

The Utilization of Digital Media in Health Communication in Indonesia

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Abstract

The digital era has brought many changes in various aspects of life, including the health sector. Digital media is a health communication tool to disseminate information, education, and knowledge about health. Digital media plays an essential role in changing how people get and understand health information. This research article describes the use of digital media in health communication in Indonesia and how it has changed the traditional paradigm of delivering health information. A qualitative approach through literature review and in-depth interviews with stakeholders using digital media for health communication in Indonesia. These stakeholders include health practitioners, health app developers, digital health service users, and health communication experts. This article shows how digital media, such as websites, mobile apps, and social media, have improved people's health knowledge and behavior. The findings show that digital media have become important health information channels, facilitating interactions between healthcare providers and the public. However, challenges related to information reliability and digital literacy are of concern. Therefore, this study emphasizes the importance of ongoing efforts to improve digital literacy and ensure the reliability of health information disseminated through digital media.

Keywords: *Utilization; Digital Media; Health Communication; Indonesia.*

Introduction

The current digital era has brought many changes in various aspects of life, including in the health sector. In Indonesia, digital media is used as a health communication tool to disseminate information, education, and knowledge about health. Digital media is vital in changing how people get and understand health information. Health communication is an essential aspect of quality health care. In recent decades, the digital revolution has transformed many sectors, including the health sector. The critical role of digital media in disseminating health information has received significant attention (Neiger et al., 2013). In the Indonesian context, digital media is the leading platform for delivering health information to the public (BPS, 2021).

Information and communication technology development has changed how people access and understand health information. People can now obtain health information quickly and efficiently through digital media (Korda & Itani, 2013). Therefore, an in-depth understanding of how digital media is used in health communication in Indonesia is essential. Digital media can be defined as platforms that use digital technology to deliver information content. In this context, digital media includes websites, mobile applications, social media, and other digital platforms that disseminate health information (Kreps & Neuhauser, 2010; Laranjo et al., 2015).

In this digital era, digital media has become integral to people's daily lives. Information and communication technology development has affected many aspects of life, including the health sector. Previously dominated by face-to-face interactions and printed materials, health communication increasingly relies on digital media such as websites, mobile applications, and social media (Neuhauser & Kreps, 2010; Smailhodzic et al., 2016). This is true worldwide, including in developing countries such as Indonesia. As a country with the fourth largest number of internet users in the world, Indonesia has great potential to utilize digital media in health communication (Kemp, 2020). The use of digital media in health communication can help improve people's access to health information, facilitate interactions between healthcare providers and communities, and support more efficient and effective healthcare delivery (Korda & Itani, 2013).

However, using digital media in health communication also raises new challenges and issues. One of the main challenges is the reliability and credibility of health information in digital media (Chou et al., 2013). Although digital media can increase people's access to health information, the quality of such data often varies, and in some cases, inaccurate or misleading information can spread quickly (Chou et al., 2018). Another challenge is digital literacy. To effectively utilize digital media in health communication, people must have the skills to search, evaluate and use the health information they find in digital media (Norman & Skinner, 2006). However, digital literacy is uneven across the population, which may limit digital media's benefits in health communication (Van Deursen & Van Dijk, 2019).

On the other hand, digital media also offers a unique opportunity to engage the public in planning and implementing health programs. Digital media can be used to dialogue with communities, get their input, and build a shared understanding of health issues (Freeman et al., 2015). Although the importance of digital media in health communication has been recognized, our knowledge of how digital media is used in health communication in Indonesia still needs to be improved. Therefore, this study aims to explore the utilization of digital media in health communication in Indonesia and the associated challenges and opportunities. In addition to the challenges mentioned above, there are also specific challenges faced by developing countries such as Indonesia in implementing digital media for health communication. Information and communication technology infrastructure in many parts of Indonesia still needs to be improved, especially in remote and rural areas (Tambunan, 2019). In addition, there are also issues related to access and availability of affordable internet services, as well as people's understanding and knowledge of the use of digital technology (Saragih et al., 2020). These all add to the complexity of using digital media in health communication in Indonesia.

There is an urgent need for in-depth research on how digital media is used in health communication in Indonesia. There are several important research questions to investigate, such as how people use digital media to search for and share health information, how healthcare providers and health organizations use digital media to communicate with the public, and the main challenges and barriers to using digital media for health communication. To address these challenges, it is imperative to identify and understand the factors that influence the public and healthcare providers' acceptance and use of digital media in health communication. A model often used in this research is the Technology Acceptance Model (TAM), which proposes that technology acceptance is influenced by perceived usefulness and

ease of use (Davis, 1989). This study will use TAM as a conceptual framework to explore the acceptance and use of digital media in health communication in Indonesia. In this digital era, the utilization of digital media for health communication has gained significant attention. In a study conducted (Househ, 2018), it was argued that digital media has helped promote healthy lifestyles and increase people's knowledge about health. The study also showed that digital media can be used to provide support to patients and improve interactions between patients and healthcare providers.

Research conducted by (Al Mamun et al., 2019) in Bangladesh showed that digital media, especially social media, has become an essential source of health information for the community. The study found that social media can influence people's health knowledge, attitudes, and behaviors. However, utilizing digital media in health communication also brings challenges. One is the reliability and credibility of health information available on digital media. Research conducted by (Fagherazzi et al., 2021) shows that false or misleading health information can spread quickly through digital media and can harm the public. In addition, another challenge is digital literacy. Although digital media provides comprehensive access to health information, if people need the skills to search, evaluate and use the data effectively, the benefits of digital media in health communication will be limited. A study conducted by (Latulippe et al., 2020) showed that digital literacy is essential in maximizing the benefits of digital media in health communication.

This research focuses on how digital media has been used in health communication in Indonesia and the resulting impact. The main objective is to understand how digital media has changed how people get and understand health information and the challenges that may arise. Overall, this study aims to provide a comprehensive picture of the utilization of digital media in health communication in Indonesia. The findings of this study are expected to provide valuable insights for policymakers, health practitioners, and researchers on how digital media can be used more effectively in health communication and public health improvement in Indonesia. In this study, we analyzed how the use of digital media in health communication contributes to improving Indonesians' health knowledge, attitudes, and behaviors. We also identified challenges and opportunities in using digital media in health communication in Indonesia. This study is critical because it can help stakeholders in the health sector to understand the benefits and challenges of using digital media in health communication. The findings can be used to design more effective strategies and interventions for health information delivery in the digital era.

Method

This research uses a qualitative approach that includes literature study methods and in-depth interviews. The literature study collected and analyzed data from various trusted sources such as journals, books, and articles. In-depth interviews were conducted with several stakeholders involved in using digital media for health communication in Indonesia. The literature study was conducted by collecting and analyzing data from various relevant and reliable sources. These sources included journal articles, books, research reports, and other publications related to the utilization of digital media in health communication in Indonesia. This literature study helped identify trends and patterns in the use of digital media in health communication, as well as the existing challenges and opportunities. In addition to the

literature study, this research also involved in-depth interviews with several stakeholders involved in using digital media for health communication in Indonesia. These stakeholders include health practitioners, health app developers, digital health service users, and health communication experts. These interviews were conducted both in person and via teleconference.

The in-depth interviews were designed to gather detailed information about stakeholders' experiences, views, and perspectives on using digital media in health communication. The researcher supervised each interview and recorded (with consent from respondents) for further analysis. Data from the literature study and in-depth interviews were then analyzed using thematic content analysis. This process involved coding the data, identifying themes, and interpreting the findings. This analysis enabled the researcher to identify critical patterns and trends in using digital media for health communication in Indonesia. The Research Ethics Committee approved this study, and all respondents provided informed consent before participating. All data collected was kept confidential and used only for this study. This study was conducted by considering the principles of research ethics, including privacy, confidentiality, and the right of participants to withdraw at any time from the study without any consequences.

Results and Discussion

The results showed that digital media has changed how Indonesians obtain and understand health information. Digital media such as websites, mobile apps, and social media are widely used to deliver health information by healthcare providers and the public. Information disseminated through these digital media covers various health topics, such as chronic diseases, disease prevention, healthy lifestyle promotion, etc. In-depth interviews with stakeholders showed that digital media has facilitated interactions between healthcare providers and the community. Digital media allows people to ask questions, share experiences, and get support, which in turn can improve their health knowledge and behaviors.

However, the study also identified some challenges associated with using digital media in health communication. One of the main challenges is the reliability of health information on digital media. While digital media allows for comprehensive and quick access to health information, inaccurate or misleading information can spread quickly, leading to public health concerns. Another challenge identified was digital literacy. Although digital media provides broad access to health information, the benefits will be limited if people need more skills to search, evaluate and use this information.

The results of this study also show that there are opportunities to improve the effectiveness of digital media use in health communication in Indonesia. One of them is through digital literacy education and training for the community. The study found a digital literacy gap among the public, particularly among the older and underserved populations. Therefore, digital literacy education and training can help the community to utilize digital media in health communication more effectively. In addition, the results of this study also point to the need for better regulations and guidelines to ensure the reliability and credibility of health information in digital media. This study found that much of the health information in digital media needs to be more accurate and accurate, which may pose a risk to public health.

Therefore, better regulations and guidelines can help ensure the public gets accurate and reliable health information from digital media.

Finally, the results of this study also show the potential of digital media as a tool to engage communities in the planning and implementation of health programs. Digital media can be used as a platform to share ideas, provide input, and participate in health policy-making, which can improve the public's effectiveness and acceptance of health programs. This study's results support previous studies findings that show the importance of digital media in health communication (Neiger et al., 2013; Smailhodzic et al., 2016). Especially in Indonesia digital media has changed how people get and understand health information, especially in Indonesia. Websites, mobile apps, and social media are the main channels for delivering health information. This finding is consistent with the Diffusion of Innovations theory (Rogers, 2003), which explains how innovations (in this case, digital media) spread through a particular society or sector.

However, some challenges arise with the increased use of digital media in health communication. One of them is the issue of reliability and credibility of health information. The "Spiral of Trust" theory (Metzger et al., 2010) suggests that an individual's knowledge and trust in information highly depend on the source's credibility. When people access health information through digital media, they are often exposed to a large amount of data, not all of which is accurate and trustworthy. In some cases, misleading or false health information can spread quickly, harming the public (Fagherazzi et al., 2021). Another challenge identified is digital literacy. Information Literacy Theory (Bawden, 2001) states that a person's ability to find, understand and use information effectively is essential to harnessing digital media's full potential. However, this study found that only some in Indonesia have adequate digital literacy skills, which may limit the benefits of digital media in health communication.

This research also reflects the principle of "capacity building" in health promotion (World Health Organization, 1998), emphasizing the importance of strengthening individuals' and communities' ability to improve their health. In this context, digital literacy education and training can enhance people's ability to access, understand and use health information through digital media. In addition, the findings also suggest that digital media can be an effective tool to engage communities in the planning and implementation of health programs. According to the theory of "Community Participation" (Arnstein, 1969), active involvement of the community in the decision-making process can increase the effectiveness and acceptance of a program or policy. In health communication, digital media can be used as a platform to hear community voices, share ideas, and solicit input, which can improve health programs' effectiveness. Digital media in Indonesia has been used in various forms for health communication. For example, health websites, mobile apps, social media, and so on have become very effective tools in providing health information and communication. Here are some of the ways in which digital media is utilized in health communication in Indonesia:

Health Information Delivery

Digital media is often used to deliver information about diseases, symptoms, treatments, and prevention to the general public. This can help increase health awareness and provide individuals with the knowledge to make better decisions about their health. Digital media allows people access to more extensive and up-to-date health information. This makes it

easier for them to understand various health issues and make better decisions regarding their health.

The delivery of health information through digital media has become an essential method of improving health literacy in Indonesia. With increased internet access and the use of digital devices, people have more significant opportunities to search, receive and understand health information. Not only in text form, but health information can also be delivered through videos, infographics, podcasts, and other forms of media that can increase understanding. Digital media helps diversify sources of health information. Not only medical personnel and health institutions, people can now get knowledge from various platforms, such as health blogs, discussion forums, and social media. However, this also poses challenges in ensuring the accuracy and reliability of the information. Therefore, it is crucial to educate people about digital media literacy.

The government and health organizations also use digital media to deliver health information widely. For example, the Indonesian Ministry of Health and health organizations such as WHO and UNICEF often share the latest updates on the pandemic, vaccination campaigns, and other health information through their websites and social media. The main advantage of digital media is the speed and breadth of information dissemination. Within seconds, information can be received by millions of people, speeding up responses to health issues. However, this also means that inaccurate or misleading information can spread quickly. Therefore, health authorities and governments must counter disinformation and provide reliable sources of information actively. The media also plays an important role and is responsible for delivering accurate health information. They must verify and cross-check before publishing health information. In addition, collaboration between the media, government, and health organizations can help deliver clear and consistent messages to the public. With this collaboration, digital media can be optimally used to improve public health.

Direct Communication with Health Professionals

Some apps and digital platforms allow patients to communicate directly with healthcare professionals, such as doctors and nurses. This can be very useful, especially for individuals living in remote areas or with limited access to healthcare facilities, by easing the interaction between healthcare providers and the community. For example, through telemedicine, health consultations can be done virtually, making it easier for people in remote areas to get health services. In the last decade, digital technology has changed the way we communicate, including in the context of healthcare. In recent years, many apps and digital platforms in Indonesia have enabled patients to communicate directly with healthcare professionals. This provides easy access and speeds up the consultation and treatment process.

Direct communication with health professionals through digital media has many benefits. Patients can ask questions and discuss their symptoms, treatment, and care without traveling to a clinic or hospital. This is very helpful, especially for those living in remote areas or with limited mobility. Telemedicine apps such as Halodoc and Alodokter are good examples of using digital media for direct communication with healthcare professionals. In these apps, patients can have virtual consultations with doctors, get drug prescriptions, and even order homecare services. These services have become very important, especially in pandemic situations, where physical access to healthcare facilities is challenging. With the

improvement of internet infrastructure and increased digital literacy, it is expected that public access to health services through digital media will further increase. Despite the challenges, utilizing digital technology for direct communication with healthcare professionals has excellent potential to help improve access to and quality healthcare services in Indonesia.

Health Monitoring and Disease Management

Digital media can also be used to monitor patient health and manage diseases. Health apps, for example, can be used to track heart rate, sleep, diet, and physical activity and remind patients to take medication. Digital technology has played an essential role in health monitoring and disease management. Many health apps and platforms are designed to help individuals monitor their health conditions and manage chronic diseases, such as diabetes and hypertension. These apps leverage mobile and wearable devices' sensors and connectivity features to collect and analyze real-time health data. Some health apps allow individuals to track various aspects of their health, such as heart rate, sleep quality, physical activity levels, and diet. For disease management, some apps offer features that allow users to track medication usage, set medication reminders, and even share their health data with their medical team.

The use of digital media in health monitoring and disease management has many benefits. These apps can help patients become more proactive and involved in their care. For the medical team, the data collected by these apps can provide valuable insights into a patient's health condition between clinical visits and help them design more effective treatment plans.

Health Campaigns

Digital media, particularly social media, has become a very effective tool for launching and managing health campaigns. This can include campaigns to prevent disease spread, increase vaccinations, or promote healthy lifestyles. A health campaign is a coordinated effort designed to increase public awareness and knowledge about a specific health issue and encourage behavior change to improve health. In today's digital era, digital media has become essential in designing and delivering health campaigns, especially in Indonesia, which has a large population of internet users. Digital media provides various platforms, such as social media, websites, and mobile applications, that can be used to deliver health campaign messages. For example, health organizations can post infographics about heart disease on social media or create an app that sends reminders to exercise regularly. The main advantages of digital health campaigns are their broad reach and ability to target specific audiences with customized messages.

For example, digital health campaigns have been used effectively in Indonesia during the COVID-19 pandemic. The government and health organizations used digital media to disseminate information about the virus, provide instructions on health protocols, and encourage people to get vaccinated. These campaigns have contributed to efforts to control the spread of the virus and reduce its impact on society. The outlook for digital health campaigns looks bright. With increasing internet penetration and the ability of technology to deliver increasingly customized and interactive messages, digital health campaigns will continue to be an essential tool in society's efforts to raise awareness and promote good health

behaviors. Digital technologies and strategies will continue to evolve and adapt to meet public health needs and challenges.

Training and Education

Digital media can be an excellent source of training and education for healthcare professionals. It helps them stay updated with the latest knowledge and skills. In this digital age, digital media has become a vital tool for training and education, including healthcare. It allows healthcare professionals to access various learning resources, from scientific articles to webinars, to online courses, which helps them stay updated with the latest knowledge and skills. Online training and webinars have become very popular among healthcare professionals. With online activity, they can learn at their own pace and at the most convenient time. Webinars, on the other hand, allow them to learn directly from experts in their field and interact with their peers from around the world. Online courses and learning platforms also provide invaluable resources for healthcare professionals. For example, platforms such as Coursera and EdX offer a variety of healthcare courses from leading universities around the world. In Indonesia, platforms like Ruangguru provide online classes in various fields, including healthcare. Digital media will continue to play an essential role in the training and education of healthcare professionals. With improved internet infrastructure, digital literacy, and further development of online learning platforms and digital education technologies, the opportunities to learn and grow in healthcare will continue to grow.

Health Data Collection and Analysis

In the world of health, data is fundamental. Information about diseases, their spread, and treatment response can help make health policies, allocate resources, and formulate intervention strategies. Digital media is vital in health data collection and analysis in this context. Digital media, such as health apps and online platforms, enable the collection of health data on an unprecedented scale. This data can include everything from a patient's medical history to epidemiological data on the spread of disease. This data can be collected in real-time and analyzed to gain valuable insights into health trends and patterns. Big Data and Artificial Intelligence (AI) use in health data analysis has become a growing trend. Big Data refers to large and complex data sets that are difficult to process with traditional methods. AI can be used to analyze this data and identify patterns or trends that may go undetected by humans. This can be very useful in a health context, for example, in predicting the spread of disease or identifying certain risk factors.

The future of health data collection and analysis through digital media looks promising. With the advancement of technology and increased awareness of the importance of data in health, the utilization of digital media in health data collection and analysis is expected to increase. This will provide valuable insights for healthcare improvement and research in the future. In addition to the utilization of digital media in health communication, there are also several challenges faced, including; Issues about the reliability of health information in digital media and the ability of the community to digital literacy, so more efforts need to be made to ensure that health information disseminated through digital media is accurate and reliable. For example, the poor quality of internet connection in some areas poses challenges and barriers to direct communication through digital media and can hinder the communication process. In

addition, not all symptoms and conditions can be accurately assessed through digital communication. In some cases, a physical examination is still required.

Data privacy and confidentiality are also important issues to be considered; in addition, the challenge of the "*infodemic*" or the spread of false or misleading information about health online. Although digital media has a broad reach, not all population groups have equal access, which can result in inequalities in disseminating health messages. While this study has provided some valuable insights into the role and challenges of digital media in health communication in Indonesia, there is a need for further research to understand how digital media can be used more effectively in this context.

Conclusion

This study has presented an in-depth look at the utilization of digital media in health communication in Indonesia. The findings show that digital media has become a significant health information channel, facilitating interactions between healthcare providers and the public. However, challenges related to information reliability and digital literacy are of concern. Digital literacy education and training is a promising solution to help people utilize digital health information more effectively. In addition, this study emphasizes the need for better regulations and guidelines to ensure the reliability and credibility of health information disseminated through digital media.

Another conclusion is that digital media has great potential as a platform to engage communities in planning and implementing health programs. Involving the community in this process can help improve the effectiveness and acceptance of health programs. The findings provide valuable insights for policymakers, health practitioners, and researchers on how digital media can improve health communication and public health in Indonesia. However, further research is needed to identify the most effective strategies to overcome this study's challenges and harness digital media's full potential in health communication in Indonesia.

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