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Effectiveness of Health Communication via WhatsApp on Adolescents' Knowledge Change Regarding Gastritis Risk

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Abstract: *This study examines the effectiveness of using WhatsApp as a health communication tool to improve adolescents' knowledge about the risks of gastritis. Adolescents aged 15-18 years were provided with health messages via WhatsApp, focusing on the causes, symptoms, and prevention of gastritis. Using a qualitative approach, data were collected through in-depth interviews and documentation of WhatsApp conversations. The results revealed that adolescents had limited knowledge about gastritis prior to the intervention, often associating it solely with dietary habits. After receiving the health messages, there was a significant improvement in their understanding, particularly regarding the role of stress and the misuse of NSAIDs in triggering gastritis. WhatsApp's interactive and multimedia features played a critical role in enhancing engagement and information retention. This study highlights the potential of WhatsApp as a scalable and effective platform for health education targeting adolescents. Future research should explore the use of other social media platforms in similar health communication interventions.*

Introduction

Health communication plays an essential role in educating individuals about various health conditions and preventive measures, particularly when addressing conditions like gastritis, which is characterized by inflammation of the stomach lining. Gastritis is often caused by several factors, including poor dietary habits, stress, and the excessive use of NSAIDs (nonsteroidal anti-inflammatory drugs) (Zhang et al., 2022). Adolescents, due to lifestyle changes, unhealthy eating patterns, and a tendency to overlook early symptoms, are particularly vulnerable to developing gastritis. During this critical phase of life, where lifelong habits are being formed, timely and accurate health communication is vital to help young people understand the risks associated with gastritis and how they can manage or prevent the condition. Health communication serves to bridge the knowledge gap, empowering adolescents to adopt healthier behaviors by providing them with clear, relevant, and engaging information.

The rise of social media and digital platforms has transformed the landscape of health communication. WhatsApp, one of the most widely used messaging apps globally, presents a unique opportunity to disseminate health-related information effectively. Unlike traditional forms of communication that may be impersonal, WhatsApp allows for direct and personalized interaction between health professionals and individuals (Archer et al., 2021). This level of engagement is especially useful for adolescents, who are frequent users of such platforms. The app's ability to facilitate interactive discussions, share multimedia content, and provide real-time feedback makes it an ideal tool for educating adolescents about the risks and prevention strategies for gastritis. Studies have shown that health communication via WhatsApp leads to improved health outcomes, such as better adherence to medication and increased awareness of health risks (Feroz et al., 2020). These features suggest that WhatsApp could play a key role in reducing the incidence of gastritis among adolescents by making health information more accessible and engaging.

Adolescents form the key population of interest because they are at a developmental stage where lifestyle choices, such as diet and stress management, significantly influence long-term health outcomes. With the rising prevalence of gastritis among this age group, it is crucial to explore how targeted health communication can raise awareness and promote preventive behaviors. The research object consists of adolescents aged 12 to 19, a group that frequently uses WhatsApp for social interactions and information exchange. This study will evaluate how their knowledge of gastritis risks, such as poor dietary habits, excessive NSAID use, and stress, changes after receiving health information via WhatsApp. Given that traditional health education methods, like school-based programs, often fail to engage adolescents effectively, WhatsApp presents a promising alternative due to its interactive features and widespread use among young people (Ramasubbu & Gopichandran, 2021). By focusing on adolescents, this research aims to contribute to the understanding of how mobile health interventions can enhance health literacy and preventive behaviors in a population at risk of developing gastritis.

The phenomenon being explored in this research is the increasing incidence of gastritis among adolescents, driven by modern lifestyle changes. Factors such as stress from academic pressures, irregular eating patterns, and the frequent consumption of processed and fast foods are contributing to a growing number of gastritis cases in this age group (Kim & Kim, 2021). Adolescents often underestimate the long-term consequences of their dietary habits, such as skipping meals or consuming high-fat, fast food, which can irritate the stomach lining and lead to gastritis. Additionally, stress-induced behaviors, such as overeating or using NSAIDs to manage headaches or menstrual pain, further exacerbate the risk. Adolescents are typically unaware of the early symptoms of gastritis, including nausea, indigestion, and abdominal pain, leading to delayed medical attention and a higher risk of developing chronic conditions like ulcers. This research phenomenon is compounded by the fact that adolescents often turn to social media for information and are less engaged with traditional health education methods. As a result, innovative communication strategies, like WhatsApp-based interventions, are increasingly necessary to effectively educate adolescents about the risks and symptoms of gastritis, encouraging them to adopt healthier lifestyle habits early on.

While there is substantial research on health communication and the role of social media in disseminating health information, there is a notable gap in studies specifically focused on using WhatsApp to educate adolescents about preventable conditions like gastritis. Most existing research on health communication via social media targets broader issues such as sexual health or mental well-being (Feroz et al., 2020; Hernández-Rojas et al., 2022). However, limited studies have explored how WhatsApp can be leveraged to address gastritis, a condition that is increasingly affecting adolescents due to poor lifestyle choices (Ramasubbu & Gopichandran, 2021; Kim & Kim, 2021). Furthermore, while WhatsApp has been shown to improve health literacy in general health campaigns, its long-term impact on behavior change, particularly in relation to gastritis prevention, remains under-researched (Archer et al., 2021). This research gap presents an opportunity to explore how WhatsApp's interactive and personalized communication features can enhance adolescents' understanding of gastritis risks and contribute to more effective prevention strategies. Given the increasing health risks posed by modern adolescent lifestyles, research in this area is both timely and necessary.

The primary aim of this research is to evaluate the impact of WhatsApp-based health communication on adolescents' understanding of gastritis risks and preventive behaviors. Specifically, the study seeks to determine whether personalized health messages delivered via WhatsApp can increase awareness about gastritis-related risks, such as poor diet, stress, and excessive NSAID use, among adolescents. By comparing the effectiveness of WhatsApp communication with traditional health education methods, such as school programs, this research will contribute to the growing body of knowledge on digital health interventions. The study's implications extend to public health strategies aimed at reducing the incidence of gastritis in adolescents, as it will provide evidence on the potential of social media platforms to engage younger populations more effectively. If WhatsApp proves to be an effective tool for health communication in this context, it could pave the way for broader use of mobile apps in adolescent health campaigns, particularly for conditions that are preventable through lifestyle changes. Additionally, the findings of this study may offer insights into how health professionals can utilize real-time, interactive communication to foster healthier behaviors among adolescents, ultimately contributing to the reduction of gastritis and other lifestyle-related health issues.

Research Methods

This research employs a qualitative approach, utilizing case studies or in-depth interviews to explore how adolescents' understanding of gastritis risks evolves after receiving health information via WhatsApp. This approach is well-suited for providing a deep and contextual analysis of how participants, aged 15-18, perceive and process health information delivered through a platform integral to their daily lives (Archer et al., 2021). Participants will be selected based on their active use of WhatsApp, ensuring a diverse sample that reflects a broad spectrum of adolescent experiences. A semi-structured interview guide will be the main tool for data collection, focusing on the participants' knowledge of gastritis before and after exposure to educational content. These messages, delivered through WhatsApp, will cover the causes, symptoms, prevention, and management of gastritis. The guide allows for flexibility

while maintaining focus on how these messages influence the participants' understanding. WhatsApp interactions will also be documented to provide additional insights into the types of responses and engagement seen during the health communication process. Data collection will involve in-depth interviews with selected participants, offering qualitative insights into how adolescents process health messages and the extent to which WhatsApp impacts their knowledge retention and behavior. The documentation of WhatsApp conversations will complement the interview data by highlighting patterns of communication and feedback within the digital health context. Thematic analysis will be used to examine the data, identifying recurring themes and any noticeable shifts in the participants' understanding of gastritis risks following the intervention. This method will enable the researcher to categorize the findings systematically and provide a comprehensive overview of WhatsApp's effectiveness as a health communication tool. The combination of interview insights and WhatsApp interaction data will result in a robust analysis of how digital platforms can influence adolescent health awareness.

Result and Discussion

The primary findings from this study indicate a significant shift in adolescents' understanding of gastritis after receiving health information through WhatsApp. Before the intervention, many adolescents exhibited limited knowledge of gastritis, often associating the condition solely with adults or linking it to occasional stomach pain without understanding the underlying causes or risk factors. This aligns with previous research that highlights adolescents' general lack of awareness about gastrointestinal conditions, particularly those related to diet and lifestyle choices (Kim & Kim, 2021). Participants initially showed a vague understanding of gastritis symptoms, with some reporting they had never considered that their eating habits or stress levels could contribute to the development of such a condition. Furthermore, many were unaware of the potential long-term consequences of untreated gastritis, such as ulcers or chronic inflammation, reflecting the broader gap in health literacy often found among younger populations (Hernández-Rojas et al., 2022).

After receiving targeted health messages through WhatsApp, there was a marked improvement in participants' knowledge. Adolescents demonstrated a better grasp of gastritis as a preventable condition, recognizing the importance of dietary regulation, stress management, and the moderation of NSAID use. The real-time, interactive nature of WhatsApp allowed participants to ask questions and seek clarifications on topics they previously found confusing, which contributed to a deeper understanding of gastritis risks. This supports findings from earlier studies on mobile health interventions, which suggest that WhatsApp's accessibility and personal interaction features make it an effective tool for health education, especially among adolescents (Feroz et al., 2020). Participants also reported feeling more empowered to make proactive health choices, such as adopting balanced diets and reducing stress, after the intervention. This knowledge shift highlights the potential of WhatsApp as a valuable medium for improving health literacy and promoting preventive behaviors among adolescents, confirming its effectiveness in health communication campaigns (Archer et al., 2021).

WhatsApp has emerged as a powerful tool for health communication, particularly due to its widespread usage, ease of access, and real-time communication capabilities. One of its key advantages lies in its ability to reach large audiences quickly and efficiently, making it an ideal platform for delivering health-related messages. WhatsApp enables the sharing of various forms of media, including text, images, videos, and voice messages, which can enhance the delivery of health information by making it more engaging and understandable (Archer et al., 2021). This versatility allows health professionals to design personalized and multimedia-rich educational content that caters to the preferences and learning styles of different audiences, especially adolescents. Furthermore, the platform's group chat functionality allows for collective discussions, peer support, and immediate feedback, which can increase the effectiveness of health interventions. The private and informal nature of WhatsApp also makes it more approachable for younger users who may feel uncomfortable discussing sensitive health issues in more formal settings.

Several studies have explored the effectiveness of WhatsApp in health campaigns, particularly in low-resource settings where traditional health communication methods may be less accessible. For example, Feroz et al. (2020) found that WhatsApp-based health education improved health literacy and knowledge retention among participants in low-income communities. This study highlighted the platform's ability to deliver critical health information to individuals who might otherwise lack access to healthcare services or educational resources. Similarly, Ramasubbu and Gopichandran (2021) demonstrated that WhatsApp health campaigns effectively increased adolescents' knowledge of preventive health measures, such as nutrition and hygiene, in their field experiment. These findings suggest that WhatsApp can be a cost-effective and scalable solution for health communication, particularly for vulnerable populations.

Moreover, WhatsApp's popularity among younger demographics makes it an attractive platform for delivering health education tailored to adolescents. The app's interactive and informal nature fosters greater engagement compared to traditional media, and its real-time communication allows health professionals to respond promptly to questions or concerns (Ventola, 2014). Overall, the existing research underscores WhatsApp's potential to enhance health communication and improve public health outcomes, particularly when used in targeted, multimedia-driven campaigns.

The effectiveness of health communication via WhatsApp is influenced by both internal and external factors that can either support or hinder its impact. Internal factors primarily include individual motivation and interest in health-related topics. Adolescents who are more intrinsically motivated to learn about their health are likely to engage more actively with the messages they receive. For instance, participants who expressed a strong personal interest in maintaining their health showed a higher likelihood of reading and applying the information they received via WhatsApp. One participant remarked, *"I was really curious about how to prevent stomach problems because I've had issues before, so I paid attention to the messages and even asked my friends about it"* (Ramasubbu & Gopichandran, 2021). This suggests that an individual's health consciousness and motivation play a significant role in how effectively

they absorb and respond to health communication. Conversely, those who are less interested in health may disengage, treating the information as irrelevant or unimportant, which limits the intervention's overall success.

External factors also play a critical role in determining the success of WhatsApp-based health communication. The quality of information being delivered is crucial. Health messages need to be accurate, concise, and accessible to ensure that they resonate with the target audience. Adolescents are particularly sensitive to overly complex or technical language, which can reduce their engagement with the content. Clear, relatable messages, supported by multimedia content like images and videos, enhance the likelihood of comprehension and retention (Feroz et al., 2020). Another important external factor is the interactivity of the message delivery. WhatsApp's group chat and real-time messaging features allow for immediate feedback and peer discussions, which have been shown to increase engagement and understanding. The ability to ask questions and receive prompt answers creates a more dynamic learning environment, as one participant noted, *"I liked how I could quickly ask about things I didn't understand and get a response right away."* This interactive communication encourages active participation, which is essential for reinforcing health education (Ventola, 2014). However, if the communication is too one-sided or lacks engagement, the effectiveness of the health message may be reduced. Therefore, both internal motivation and external factors, such as the quality of information and the level of interactivity, are key to maximizing the effectiveness of health communication through WhatsApp.

Conclusion and Recommendation

The findings of this study demonstrate the effectiveness of using WhatsApp as a health communication tool to enhance adolescents' knowledge about gastritis risks. Prior to the intervention, many adolescents had limited understanding of the multiple factors contributing to gastritis, including stress, poor dietary habits, and excessive NSAID use. After receiving health messages via WhatsApp, participants showed a significant improvement in their awareness and understanding of these risks. The interactive features of WhatsApp, such as the ability to ask questions and receive instant feedback, played a crucial role in engaging adolescents and improving their retention of the information. The platform's accessibility, familiarity, and capacity to deliver multimedia content also made it an effective medium for health education among younger audiences (Feroz et al., 2020).

To further enhance technology-based health communication, it is recommended that health professionals continue to leverage platforms like WhatsApp, focusing on interactive and multimedia-rich content to keep adolescents engaged. Messages should be tailored to the audience's level of understanding and be designed to prompt dialogue, rather than merely providing static information. Additionally, future health communication campaigns should consider incorporating elements of gamification or peer-to-peer support to further increase engagement and motivation among adolescents. For further research, studies should explore the effectiveness of other social media platforms, such as Instagram or TikTok, in delivering health education, particularly to young people. Investigating how different platforms influence behavior change and knowledge retention could provide valuable insights into developing more

targeted, efficient digital health interventions (Ventola, 2014; Ramasubbu & Gopichandran, 2021). This will allow for a more comprehensive understanding of how various social media tools can be utilized to promote health awareness and education across different populations.

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