



Analyzing the diffusion of innovation in health communication: a content analysis of the healthy family talk show

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ABSTRACT

This study examines the role of innovation diffusion in health communication through social media platforms and radio broadcasts by the Ministry of Health of the Republic of Indonesia, focusing on the Healthy Family Talkshow program. The research uses Rogers' Diffusion of Innovation theory to assess how health information is disseminated and adopted across different audience segments. The program, broadcast on Instagram (@kemenkes_ri) and the Ministry of Health's radio network, aims to provide credible, relevant, and easily understood health information. A content analysis of 35 Instagram posts and radio broadcasts from October to November 2024 was conducted to evaluate the effectiveness of communication and its impact on audience perceptions and behaviors. The findings indicate that the program successfully addressed key health topics, such as disease prevention, vaccination, and healthy lifestyles, reaching a broad audience. The dual-platform approach offered flexibility, allowing individuals to choose their preferred communication channel, which led to high engagement through views, comments, and shares. However, the study also identified challenges, including technological barriers, such as limited internet access in rural areas, which affected participation, and demographic disparities in adoption rates. Younger, more educated audiences adopted the information more quickly, while older individuals required additional support to implement health recommendations. Despite these challenges, the findings demonstrate the potential of integrating social media and radio to enhance health communication. This research underscores the importance of addressing technological and demographic gaps to improve the effectiveness of health information dissemination. The study provides valuable insights for developing inclusive health communication strategies to increase public health awareness and drive behavioral change.

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1. Introduction

Health is a fundamental aspect of human life, which enables individuals to carry out daily activities optimally. Without good health, various physical and mental challenges can hinder productivity, ultimately affecting overall quality of life. Health is often regarded as an invaluable asset [1]. Indonesia's Law No. 39 of 2009 defines health as physical, mental, and social well-being,



essential for a productive life. However, 45% of Indonesians face reduced productivity due to untreated health issues [2]. The Healthy Living Community Movement (GERMAS) promotes healthy lifestyles through preventive and curative measures to address this [3]. Backed by Presidential Instruction No. 1 of 2017, GERMAS encourages physical activity, balanced nutrition, and early disease detection to build a healthier, more productive society.

Political health information dissemination improves public health literacy and well-being, enabling informed decision-making. Mass media plays a key role in spreading health information widely and rapidly, while advancements in digital technology have introduced telemedicine as a valuable healthcare tool. According to the Health Statistics Report, telemedicine adoption in Indonesia is still low at 95.11 percent, highlighting the need for increased public awareness and education [4]. Telemedicine adoption in Indonesia remains low due to a preference for in-person care (56.25%), perceived irrelevance (22.57%), and low awareness (20.94%). Limited internet access and startup dominance over hospitals further hinder its expansion. Mass media leverages interactive digital formats to address these challenges to enhance health communication, broaden reach, and drive behavioral change [5]. One of the most effective formats is the talk show, which provides information and a space for educational and inspiring discussions [6].

An example of such innovation is the Healthy Family Talkshow, a health-focused program broadcast on Radio Kesehatan, operated by Indonesia's Ministry of Health. The program features interactive dialogues with expert speakers, particularly health professionals from the Ministry's vertical hospital, and it covers essential topics like disease prevention and accessible healthcare. Through interactive discussions and practical tips, the show enhances public awareness, encourages engagement, and provides direct expert guidance, making it an effective platform for promoting informed health decisions. The program also expands outreach by providing accurate, reliable health information through an interactive format. This innovation addresses challenges like limited health literacy and information access gaps [7]. The program features expert speakers and ensures medically accurate content aligned with health standards.

The effectiveness of health information dissemination, as reflected in the Healthy Family Talkshow program, depends on how broad the media reach is and how the audience receives and understands the message. The Diffusion of Innovation Theory, introduced by Everett Rogers, provides a relevant framework for understanding how the community can accept health information, as conveyed in the talk show [8]. The diffusion of innovation theory explains how new ideas and technologies spread through society by identifying key elements influencing the adoption process, such as innovation, communication channels, time, and social systems. This framework provides insight into how programs such as the Healthy Family Talkshow can encourage changes in community health-related behavior by considering key elements that can influence the adoption of such information [9].

The first element is innovation, which refers to new ideas or practices that benefit society. Innovation characteristics such as relative advantage, compatibility, complexity, possibility to try, and ease of observation affect how quickly the innovation is adopted. The second element is communication channels, which differentiate between mass and interpersonal media. Mass media, such as TV and social media, raises awareness, while interpersonal media enables direct, personal interactions. As technology evolves, social media has become a dominant, interactive platform for delivering health messages [10]. The third element is time, which refers to the duration individuals need to learn about and adopt an innovation. The more relevant and accessible the innovation is, the faster its adoption occurs. The last element is the social system, which refers to the community structure influencing the acceptance of innovation [11]. In a social system, individuals or groups

act as agents of change who disseminate and utilize innovation. Support from an inclusive and collaborative social system is essential to ensure that the diffusion of innovation runs optimally.

In health communication, the diffusion of innovation involves spreading new ideas through specific channels to foster understanding and adoption. Effective, structured communication is crucial in this process. This study examines how innovation diffusion is applied via Instagram (@kemenkes_ri) and the Ministry of Health's radio broadcasts. Instagram engages younger, tech-savvy audiences, while radio remains accessible in rural areas. The study analyzes these platforms' effectiveness in addressing urgent public health issues, bridging knowledge gaps, and promoting awareness to improve community health outcomes. This study addresses a gap in current research: integrating social media and radio communication in health promotion. While much has been done on each platform separately, the combined use of these channels in health communication has been underexplored. This research aims to fill that gap by exploring how the two platforms complement each other in promoting health innovation and driving positive public health behavior.

2. Method

The research employed a qualitative approach with content analysis to examine how the diffusion of innovation in health communication—through the Healthy Family Talkshow on Instagram (@kemenkes_ri) and the Indonesian Ministry of Health's radio broadcasts—shaped public perception and behavior toward health issues. This approach was chosen to better understand the health communication process, including how audiences received, processed, and applied information from both platforms. The study detailed the dissemination methods used on each platform. On Instagram, information was shared through visual posts, videos, and interactive features such as live broadcasts and polls. In contrast, radio broadcasts conveyed information through talk shows, interviews, and public service announcements, catering to audiences with limited digital access.

The research sample included 35 uploads or broadcasts from October to November 2024, covering topics such as disease prevention, vaccination campaigns, mental health awareness, and nutrition. To assess the credibility of the information, the study evaluated indicators such as the sources (e.g., expert opinions or official institutions), the inclusion of references, and the consistency of information with national health guidelines. The relevance of the content was determined by its alignment with current public health concerns and its direct connection to audience needs. Comprehensibility was measured by analyzing simple language, visual aids (e.g., infographics or illustrations), and audience responses indicating understanding, such as comments or direct feedback. Engagement metrics were examined to assess information acceptance, including the number of likes, comments, and shares on Instagram and listener reactions to radio broadcasts. Researchers also evaluated whether the content effectively targeted audience needs.

Follow-up monitoring was conducted by continuously tracking audience participation, particularly in interactive components such as talk show discussions, and identifying recurring themes or questions. The study used data collection instruments such as pre-and post-surveys, interviews, and content analysis with open- and closed-ended questions to assess audience comprehension. Data from each platform were analyzed separately to identify trends and differences in audience understanding.

To evaluate whether audiences applied the conveyed information, researchers looked for signs of behavioral changes, such as increased participation in health programs, adoption of recommended practices, or follow-up inquiries. The collected data were analyzed qualitatively to identify key themes in health communication messages, delivery methods, and audience responses. Data were categorized based on relevance and meaning within each theme, with further analysis of

how communication channels contributed to the diffusion of innovation in society. To ensure validity and reliability, the study employed data triangulation by integrating multiple sources and analytical techniques to enhance accuracy. Ethical standards were upheld by presenting findings objectively and transparently, contributing to advancing health communication research and policymaking in Indonesia.

3. Results and Discussion

3.1. Results

The results of this study reveal that the diffusion of innovation in health communication through the Healthy Family Talkshow on Instagram (@kemenkes_ri) and the Indonesian Ministry of Health's radio broadcasts significantly influences public perception and behavior regarding health issues. Based on a content analysis of 35 Instagram posts and radio broadcasts from October to November 2024, both platforms have proven highly effective in delivering relevant, credible, and easily understood health information to diverse audiences.

One of the most notable findings is the consistency of messaging across both media. Given the simultaneous connection between live broadcasts on Instagram and radio, these platforms function as complementary communication channels. When the Healthy Family Talkshow airs live on Instagram, it is also accessible via radio. It allows audiences to choose their preferred medium—watching the live broadcast on Instagram or listening via the Indonesian Ministry of Health's health radio website. This multi-platform approach enhances accessibility, offering audiences a flexible and convenient way to engage with health information anytime, according to their needs. Social media and radio collaboration create a more dynamic and interactive communication experience. Both platforms enable audiences to engage directly with speakers and ask real-time questions, enriching their understanding of health topics. This interactivity is crucial for the diffusion of innovations, as it increases the likelihood that audiences will accept and integrate health messages into their daily lives. Additionally, using two communication channels broadens the reach of health messages, ensuring accessibility for individuals who may not have equal access to a single platform.

The Healthy Family Talkshow consistently addresses key public health themes, particularly disease prevention, healthy lifestyles, and vaccinations. These topics are highly relevant to Indonesia's ongoing health challenges. In November 2024, posts promoting healthy living and disease prevention efforts were especially frequent, reflecting the Ministry of Health's strong emphasis on health education through social media and radio broadcasts. Audience responses to the Healthy Family Talkshow indicate significant shifts in public awareness and health-related behavior. Content analysis findings show that each post associated with the program consistently receives thousands of views and hundreds of comments, demonstrating high public interest and engagement. This strong interaction suggests improved understanding and heightened awareness of the health topics presented, reinforcing the program's effectiveness in fostering informed health decisions among the Indonesian public.

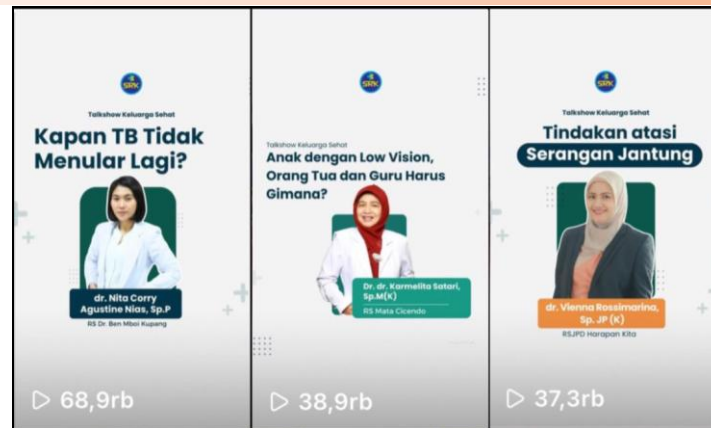


Figure 1. Healthy Family Talkshow posts with the highest reach in the October-November period of 2024

This study found that the highest audience reach recorded during October–November 2024 was for a talk show on tuberculosis (TB), which garnered 68.9 thousand views. The strong interest in this topic highlights the importance of educating the public about TB, a persistent global health issue. Another widely viewed talk show focused on children with low vision, attracting 38.9 thousand views. This indicates significant public interest in specific health issues affecting particular groups, such as children with visual impairments. Additionally, a discussion on emergency measures for heart attacks received 37.3 thousand views, emphasizing the public's awareness of the need for prompt and appropriate medical intervention. Given that heart disease is one of the leading causes of death in Indonesia, the considerable engagement with this topic underscores its relevance. The high viewership of these three topics reflects a growing public awareness of disease prevention, treatment, and preparedness for medical emergencies.

The significant reach of the Healthy Family Talkshow, launched by the Indonesian Ministry of Health, demonstrates the successful diffusion of health communication innovations. Many audience members showed increased awareness of healthy lifestyles and disease prevention, as evidenced by their engagement through comments, questions, and actions after listening to the broadcasts. While the overall response to the health information was highly positive, the study also identified challenges in translating awareness into behavioral change. One of the main obstacles was the difficulty some audience groups faced in altering long-established habits. This was particularly evident among older individuals or those with deeply ingrained routines despite their improved understanding of the importance of a healthy lifestyle. These findings suggest that the diffusion of innovation is influenced by effective information delivery and social and cultural factors that shape individual behavior.

The study also found that time dynamics significantly influenced the adoption of health information shared through the Healthy Family Talkshow. Most listeners began incorporating the information relatively quickly after engaging with the broadcasts, aided by the program's engaging format and precise message delivery. However, the rate of adoption varied across different audience groups. Factors such as age, educational background, and openness to innovation played a crucial role in determining the speed of information uptake. Younger and more educated audiences tended to adopt the information more quickly, whereas older audiences showed a slower adoption process, despite demonstrating a shift in their perspectives on health issues.

3.2. Discussion

The Role of the Healthy Family Talkshow in Presenting Health Communication Innovations to the Community

The Healthy Family Talkshow, broadcast on Instagram and the Indonesian Ministry of Health's Health Radio, exemplifies innovation in health communication. Social media and radio play a vital role in diffusing health information by providing broad communication channels and overcoming accessibility barriers. Previous research highlights that social media accelerates information dissemination and enhances public engagement in health issues, making it an effective tool for promoting community participation [12].

This study found that combining Instagram and radio in the Healthy Family Talkshow creates a complementary communication channel. Audiences can choose the media that best suits their preferences, either watching live broadcasts on Instagram or listening to radio broadcasts. These two platforms allow for more flexible and practical access to information, crucial in reaching audiences from various social and demographic backgrounds [13]. For example, the younger generation tends to be more active on social media. At the same time, older age groups prefer to listen to information via radio, as suggested by Illahi & Aditia in their research on differences in media consumption across age groups [14].

This collaboration goes beyond delivering health information; it creates a dynamic, interactive communication experience where the audience actively participates through discussions, comments, and direct questions. This engagement aligns with the Interactive Communication Model, which highlights the importance of feedback in effective communication [15]. The study confirms that high audience interaction enhances information acceptance. Additionally, the consistency of messages across Instagram and Radio Kesehatan reinforces audience understanding. The use of both platforms demonstrates that successful health innovation diffusion relies on message speed, consistency, and relevance, supporting Rogers' diffusion of innovation theory.

Utilization of Mass and Social Media in Disseminating Health Messages through the Healthy Family Talkshow

Mass and social media use in the Healthy Family Talkshow demonstrates how both platforms effectively raise public awareness and understanding of health issues. This study found that Instagram and Radio Kesehatan serve as credible channels for disseminating health information, with high audience engagement in broadcasts on topics like Tuberculosis (68.9K views) and visual impairment in children (38.9K views).

This aligns with the prior study's findings, which showed that social media has great potential to reach a wider audience than traditional media, especially in public health [16]. The Healthy Family Talkshow leverages Instagram to engage a young, digitally active audience who primarily access information via mobile devices and social media. Meanwhile, radio broadcasts effectively reach older individuals and those less familiar with digital platforms, ensuring broader accessibility. By integrating both channels, the Ministry of Health creates a more inclusive communication strategy, a key factor in successful digital health outreach, as noted by Qorib [17].

A key aspect of the program is the consistency of messages across platforms. By delivering the same information on Instagram and Radio Kesehatan, audiences can access content through their preferred medium. Li & Carayon's Two-Step Flow of Communication theory suggests that people engage with messages through channels that best suit their characteristics, whether social or traditional media [18]. The Healthy Family Talkshow exemplifies how multiple communication channels can reinforce messages and enhance health information acceptance.

Integrating social and mass media creates a dynamic, interactive communication experience. Audiences can provide feedback, ask questions, and share information, generating a snowball effect in spreading health messages. This approach not only disseminates information but also fosters active participation, ultimately improving public understanding and acceptance of key health topics.

Time Dynamics in Adoption of Health Information through Healthy Family Talkshow

The adoption of health information through the Healthy Family Talkshow varies among audiences. This study found that most viewers embrace the information immediately after the broadcast, driven by the program's engaging format and clear presentation. However, adoption is influenced by factors such as age, education, and openness to innovation [19]. This aligns with Everett Rogers' Diffusion of Innovation theory, which states that the speed of adoption depends on individual characteristics, including demographic factors and attitudes toward change.

This study found that younger, more educated audiences tend to adopt information faster than older audiences. While older viewers eventually embrace the information, they are slower to implement changes in their daily lives. The Two-Step Flow Theory also suggests that individual personality and preferences for specific communication channels influence the acceptance of health information [20]. This phenomenon shows differences in information adoption patterns among various social groups, which must be considered in health communication strategies [21]. According to the study, the adoption process of elder audiences is slower, but they still have a different perspective on health issues after watching the Healthy Family Talkshow. This demonstrates that while audience groups accept advances in health communication at varying rates, this adoption does occur. It is crucial to remember that many factors affect how quickly more inclusive health education programs are adopted.

Social Interaction and Acceptance of Health Innovation in the Healthy Family Talkshow Program

A key feature of the Healthy Family Talkshow is the dynamic interaction between the audience and expert speakers. Rather than passively receiving information, listeners actively engage in discussions through comments and direct questions. This study found that high levels of social interaction significantly enhance public acceptance of health messages. This aligns with Rogers' interactive communication theory, highlighting feedback's importance in effective communication [22]. Active discussion participants need to feel more empowered and understand the health topics being covered.

Audience participation in the Healthy Family Talkshow program allows them to ask questions and get direct explanations from the resource person. In this way, this program functions as a tool for disseminating information and as a forum for a more in-depth exchange of information [23]. This is significant because, according to the Participatory Communication theory, which demonstrates that audience participation in the communication process increases their likelihood of adopting recommended behavioral changes, two-way communication can hasten the adoption of health information.

Although social interaction and audience engagement have increased, social and cultural factors still impact the acceptance of health innovations. Putting the messages into practice may be challenging for older groups or those with harder-to-change lifestyle habits. Nonetheless, discussions on the Healthy Family Talk program might hasten comprehension and embrace health messages, promoting more constructive behavioral changes in the community.

Overcoming Potential Limitations in Findings and Exploring Barriers to Adoption Among Older Audiences

While this study highlights the effectiveness of Instagram and radio in disseminating health innovations through the Healthy Family Talkshow, several limitations must be considered. First, focusing solely on these two platforms limits the generalizability of the findings. While they were chosen for their reach and accessibility, other channels like television, YouTube, or additional social media platforms may be equally or more effective in specific contexts. Future research should explore a broader range of communication channels to better understand their impact on health innovation diffusion across different audience segments.

Another limitation is the study's focus on specific demographics, particularly the challenges older audiences face in adopting health information. While younger, more educated individuals quickly embraced the messages, older audiences exhibited slower adoption rates, consistent with previous research. Barriers such as technological difficulties, skepticism toward new health practices, and resistance to changing long-established behaviors contribute to this delay.

To address these challenges, future interventions should develop tailored strategies for older populations, including step-by-step guidance on digital platforms and practical examples of integrating health behaviors into daily routines. Considering cultural factors and adopting a more patient-centered approach to health education can enhance accessibility and encourage broader adoption, ensuring that health innovations effectively reach all segments of society.

4. Conclusion

This study successfully examined the role of innovation diffusion in health communication through the Healthy Family Talkshow program, broadcast on Instagram (@kemenkes_ri) and the Indonesian Ministry of Health's Health Radio. The combination of social media and radio proved to be an effective strategy for delivering relevant, credible, and easily understood health messages to diverse audiences. This collaboration fostered an engaging and interactive communication experience, allowing audiences to interact directly with experts through questions and comments.

As a result, there was a significant increase in public awareness and understanding of key health issues, including disease prevention and vaccination. This was evident in the high reach of broadcasts and audience participation, particularly on topics such as Tuberculosis and children's visual impairment. The study also found that the adoption of health information was influenced by factors such as age, education, and openness to innovation. Younger and more educated audiences adopted the information more quickly, while older individuals showed a slower adoption rate. These findings underscore the importance of considering social and cultural factors when promoting health innovations, as they significantly impact how quickly and widely health messages are implemented in daily life.

Based on these findings, policymakers and health practitioners are encouraged to leverage complementary communication platforms, such as social media and radio, to maximize audience reach and ensure effective dissemination of health messages across different demographic groups. Future research should explore integrating additional media channels, such as television or other digital platforms, to better understand how various media contribute to the diffusion of health innovations. Additionally, addressing barriers to adoption, particularly among older audiences, would provide valuable insights for developing more inclusive and accessible health communication strategies.

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Conflict of Interest

The authors report no conflicts of interest. No financial support or other relationships influenced the outcome or interpretation of the results in this study.

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