high prevalence of infectious diseases, motivating them to share health messages as a preventive measure.

The research highlights a hybrid approach where personal interactions remain primary, and digital platforms serve as important supplementary channels. The findings suggest that effective health communication strategies should focus on building confidence through education, leveraging personal connections, and designing multi-channel interventions that prioritize in-person interactions or interpersonal communication while utilizing digital platforms to expand information reach and accessibility. This holistic approach could improve health outcomes by ensuring the timely dissemination of credible and actionable health information in slum settings.

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