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Strategic Use of the Twitter/X Account @hivaidspimsid as a Government HIV/AIDS Prevention Tool

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Abstract

This study analyzes the strategic use of the Twitter/X account @hivaidspimsid as a government HIV/AIDS prevention tool. This research method uses qualitative content analysis. The 280-character data were obtained from the government's Twitter/X account (@hivaidspimsid) from April 2021 to September 2022. The selection criteria focused on issues covering HIV/AIDS education, prevention, and treatment, awareness campaigns, community interaction, and issues of stigma or discrimination. This research data analysis used NVivo 12 Plus software. The results of this study indicate that the government Twitter/X account @hivaidspimsid peaked in July-September 2021, with 55.26% of the campaign information on HIV/AIDS prevention efforts provided, and decreased in July-September 2022 to 5.25%. The X account @hivaidspimsid's activity conveyed messages to increase public knowledge about HIV/AIDS through

education, prevention campaigns, testing and treatment promotions, and correcting hoaxes, by encouraging early detection and healthy living. Frequent conversations on the @hivaidspimsid account revolved around HIV, health, films, testing, and treatment. This is relevant to the important hashtags on the @hivaidspimsid account, which include HIV (23.58%), I Am Brave (19.51%), and HIV/AIDS (5.69%). Furthermore, SayaBerani.id and the Indonesian Ministry of Health were also frequently mentioned on the @hivaidspimsid account. The DKI Jakarta area is a central location for accounts that interact extensively with the @hivaidspimsid account.

Keywords: *Strategic; Twitter/X @hivaidspimsid; Government; Prevention; HIV/AIDS*

1. Introduction

Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) remain global health problems (Devaux et al., 2008). HIV/AIDS is an infectious virus that damages the human immune system by infecting and destroying CD4 cells (Resubun et al., 2021; Van Hout et al., 2021). According to data from the World Health Organization (WHO), in 2020, there were approximately 37.7 million people worldwide living with HIV/AIDS (tanyahiv.org, 2022). Of these, 36 million were aged 15 years and older, and 1.7 million were aged between 0 and 14 years. Southeast Asia is the third region in the world with the highest number of HIV/AIDS cases. Its 3.8 million cases are higher than North America's 3.5 million.

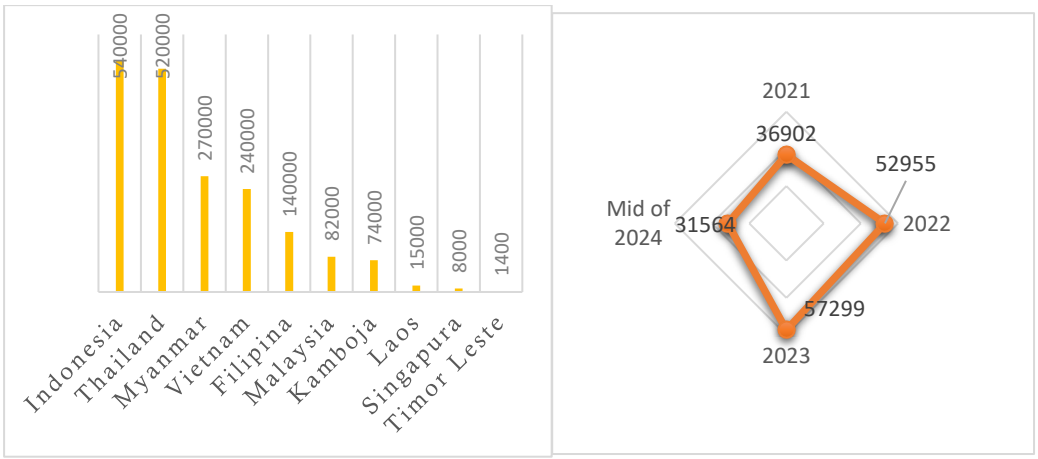

Figure 1. HIV/AIDS Cases in Southeast Asia (left) & Cases in Indonesia (right)
Source. Ahdiat (2022) & hiaids-pimsindonesia.or.id (2024)

Indonesia was the country with the highest number of HIV/AIDS cases in Southeast Asia in 2021. The figure above shows that HIV/AIDS cases in Indonesia reached a peak of 540,000. Thailand followed with the second-highest number of HIV/AIDS cases, with 520,000. Myanmar had 270,000 HIV/AIDS cases, and Vietnam had 240,000 cases. Several other Southeast Asian countries also faced similar challenges, including the Philippines, Malaysia, Timor-Leste, Laos, Cambodia, and Singapore. This data demonstrates the high urgency of Indonesia's fight against HIV/AIDS to minimize the increase in new cases.

Furthermore, the HIV/AIDS cases in Indonesia have increased in four years, as shown in Figure 1, the right part. In 2021, the HIV/AIDS cases in Indonesia were 36,9 thousand, increased in 2022 and 2023 to 52,9 and 57,2 thousand. At the end of 2024, the HIV/AIDS cases in Indonesia reached 31,5 thousand. This situation is exacerbated by the significant increase in HIV/AIDS cases in Indonesia.

The number of people living with HIV (PLHIV) detected through testing in early 2022 was mainly in the 25-49 age group (70.5%), 20-24 years (15.9%), and ≥50 years (7.2%). The number of PLHIV cases, categorized by gender, is 63% male and 37% female (Kementerian Kesehatan RI, 2022). Meanwhile, child HIV cases in Indonesia reached 12,553 children, dominated by children aged 4 years (4,764 cases) and overall under 14 years old in the period from 2010 to September 2022 (Hardiantoro, 2022). This data is strengthened by the Minister of Health of Indonesia data that children are at risk of contracting HIV/AIDS from their parents who are sufferers, reached out 14,4% (hiaids-pimsindonesia.or.id, 2024). Unfortunately, treatment for PLHIV and children with HIV/AIDS is still not evenly distributed. Although the government has Regulation of the Minister of Health Number 82 of 2014 concerning the Control of Infectious Diseases in handling HIV/AIDS cases through both promotive and preventive aspects to minimize the number of infections and even deaths (Istiqomah, 2020).

The high number of HIV/AIDS cases in Indonesia can be caused by several factors, such as high poverty, population mobility, promiscuity, low education related to sex and HIV/AIDS, limited medical facilities and access to health service information, lack of government commitment, and weak regulations and legal policies related to HIV/AIDS. One of the prevention strategies is giving education relating to AIDS through the government communication campaign. Other effective preventive measures include national campaigns such as "Know Your Status" (WHO), school—and community-based education, outreach through digital media,

radio, and television, testing and counseling services to improve early HIV detection and reduce stigma, and strengthening health systems and data. Thailand, for example, has succeeded in reducing new HIV cases through early sexual education and a national condom campaign. The main limitations faced by Indonesia in preventing and handling HIV/AIDS are high levels of stigma and discrimination, unequal access to services, low levels of awareness and education, funding challenges, and minimal legal protection for vulnerable groups.

However, the width of Indonesia's area is a challenge faced by the government in increasing HIV prevention. Social media enables information sharing and interactive discussion, namely the digital public sphere. Platform Twitter/X is the most effective social media for distributing information between the government and the public. This statement is evidenced by a survey conducted by APJII (2025), which argued that Platform Twitter/X is the trusted social media platform because of the minimal potential of hoaxes. So, this platform is a suitable choice for the government to provide information about data cases of HIV/AIDS and give education to prevent it.

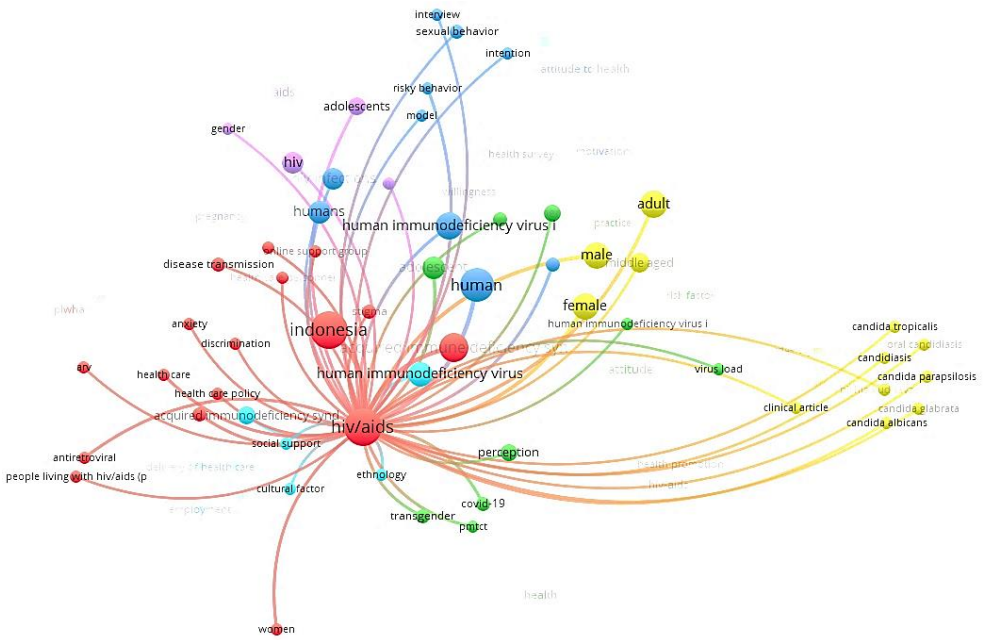

Figure 2. Publication Mapping related to HIV/AIDS of 2000-2025
Source. Scopus Database (2025)

Regrettably, a lack of studies that investigate the role of Platform Twitter/X as the government communication media in HIV/AIDS prevention. As the figure 2 shows, the publication mapping indexed in Scopus from 2000 to 2025 includes only 72 documents that analyse HIV/AIDS within social science. The results of previous mapping studies using VOS Viewers Tools show edges and nodes. Nodes or circles mean the keyword that is being focused on in research. Edges or lines indicate the correlation between keywords in the design analysis of the study. This study found that the majority of previous studies discussing perception, gender, transgender, and people living with HIV/AIDS from a social perspective. Meanwhile, the paradigm of communication government is not noticed by researchers in the previous studies. Besides, the government communication contributes to enhancing public health education related to HIV/AIDS prevention. So, it is indicated that the urgency of government communication is to reduce the HIV/AIDS cases.

Previous studies show that government communication has a significant role in strengthening public awareness, reducing stigma, and encouraging preventive behavior related to HIV/AIDS (UNAIDS, 2023). Social media has become an essential platform in public health communication because it enables the rapid dissemination of credible information and facilitates interactive engagement between the government and society (WHO, 2025). Twitter/X is widely recognized as an effective medium for strategic communication due to its openness, immediacy, and ability to shape public conversation on health-related issues (Lovejoy & Saxton, 2012). Empirical research also demonstrates that Twitter-based public health campaigns contribute to increasing public awareness, message reach, and knowledge about disease prevention (Guidry et al., 2017). Furthermore, consistent and authoritative communication through social media can positively influence public trust and reduce misinformation in health crises (Vraga & Bode, 2017). However, studies that specifically discuss the strategic utilization of government-managed Twitter accounts in the context of HIV/AIDS prevention, particularly in Indonesia, remain limited, indicating the need for empirical examination in this area (Neiger et al., 2013).

Despite the increasing urgency of HIV/AIDS prevention, there remains a limited number of empirical studies that specifically examine how government institutions strategically utilize Twitter/X as an official communication tool to disseminate health education, build public awareness, and influence public attitudes toward HIV/AIDS prevention in Indonesia. Most existing studies tend to focus on social, behavioral, or medical aspects of HIV/AIDS. In contrast, studies that analyze the

dynamics of government digital communication strategies particularly in terms of content, engagement patterns, public sentiment, and their potential contribution to prevention efforts are still scarce. Moreover, there is insufficient scholarly attention on how government-managed social media accounts function as instruments of public policy communication, especially in the context of combating misinformation, reducing stigma, and strengthening public trust. Therefore, this research is important to fill this academic gap by providing evidence-based analysis of how the @hivaidspimsid account is strategically utilized as a digital government communication platform, as well as its relevance in supporting effective HIV/AIDS prevention policies in Indonesia.

Based on these problems and urgency, the author is interested in analysing the Indonesian Government's efforts to prevent the development of HIV/AIDS cases through government communication on the Platform Twitter/X, to provide education for the public. This research is important to conduct to provide education to the public regarding HIV/AIDS issues in Indonesia. This issue is relevant because it is a global conversation, and Indonesia has the highest number of cases in Southeast Asia (Pendse et al., 2016). Good practice communication between the government and the public will facilitate the delivery of messages, education, and community engagement with the government. The output of this study is to create a recommendation for the Indonesian Government to improve its public communication performance to encourage HIV/AIDS prevention.

2. Method

2.1 Research Approach and Design

This study employed a qualitative approach with a descriptive design. This approach was chosen to deeply understand the government's communication strategy through the Twitter account @hivaidspimsid as an HIV/AIDS prevention tool, measuring not only the quantity of messages but also their meaning, context, interaction, and public response. The analysis was conducted using Qualitative Data Analysis Software (QDAS) using NVivo 12 Plus for coding, theme categorization, and sentiment analysis.

2.2 Research Setting and Context

The research was conducted within the context of the Indonesian government's public communication campaign for HIV/AIDS prevention. The research location was a virtual/digital field, specifically the Twitter/X platform on the official government account @hivaidspimsid, belonging to the Indonesian Ministry of Health. The data analyzed spanned April 2021

to September 2022, the period of the government's annual educational campaign on HIV/AIDS prevention.

2.3 Participants and Sampling Techniques

The participants in this study were not individuals directly, but rather communication entities involved in digital campaign activities. These participants consisted of the government account @hivaidspimsid as the message sender and Twitter/X users who interacted through replies, mentions, and retweets of content published by the account. The sampling technique used was purposive sampling, with data selected according to the research needs. Data selection criteria included content related to HIV/AIDS education, prevention, treatment, and issues of stigma and discrimination; content in the form of tweets, replies, mentions, and relevant public conversations; and content classified as organic communication and not originating from paid advertising.

2.4 Method of collecting data

The data in this study were collected in the form of original tweet text, replies, retweets, and mentions involving the @hivaidspimsid account, and supplemented with interaction metadata such as the number of responses, engagement levels, and the dynamics of public conversations formed on the Twitter/X platform. All data were obtained through the process of downloading content from the platform, then imported into the NVivo 12 Plus software for further systematic organization and analysis. The reason for choosing Ncapture NVivo 12 Plus software is that it can automatically analyze X media to track the movement of account interactions (Azeem et al., 2012).

Figure 3. Data Processing Stages
Source. Authors

The data processing stages in the study "Strategic Use of the Twitter/X Account @hivaidspimsid as a Government HIV/AIDS Prevention Tool" began with the Netcapture Data process, which involves collecting account activity data such as tweets, retweets, comments, hashtags, and public interactions using a social media data capture tool. The collected data was then imported into NVivo 12 Plus analysis software to be organized and prepared in a format that can be processed. Next,

coding and query analysis were carried out to group the data into specific themes relevant to the HIV/AIDS prevention campaign and to trace their occurrence patterns. After that, sentiment analysis was carried out to determine the tendency of public responses, whether positive, neutral, or negative, to the published content. The results of the analysis were then presented through data visualization in the form of graphs, tables, and diagrams to facilitate understanding of public communication and interaction patterns. The next stage was assessing data validity to ensure the reliability, accuracy, and consistency of the findings. The entire process culminated in the preparation of results and conclusions that explain the strategic effectiveness of using the @hivaidspimsid account as a government communication tool in HIV/AIDS prevention.

2.5 Research Instruments

The research instruments in this study include the researcher as the primary instrument, directly involved in the interpretation and conclusion-drawing of the analyzed data. Furthermore, this study utilized NVivo 12 Plus as a supporting instrument to support the data analysis process through coding, thematic analysis, query analysis, and sentiment analysis. Furthermore, this study utilized a government communication model or public campaign framework as a guide in categorizing analysis indicators, ensuring a more focused, systematic, and aligned data interpretation process.

2.6 Data Collection Procedure

The procedural stages of the research began with identifying the account and campaign period that were the object of the study. Next, all data in the form of tweets, replies, and mentions related to the @hivaidspimsid account were downloaded and then imported into the NVivo 12 Plus software. After the data was successfully entered into the system, a selection process was carried out based on predetermined eligibility criteria, so that only relevant data and data that aligned with the research focus were used. The next stage was organizing the data in the NVivo database, so that the data was systematically arranged and ready for further analysis.

2.7 Data analysis

The data analysis in this study uses an interactive model proposed by Miles and Huberman (1983), which includes four main stages. The first stage is data collection, namely collecting all Twitter/X content relevant to the @hivaidspimsid account. The second stage is data reduction, namely the process of selecting, filtering, and grouping data based on government communication strategy indicators to make the data more directed and focused on the research objectives. The third stage is data presentation,

which is done through visualization of the coding results in the form of coding displays, word clouds, theme matrices, and sentiment graphs using the help of NVivo 12 Plus, so that the findings are easier to understand. The fourth stage is concluding, namely compiling final interpretations regarding communication strategy patterns, campaign effectiveness, and public response to messages conveyed by the government through the Twitter/X platform. In addition, this study also conducted sentiment analysis to map the tendencies of public opinion, both positive, neutral, and negative.

2.8 Data Validity

The validity of the data in this study was ensured through several systematic procedures. First, this study applied source triangulation as proposed by Denzin (1970), namely by comparing findings obtained from the Twitter/X platform with official government data and scientific literature relevant to public health campaigns, particularly those related to HIV/AIDS prevention. This step was taken to strengthen the validity of the findings and ensure that the analyzed data corresponded to empirical reality and theoretical foundations. Second, data redundancy checks were conducted to ensure the consistency of themes and avoid interpretation bias during the analysis process. Third, this study also included an audit trail of the entire analysis process in NVivo, so that each stage of data coding and processing was well documented and traceable, as a form of methodological transparency in qualitative research.

2.9 Ethical Considerations

Ethical considerations in this research are crucial for maintaining scientific integrity and responsibility. The data used are sourced from public sources on the Twitter/X platform, ensuring that individual privacy is not violated. However, the research maintains the confidentiality of user identities by not displaying personal names or usernames in the published research results. The presentation of the findings is also objective and non-invasive, focusing on government communication policies and strategies for HIV/AIDS prevention. Furthermore, the entire research process adheres to ethical principles in digital communication research and public health research, ensuring that the research remains within ethical and accountable guidelines.

3. Results

Preventive action, according to H.R. Leavell and E.G. Clark in Luth et al. (2022), is a disease prevention action carried out in several stages. These stages include prevention at the pre-illness stage, which involves providing an overview, information, and warnings regarding the disease. In addition to prevention measures carried out during the illness, treatment,

facilities, and infrastructure are provided to support the healing process. This can be done by authorised parties, namely the government (Ambarwati & Pangesti, 2020 ; M. Agha Novrians & Mailin, 2020). For efforts to prevent and overcome the increasing number of HIV/AIDS cases, strategic steps are needed by the government to reduce the number of PLHIV. The low level of information and public knowledge regarding HIV/AIDS is one of the factors hampering the decline in the number of PLHIV.

Therefore, the role of government communication to educate and provide information is significant in reducing HIV/AIDS cases. This analysis focuses on the social media communications based on the communication theory that is argued by Lasswell (1948), consisting of communicator, message, media, communicant, and effect. Communicator is the actor who provides information. The message is the context that will be shared from communicator to communicant. The media is a channel that is used to share information. Communicant is the receiver of information or the direction of the message. The effect is the impact or feedback given by the communicant to the communicator.

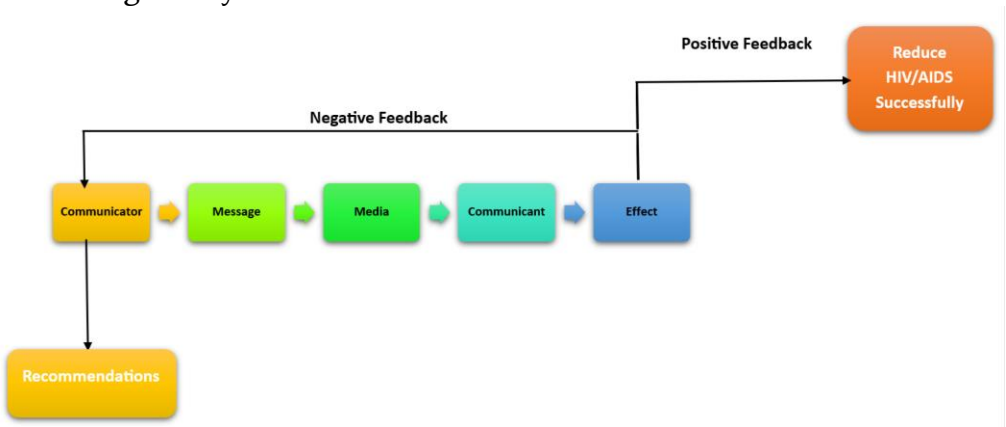

Figure 4. Research Framework
Source. Authors (2025)

Government communication can stimulate positive or negative feedback from the public. Positive opinion indicates that the HIV/AIDS preventive campaign has successfully reached out to citizens. Negative opinion as a basis for this study to create a recommendation for the Ministry of Health of Indonesia to improve the public treatment service for HIV/AIDS and reimagine the HIV/AIDS prevention campaign strategy on social media.

3.1 Communicator

Communicator on this scheme is the Indonesian Government through the Directorate General of Disease Prevention and Control, Ministry of Health of the Republic of Indonesia. They are having Platform Twitter/X, namely @hivaidspimsid. As the government's account, @hivaidspimsid frequently shares HIV/AIDS information for the public, such as medicine, consultation, and strategies to prevent. The information was shared by hashtags, posts, mentions, and conversations between accounts.

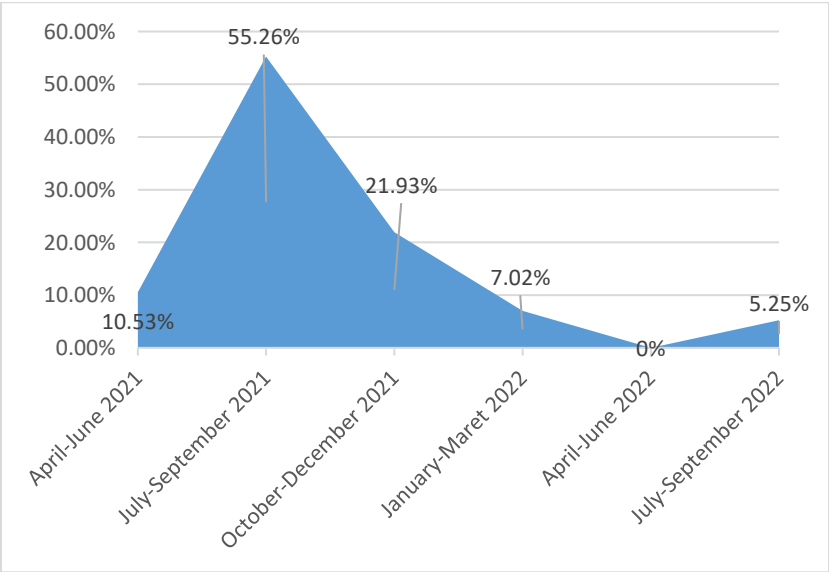

Figure 5. Information Distribution Activities on the @hivaidspimsid Account
Source. Data processed by researchers using NVivo12Plus

Figure 5 above shows a significant increase from July to September 2021 (55.26%). This spike was due to campaigns conducted by the @hivaidspimsid account to commemorate specific days such as World AIDS Day (December 1), preparations for which typically begin mid-year. Increased public awareness following the COVID-19 pandemic has encouraged more digital activities, including health promotion. Cross-sector collaboration or donor support has increased content publication capacity. Meanwhile, the significant decrease in activity from October to December 2021 (21.93%) was due to a reduced intensity of campaigns or programs compared to the previous quarter.

Furthermore, the content focus shifted due to a pause in content production. The further decline from April to June 2022 (0%) was due to a temporary hiatus from the admin or account management team. Program transitions that have not been continued. A lack of evaluation of social media strategy resulted in a temporary halt to publication. Meanwhile, the slight increase from July to September 2022 (5.25%) was due to the resumption of activity to reactivate the account. There were new program launches or reminders of the importance of HIV/AIDS information towards the end of the year.

3.2 Message

The Ministry of Health, through its account on Platform Twitter/X, shares the information to enhance public awareness related to HIV/AIDS, healthy control to prevent, and the treatment process. This study summarizes the public information through the post of the @hivaidspimsid account.

Table 1. Activity of Account X @hivaidspimsid Activity Period Message Indication

Activity Period	Message Propose
April – June 2021 (12 activities)	Providing education about HIV/AIDS through films that can be accessed via the link provided.
July – September 2021	Providing education regarding sexually transmitted infections through links that are accessible to the public.
	Providing information regarding healthy lifestyles for people living with HIV/AIDS.
	Providing education regarding the importance of taking ARV drugs for people living with HIV/AIDS.
	HIV/AIDS prevention campaign through HIV testing.
	Providing education for mothers with HIV/AIDS.
	HIV/AIDS prevention campaign through pills.
	Provides information regarding types of ARV drugs.
October – December 2021 (25 activities)	Providing education regarding the right time for HIV testing as a preventive measure.
	Providing education regarding the importance of TB testing for people living with HIV.
	Providing a space for discussion about HIV to increase public knowledge.

Activity Period	Message Propose
January – March 2022 (8 activities)	A persuasive campaign to enable the public to detect HIV infection early as a strategy for preventing transmission and as a treatment step.
April – June 2022 (No activity)	-
July – September 2022 (6 activities)	Provide information regarding PrEP to prevent possible HIV infection.
	Providing education to counter hoaxes related to HIV transmission through mosquito bites.
	A campaign to encourage the public to have regular health checks to detect diseases early.

Source. Data Processed by the Author (2023)

Table 1 shows that the X account @hivaidspimsid has embedded information, education, and health campaigns, which serve as a means of government communication with the public. Education is provided through films and content links accessible to the public regarding the stages of HIV infection, transmission factors, and treatment methods. Information is also distributed through the provision of information regarding healthy lifestyles and types of HIV/AIDS treatment, namely ARVs.

Meanwhile, health campaigns emphasize the importance of early HIV detection tests to prevent transmission and facilitate the treatment process. Some conversation activities also contain contexts that are not relevant to HIV/AIDS prevention or education. As seen from the number of activities in each quarter, only a few activities contain HIV/AIDS prevention health campaigns. This indicates the need to increase activities related to HIV/AIDS education to enhance the utility of the @hivaidspimsid account as a government communication medium.

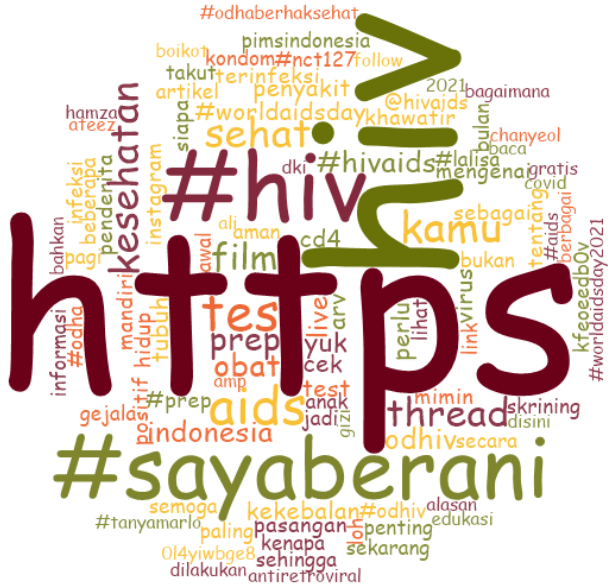

Figure 6. Word Cloud of Conversation Activity on the @hivaidspimsid Account

Source. Data Processed by the Author

A word cloud is a feature in the NVivo 12 Plus Application that is intended to visualize the classification of words that frequently appear in conversation activities, mass media, or other documents as a source of coding data. The word cloud above indicates that conversations on the @hivaidspimsid Account are dominated by several key words, including: https, hiv, health, film, test, medicine, and prep. The dominance of the mention of https in the conversation suggests that some conversation activities on the @hivaidspimsid Account also include links to facilitate public access to information. This finding strengthens the conversation activity data in the table which shows that almost all tweets and retweets include website addresses via links. It can be concluded that the @hivaidspimsid Account is used as a medium for distributing information related to HIV/AIDS to provide education to the public.

HIV was the second most dominant word. The dominance of the word HIV was driven by the @hivaidspimsid account, which focuses on HIV/AIDS issues, and the main topics of its conversations were also related to HIV/AIDS. The words "health" and "film" were also frequently mentioned. This finding reinforces the previous table, which shows several conversations discussing healthy lifestyles and education related to HIV/AIDS through publicly accessible films about HIV, accessible via links. Films have been shown to enhance audience understanding by

combining audio-visual devices that can capture the audience's attention (Kabadayi, 2012). The words test, drug, and prep were dominant in information related to the importance of HIV/AIDS testing and the treatment that sufferers must undergo. Several conversations also included persuasive sentences to encourage the public to detect HIV/AIDS early to prevent transmission to those closest to them.

So far, the @hivaidspimsid account only provides general information about strategies to prevent HIV/AIDS. Meanwhile, the information relating to the HIV/AIDS treatment service provided in the whole of Indonesia is unavailable at the local government level. The lack of access to treatment services is a challenge for the public to access the HIV/AIDS treatment service. The government should also prioritize the consultation space through a call center, which is distributed across all local governments. Integration of data between the central government of Indonesia and local government to serve the HIV/AIDS consultation and treatment service requires improvement. The detailed information refers to the HIV/AIDS treatment steps at the hospital at the local government level, also needed as an instruction for sufferers at the local level. Improbable for the Indonesian Government to minimize the HIV/AIDS transmission, when they are only giving the general information on the Twitter/X platform.

3.3 Media

Media is a channel that connects the communicator to the communicant to share information. In the digital era, media communication is a substantial tool used by young people, especially Generation Z and Millennials. Social media is an adequate channel to influence users through the theoretical Social Media Literacy model (Schreurs & Vandenbosch, 2021). He argued that social media enables a change dynamic of the platform and its users. So, the platform selection is the crucial part to define the media for the communication process. These statements are strengthened by the Ministry of Health at hivaids-pimsindonesia.or.id (2024) present that the AIDS sufferers in Indonesia during the first and second quarters of 2024 are predominantly Gen Millennial (25-49 years old), reaching 3.241 and 2.961 people. The Indonesian Government's step to use social media, including Platform Twitter/X, as a channel to share HIV/AIDS information is a reliable plan. Several advantages of Platform Twitter/X compared to other platforms are that it provides various features that can be accessed, such as hashtags, mentions, and comments. These features to accommodate public discussion and stimulate the reaction of the public refer to the respective issue.

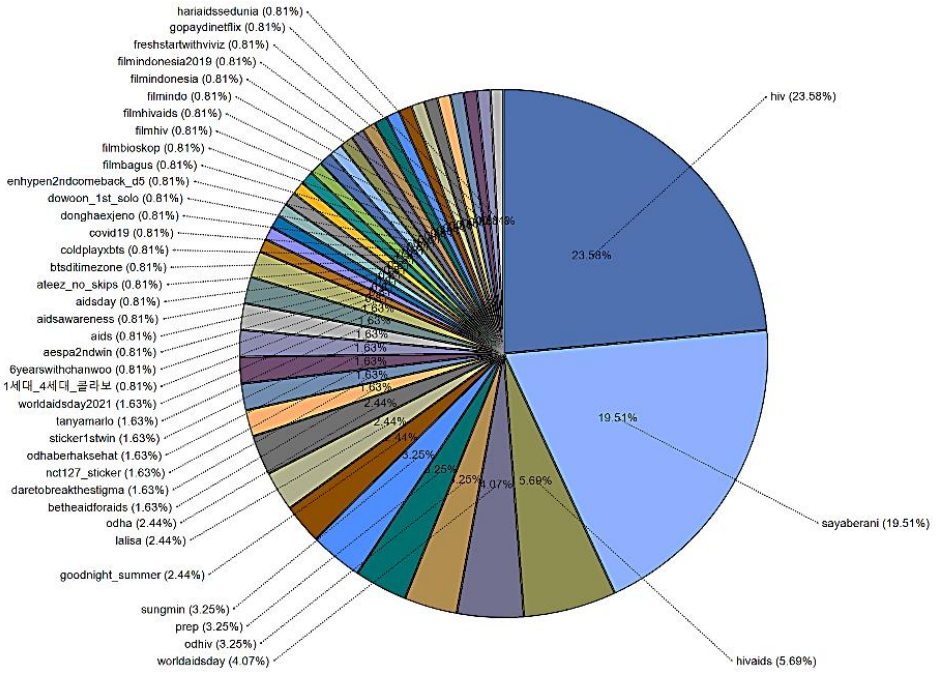

Figure 7. Hashtag on the @hivaidspimsid account
Source. Data Processed by the Author (2023)

The image above displays several prominent hashtags on the @hivaidspimsid account, including #hiv, #sayaberani, #hivaids, #worldaidsday, #odhiv, and #prep. #hiv (23.58%) was frequently mentioned to help X users find tweets or retweets related to HIV/AIDS through this hashtag. Hashtags not only play a role in integrating conversations related to a particular context but also facilitate communicative functions (Wikström, 2014). Hashtags also increase the effectiveness of real-time searches in algorithmic systems (Cunha et al., 2011). In short, hashtags contribute to labelling X content based on its classification (Mazzia & Juett, 2011). #sayaberani (19.51%) was also the most frequently mentioned hashtag, as this hashtag originated from the community of HIV/AIDS activists and observers in Indonesia. #HIVAIDS (5.69%) is a hashtag frequently used to share information related to HIV/AIDS.

The majority of hashtags that are attached to the @hivaidspimsid account are discussing the treatment strategy for HIV/AIDS sufferers. Meanwhile, the target point of this account is not only the sufferers, but

also for the public in general, referring to how to prevent or a life health strategy to avoid the HIV/AIDS transmission. This study proposed that the @hivaidspimsid account can create a hashtag more specifically for each of the HIV/AIDS stages to minimize the cases. Other hashtag ideas for creating based on the minimize strategy stage, such as referring to (1) preventing HIV/AIDS, to accommodate the information about activity or daily routine, should be practiced, and avoid HIV/AIDS. (2) Identifying HIV/AIDS aims to inform the early identification of HIV/AIDS sufferers, which aims to prevent treatment delays. (3) Treating HIV/AIDS, updating the lifestyle, medicine, and treatment service in the nearest area to sufferers. The hashtag can also attach motivation for sufferers to stimulate enthusiasm to recover. Specifically, hashtags can expand the reach of information and enhance the account activity, making it more valuable for the public in general.

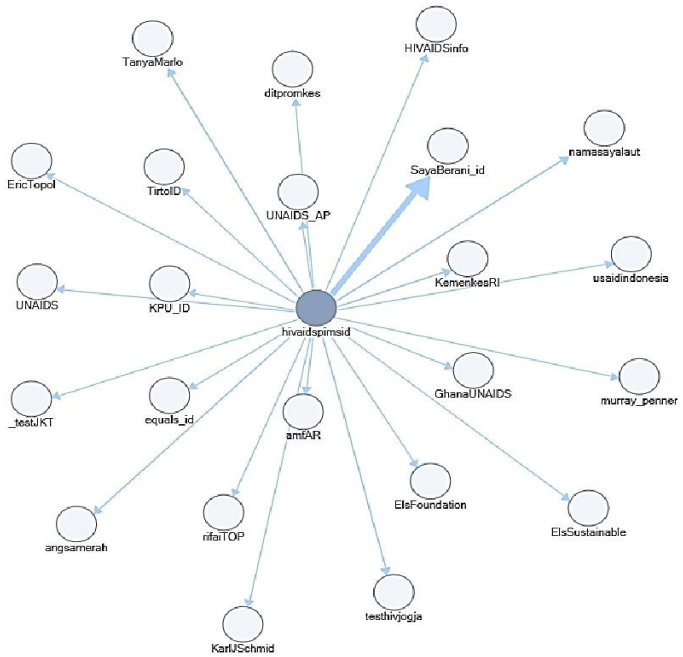

Figure 8. Mentions on the @hivaidspimsid account
Source. Data Processed by the Author

Figure 8 above shows that the @hivaidspimsid account primarily interacts with the @HIV/AIDS and @X accounts through mentions in its posts. These mentions are designed to facilitate X users' access to information related to HIV/AIDS through relevant posts, serving as a medium for education and communication. Mentions were also made to the @UNAIDS account, but the conversations mentioned did not contain

educational elements related to HIV/AIDS. A similar phenomenon also occurred with mentions of the @KemenkesRI account, which primarily contained information related to general health sector events. Meanwhile, mentions on the @Aidsfonds_intl account were more dominant regarding the collaboration built with @TanyaMarlo in providing education about HIV/AIDS for the Indonesian public.

In this context, mentions serve as a communication tool within conversations or activities. The central position of the account "@hivaidspimsid" indicates its significant influence, as it initiates conversations, engages in discussions related to HIV/AIDS prevention, and plays a key role in sharing information with other accounts mentioned. The central placement of the account "@hivaidspimsid" indicates its central role within the network, with interactions directed primarily to other accounts. Interestingly, some accounts are connected by only one line, indicating a lower frequency of conversation. Meanwhile, accounts like "SayaBerani_id" engage in higher levels of interaction with the account "@hivaidspimsid." Overall, these mentions not only demonstrate the social connections between accounts but also provide insight into the level of involvement of each account in the conversation or communication taking place. By observing the direction and number of lines connecting these accounts, we can conclude that these accounts are related or relevant to the ongoing conversation surrounding HIV/AIDS prevention efforts, creating a dynamic social network where communication and influence are widespread.

This condition aligns with retweeting posts on X; the account with the most retweets is @SayaBerani_id. The content of the posts contained in these retweets is primarily focused on information and education related to HIV/AIDS. @SayaBerani_id is an X account developed to raise awareness about HIV/AIDS, educate about the need for early detection through HIV testing, and eliminate negative stigma that triggers discrimination against people with HIV/AIDS. The mentions and retweets carried out by the @hivaidspimsid account indicate that the Indonesian Government, through the Directorate General of Disease Prevention and Control, Ministry of Health of the Republic of Indonesia, has utilised X as a medium to optimise the communication of HIV/AIDS prevention and education. However, the involvement of personal accounts in the community is very minimal in conversations related to HIV/AIDS. The activity of the @hivaidspimsid account is primarily driven by accounts from institutions engaged in relevant fields. This inequality suggests that using X under the Ministry of Health of the Republic of Indonesia has not

fully achieved two-way communication between the Government and the community.

Interaction within the local government, especially the Agency of Health, is also unavailable. Meanwhile, the central government must collaborate with the local government to encourage the program to succeed. Suggestions of this study are for the Ministry of Health to consider instructing the Agency of Health at the local government level to create an account on the Platform Twitter/X to accommodate the HIV/AIDS information sharing. So, the @hivaidspimsid account can mention each of the local government accounts to provide the information integrated. This strategy is to ensure that the information about HIV/AIDS is distributed well to all local governments.

Another suggestion for the HIV/AIDS sufferers is to build a community, a kind of Non-Government Organization (NGO), that it's connected to the Agency of Health Service at the local government level and the Ministry of Health accounts. That account enables mentioning the HIV/AIDS account, which is owned by the Agency of Health Services and the Ministry of Health accounts, as a medium for sharing information. The point of this strategy is to optimize the two-way communication on social media and facilitate the HIV/AIDS preventive programs. Social media management can adopt the collaborative governance concept, which includes government as the decision maker and managers, also involving the community to realize the policy and program development (Gash, 2022). The Ministry of Health and the Agency of Health Service at the local government level can optimize other social media platforms to leverage to expand the reach of the preventive HIV/AIDS campaigns through digital platforms, such as Instagram, TikTok, and the Threads feature of Instagram.

3.4 Communicant

The communicant is the receiver of information targeted at the message. As the social media owned by the central government, surely the communicant target of the @hivaidspimsid account is all of Indonesia's citizens. To achieve these goals, the Ministry of Health must make content that can be received well by citizens through media-inclusive and accessible content. This study indicates the communicative component based on the account, which involves public discussion on the comment feature of Platform Twitter/X. To accommodate the communicant in general, this study has been mapped according to the location of the account, which involves public discussion within the @hivaidspimsid account on Platform Twitter/X.

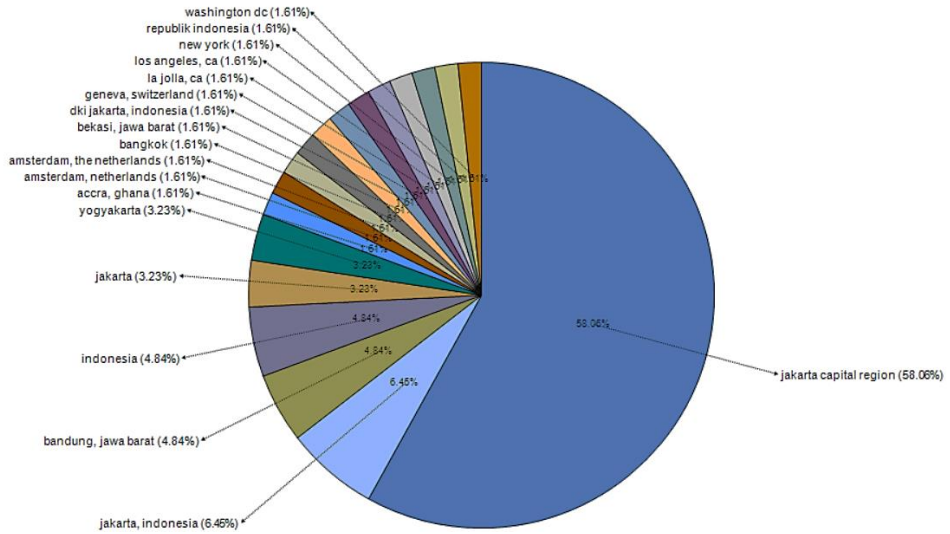

Figure 9. Location of Accounts Involved in @hivaidspimsid Account Activity

Source. Data Processed by the Author

The figure 9 above shows that account ownership actively involved in the @hivaidspimsid account activity is dominated by DKI Jakarta (58.06%), followed by Bandung (4.84%), and DI Yogyakarta (3.23%). Account ownership also originates from other countries, such as Amsterdam (1.61%), Washington, D.C. (1.61%), New York (1.61%), Switzerland (1.61%), Los Angeles (1.61%), and Bangkok (1.61%). The high percentage of account ownership indicates a high level of involvement in government communications related to HIV/AIDS. This percentage can represent the intensity of public attention in the region regarding the issue of HIV/AIDS. These findings present that government communication conducted by the Ministry of Health through the @hivaidspimsid account is not optimal, because information received is not distributed well for each province in Indonesia. This study found that message recipients have not reached provinces with the highest rate of HIV/AIDS cases in Indonesia over the past 3 years, which should be a major concern for the Indonesian Government.

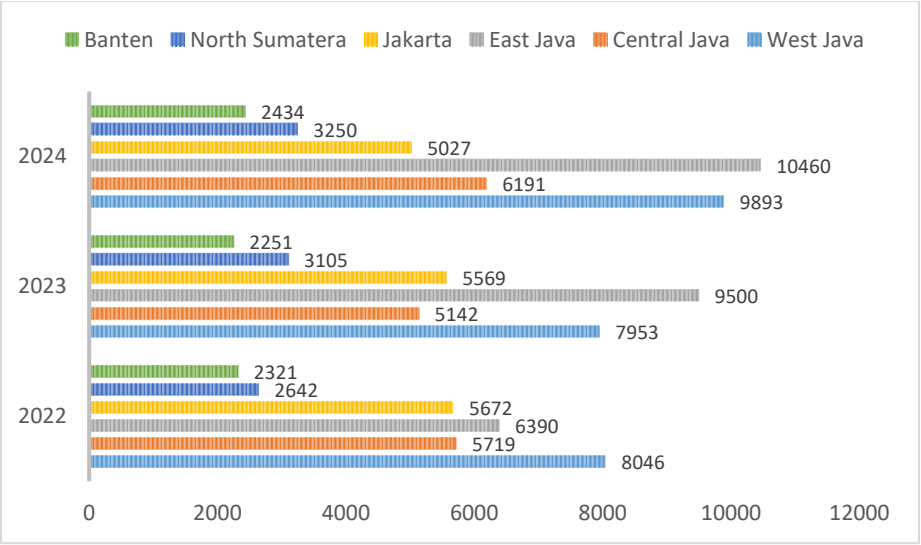

Figure 10. The Highest HIV/AIDS Cases Trend in Indonesia
Source. kemkes.go.id (2025) kemkes.go.id (2024) kemkes.go.id (2023)

The previous statement is evidenced by Figure 10, which shows that the highest HIV/AIDS cases in Indonesia occur in 6 provinces: East Java, West Java, Jakarta, Central Java, North Sumatra, and Banten. This report data can be a basis for the Ministry of Health to focus on these provinces as the major target to receive the message relating to the HIV/AIDS preventive campaign. Of course, this step does not mean provoking the government to ignore other areas. The government needs to involve local government at the provincial and regency levels in this campaign to ensure that the message is received by the citizens, as well as the suggestion in the previous indicator. The inequality in information distribution can be one of the factors in the failure of the HIV/AIDS preventive campaign program.

3.5 Effect

The effect is feedback from the public to the government regarding the context of the campaign delivered in promoting a government program. This study has interpreted the citizens/netizens' opinion based on comments and argumentation, or opinion in public discussions on each of the posts or content made by the @hivaidspimsid account, by sentiment analysis. Sentiment analysis is an innovative technology feature to criticize people's attitudes. This analysis is commonly used in public opinion analysis, product review, and risk assessment, etc, for sentiment polarity. Currently, the sentiment analysis is not only used for satisfied customer analysis, brand competitiveness, business prediction, and political interest,

but it is also used to investigate the social media users' opinions. Platform Twitter/X is the one reliable social media platform to analyze the sentiment polarity because it enables the accommodation of expression and opinion in daily life through a big data system (Rodríguez-Ibánez et al., 2023).

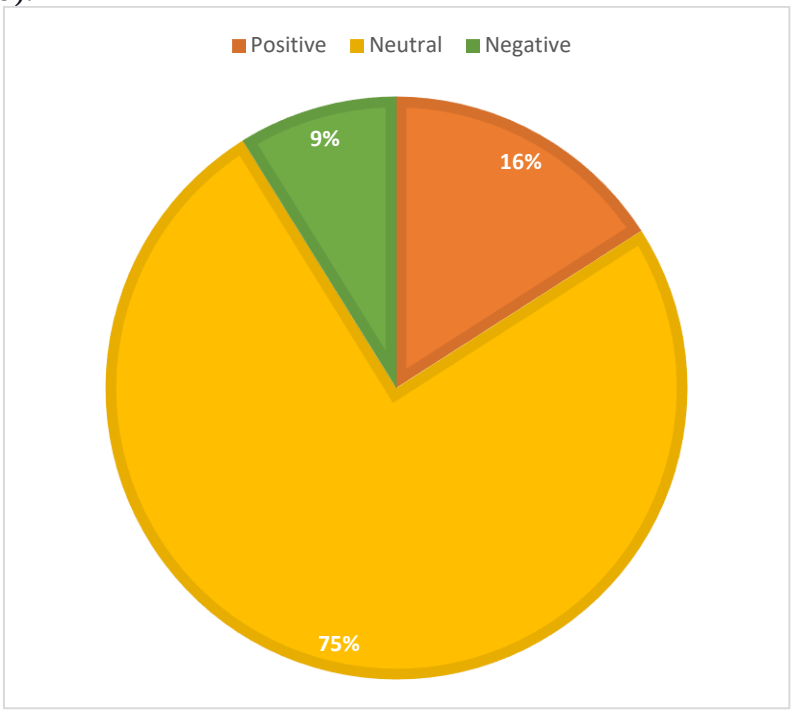

Figure 11. Netizens Opinion Sentiment Polarity
Source. Platform Twitter/X processed by the Authors

There are several types of expression on sentiment polarity, consisting of positive, neutral, and negative, which all have an impact on the government program's success. Positive feedback is expressed with sentences that are supportive, appreciative, and grateful. A positive statement indicates satisfaction, happiness, and agreed validation. Neutral feedback is a statement that has less expression, generally relating to information or guidelines. Meanwhile, the negative feedback consisted of sad, confused, and frustrated statements as a form of disappointment. Figure 11 shows that the majority of comments by netizens in the @hivaidspimsid account are neutral (75%), which means that the account is dominated by information sharing about HIV/AIDS. Positive feedback is 16% and negative statements are only 9%. The opinion is mapped in table 2.

Table 2. The Netizens Statement in the @hivaidspimsid Discussion

Sentiment	Statements
Positive	*"#WorldAIDSDay is a time to reflect on my 35+ years living w/HIV. It's also a sad time for me as I remember the trauma & all the friends I've lost over the years. I'm grateful to be here & thriving at 60, just as I was when I was diagnosed in 1986 & told I had 6 months to live."* *"Each year on Zero Discrimination Day, 1 March, we celebrate the right of everyone to live a full and productive life—and live it with dignity."*
Neutral	*"PrEP stands for pre-exposure prophylaxis, which is the use of antiretroviral drugs (ARVs) by someone who is not infected with HIV, before being exposed to HIV, and aims to prevent them from becoming infected with HIV."* *"Being diagnosed with HIV in the early stages without any symptoms is still better than being diagnosed with complications in the hospital."*
Negative	*"Wow. Just been refused service because I'm HIV+. It's been a while since I've felt the cold, harsh reality slap of stigma."* *"A 25-year-old man who tested positive for HIV. Risk factor: unprotected sex due to a FWB with a beautiful Twitter celebrity. This guy wanted to ask his girlfriend to get tested, but she blocked him. The problem now is that he's afraid to tell his wife and infect her, who is in the early stages of pregnancy."*

Source. Platform Twitter/X processed by the Authors

Table 2 shows the polarity of netizens' opinions into positive, neutral, and negative in the @hivaidspimsid account. A positive statement is related to the gratitude of citizens because the public health service provides treatment for her as an HIV/AIDS sufferer. This study also found the motivation statement about equity for everyone, especially in this context, including HIV/AIDS sufferers. The positive opinion expressed by netizens indicates they are satisfied with the public health service in accommodating the HIV/AIDS treatments. The neutral statements refer to information sharing for HIV/AIDS indication as part of a preventive solution. Besides, the negative opinion is still found at this account, especially complaints from HIV/AIDS patients when accessing the treatment service, as they felt discrimination. Another negative statement

is the confusion of HIV/AIDS sufferers regarding the transmission possibility to their family.

This study appreciates the public health treatment that deserves well for HIV/AIDS, which is one of the strategies to minimize HIV/AIDS cases. But the negative opinion can be a basis to evaluate the Indonesian HIV/AIDS treatment service. Negative stigma refers to HIV/AIDS sufferers when they are accessing treatment services. According to the United Nations Programme on HIV/AIDS (UNAIDS) survey, it was found that 63% of Indonesian citizens have a negative stigma for HIV/AIDS sufferers and limit their interaction with sufferers(UNAIDS, 2023a). This condition is a barrier to optimizing HIV/AIDS prevention because citizens are worried about being discriminated against when they are detected as HIV/AIDS sufferers. The health consultation service is considered to be provided at each of the local governments in the regency or provincial level to support the treatment procedural guideline and mental health for HIV/AIDS sufferers and their families. The lack of integrated data at the national level of government and the local government level also obstructs the treatment process from being more accessible. Indonesia's Government needs to build an HIV/AIDS patient integrated data system and procedural guidelines that are distributed well in each of the local governments to speed up the treatment action. These strategies are hoped to optimize the HIV/AIDS preventive solution, besides improving the HIV/AIDS prevention campaign on the social media Platform Twitter/X.

The decline in activity and the implications of hashtag dominance indicate that accounts focus more on specific issues, likely only during major campaigns like World AIDS Day, VCT services, or ART campaigns. This results in a lack of topic diversity, leading audiences to lose interest in regularly following the account. Furthermore, if hashtags are used repetitively without developing a narrative, the long-term effectiveness of information campaigns is limited. Therefore, strategies to increase public engagement are crucial to effectively address the government's HIV/AIDS prevention and management efforts. This study focused on only one account, and it is recommended that future research include longitudinal studies comparing other platforms.

4 Discussion

The findings of this study, which reveal that the @hivaidspimsid campaign was highly effective during its peak period and succeeded in enhancing public education and preventive awareness, are consistent with the conclusions of Neiger et al. (2013) and Taggart et al. (2015), who argue

that message intensity, information consistency, and issue relevance are key determinants of public engagement in digital health campaigns. These results also align with Johnson (2024) and Rita et al. (2025), who demonstrate that Twitter/X serves as an effective platform for strengthening health literacy, combating misinformation, and facilitating dialogue between government and citizens. However, this study identifies a significant decline in campaign activity during the same period in 2022, which differs from previous studies that generally highlight sustained campaign continuity as a critical success factor. This discrepancy is attributed to differences in institutional strategies, shifting policy priorities, resource allocation, and operational management of the government account. In contrast, many prior studies focused on campaigns designed to be continuous and systematically managed over the long term (Murthy, 2024). Additionally, the dominance of user interaction from Jakarta contrasts with global findings that show more evenly distributed audience participation; this can be explained by Indonesia's digital divide, where internet access, digital literacy, and social media activity are significantly higher in urban areas (Onitsuka et al., 2018).

From a methodological perspective, differences in findings may also stem from distinct research designs. This research adopts a real-condition, non-experimental approach that captures the actual—often imperfect—dynamics of government communication on social media. Nevertheless, this research contributes significantly by demonstrating that the effectiveness of government social media is determined not only by platform capability but also by communication continuity, equitable audience reach, and sustained digital campaign policy commitment (Suryani, 2024). These findings emphasize the need for government institutions to maintain consistent messaging, expand outreach beyond metropolitan areas, strengthen interactive engagement strategies, and avoid campaign activities that are sporadic and short-term (Rice & Atkin, 2009). Therefore, this study not only reinforces existing literature but also enriches scholarly understanding of the practical challenges of government health communication via social media, particularly within the context of developing countries such as Indonesia (Asriadi & Sari, 2025).

5 Conclusion

This study found that the peak of information distribution activity on the @hivaidspimsid Instagram account occurred in the July–September 2021 quarter, with an intensity reaching 55.26%. However, there was a drastic decline in activity after that period, reaching zero in April–June 2022. Content analysis showed that digital communications used

dominant and repeated hashtags to focus on specific moments. The dominance of certain hashtags indicates an effort to strengthen thematic campaigns. However, its effectiveness was limited due to the lack of content variation or a consistent engagement strategy. Reliance on annual campaigns or temporary programs without content sustainability resulted in limited long-term public participation and engagement.

Thus, the efficacy of digital communication through this account is not optimal, particularly in building sustainable public awareness and engagement. The account tends to be reactive, rather than proactive, in conveying health messages. Recommendations for improving the communication effectiveness of the @hivaidspimsid account include a more consistent and engaging strategy. To encourage audience participation, content should be more interactive, such as quizzes, polls, and live events with healthcare workers. The use of hashtags also needs to be more varied and contextual to ensure broader message reach. Partnerships with influencers, communities, and HIV survivors are crucial for strengthening the reach and credibility of the message. Furthermore, developing an annual content calendar will help maintain consistent publications throughout the year. Regular evaluations based on interaction data are necessary to continuously adapt the strategy to audience preferences and evolving campaign needs.

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