

Digital communication strategy for public campaign to prevent stunting in Medan

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How to Cite This Article: Tenerman., et al. (2025). Digital communication strategy for public campaign to prevent stunting in Medan. *Jurnal Studi Komunikasi*, 9(3). doi: 10.25139/jsk.v9i3.10196

Received: 07-05-2025, Revision: 04-09-2025, Acceptance: 16-10-2025, Published: 22-11-2025

Abstract Medan City is one of the regions with significant stunting reduction achievements, from 19.9% in 2021 to 5.8% in 2023. This achievement demonstrates the success of various intervention programs. However, the effectiveness of public communication, particularly through digital media, still requires in-depth evaluation to ensure that stunting prevention messages are truly understood and internalised by the target group. This study aims to analyse digital communication strategies for public stunting prevention campaigns in Medan City, Sumatra, Indonesia. The research method used is a mixed method with quantitative analysis through SEM-PLS and qualitative analysis through content analysis of digital campaigns. The results show that digital communication through social media can expand the reach of information, enhance interactivity, and strengthen public awareness of the importance of stunting prevention. However, the effectiveness of messages is still influenced by digital literacy, content relevance, and active audience involvement in the communication process.

Keywords: digital communication; public communication; stunting prevention; social media

INTRODUCTION

Stunting is a serious public health problem in the Global South, which includes Indonesia. Stunting is a nutritional problem that affects a child's physical growth and development, often caused by chronic malnutrition during the first 1,000 days of life. The challenges revolving around stunting are closely correlated with the national development vision reflected in Nawacita II, also known as Asta Cita, which are eight national development priorities outlined in the 2020-2024 National Medium-Term Development Plan (RPJMN). Stunting is a strategic issue that cannot be separated from several main pillars in Asta Cita, which emphasise the importance of holistic and sustainable human development. The Asta Cita in question are as follows: first, Asta Cita 1, which strengthens economic resilience for quality and equitable growth, emphasises the importance of meeting the basic needs of the community, including nutritious food and equitable health services. According to Chandra et al., 2022; Sari, T Mila; Hajar, 2023, overcoming stunting requires strengthening food security at the household level, especially for vulnerable and poor groups, through program support such as food assistance, family farming, and specific nutrition interventions. Second, the third Asta Cita, specifically building quality and competitive human resources is directly related to the agenda of accelerating stunting reduction. Ndagijimana et al., 2024 emphasised that children who experience stunting have a higher risk of cognitive impairment, low productivity, and weak competitiveness in the future.

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Therefore, stunting is a major obstacle in the development of superior human resources that are seen to be the foundation of national progress. Third, the 5th Asta Cita, particularly the strengthening of infrastructure to support economic development and basic services, is also extremely relevant. Basic infrastructure such as sanitation, clean water, maternal and child health facilities, and adequate transportation play a vital role in creating a healthy growth and development environment for children, while preventing infections that trigger stunting. Furthermore, Asta Cita 6, namely the building of a sustainable environment, increasing resilience to disasters and climate change has an important dimension in reducing food and health vulnerability due to disasters and climate change, which indirectly impacts the prevalence of stunting, especially in disaster-prone or underdeveloped areas. Thus, stunting mitigation is not only the responsibility of the health sector alone, but rather a cross-sectoral agenda aligned with all Asta Cita pillars. This effort requires policy integration, strengthening central-regional synergy, and active involvement of the community and the business world to create a healthy, intelligent, and productive golden generation of Indonesia in 2045.

Stunting is a problem prioritised by the government in finding solutions, so a national strategy is needed through an integrated behaviour change communication approach. According to the data obtained, the stunting situation in North Sumatra Province has decreased from 25.8% in 2021, to 21.1% in 2022, and 18.9% in 2023, but has not yet reached the target of 14% in 2024. Meanwhile, in Medan City, there has been a very significant decline from 19.9% in 2021 to 15.4% in 2022 and a drastic drop in 2023, namely 5.8%. This achievement is a concrete manifestation of an intensive approach to the community with various programs and approaches implemented, such as verification and validation of stunting case audit data to ensure the accuracy of targeted interventions involving pregnant women, prospective brides and children at risk. According to Abdullah et al., 2025; Irawan, Septia Anggi; Alristina, Dwi Arie; Laili, Dzariyani Rizky; Amalia, Nuke; Tewabe, Walelign; Dobrossy, Bence; Girasek (2024), stunting is a condition in which a child's height growth is hampered due to chronic malnutrition, often occurring in the first 1000 days of life (HPK). Anaemia, lack of nutritional intake, and lack of parental knowledge about good parenting are factors that cause stunting.

The problem of stunting in Medan City, based on February data in 2024, there were 208 toddlers categorised as stunting and from 151 sub-districts, and there were 54 sub-districts that became stunting loci in Medan City as determined through Medan Mayor's Decree Number 444/40.K concerning the Determination of Focus Locations for the Implementation of Accelerated Stunting Reduction in Medan City in 2024. The high number of stunting in Medan reflects significant challenges in the aspect of fulfilling nutrition and nutrition which requires an integrated and innovative approach to addressing it. According to Christian et al.(2020); Suryanto et al. (2022), stunting is caused by the fulfilment of nutrition consumed by the community is not optimal due to 1) family and household factors, specifically a low economic status, so that daily nutritional fulfilment will be disrupted which ultimately has an impact on the incidence of malnutrition; 2) food factors/nutritional intake, namely malnutrition which is the main factor causing stunting in children. Meanwhile, Aritonang et al. (2020); Rusilanti & Riska (2021), argue that a person's economic status is influenced by their income level. If their income decreases, food access will be disrupted, resulting in malnutrition, one of which is stunting.

The Medan City Government has launched various programs to accelerate stunting reduction in Medan. These include: 1) outreach and education, using social media to disseminate information about the importance of balanced nutrition, good parenting, and the impact of stunting; 2) awareness campaigns, implemented through collaboration between regional government agencies through the Communication and Information Agency, creating themed campaigns such as 'The First 1,000 Days of Life', encouraging the public to be more concerned about children's nutritional intake. This is done through the use of influencers or community leaders who can increase the campaign's reach; 3) community engagement, establishing discussion forums on social media, although this has not been fully implemented in various sub-districts in Medan City (Laporan Monev RAD PANGAN Dan GIZI Kota Medan, 2025).

These programs aim to increase understanding of the role of social media in public campaign communications, which is expected to reduce the prevalence of stunting and improve the quality of life for children in Medan City. In today's digital era, the use of social media as a public campaign communication tool offers the potential to raise public awareness and educate the public about the importance of balanced nutrition. According to Irawan, Septia Anggi;

Alristina, Dwi Arie; Laili, Dzariyani Rizky; Amalia, Nuke; Tewabe, Walelign; Dobrossy, Bence; Girasek, (2024) that social media has become an increasingly important platform in the dissemination of information. The We Are Social 2023 report (Masya & Salim Alatas, 2024) noted that more than 170 million people in Indonesia actively use social media, with the majority of its users being in the productive age group, and this creates a great opportunity to educate the public about health issues, including stunting. For example, the public campaign through social media implemented by the Medan City Government to address the problem of stunting, as follows at Figure 1.



Figure 1. Examples of social media platforms used in the stunting campaign in Medan City
Source: Sekretariat Negara RI (2024)

Figure 1 shows a public campaign through social media as a government communication strategy to increase public awareness and understanding of preventing stunting in the family environment. Digital-based communication strategies on social media can include educational campaigns, data-based information dissemination, and direct interaction with the community. With the right messaging, social media can encourage positive behavioural changes related to child health and nutrition. According to Hidayat (2022); Pourkarim et al. (2022), public campaigns to accelerate stunting reduction through social media are one of the main strategies for increasing public awareness and understanding of the importance of good nutrition for child growth.

Meanwhile, Lestari et al. (2022); Masya & Salim Alatas (2024); Puji (2016), social media is a means of communication and one of the most effective and far-reaching communication platforms, thus playing a crucial role in supporting campaigns to accelerate stunting reduction. By leveraging the power of social media, information on accelerating stunting reduction by fulfilling children's nutritional needs can be disseminated more quickly and reach a wider audience. Furthermore, social media also enables two-way interaction between campaign organisers and the public, enabling feedback and active participation. A digital-based communication approach through social media in Medan City aims to accelerate stunting reduction in a more inclusive and effective manner.

The campaign is designed to increase public awareness, knowledge, and skills regarding the importance of balanced nutrition and good food practices. Therefore, this is the main reason why addressing stunting in Medan City requires an innovative and effective strategy, in which digital-based communication can play a significant role. By involving the community, local stakeholders, and technology, this program is expected to adapt to local needs. As shown in the results of previous research mapping conducted from 55 articles processed through VOS viewer on Figure 2.

accordance with the research objectives. Thus, the 57 respondents taken represent the accessible population proportionally according to the main target category of the stunting prevention campaign. According to Hair et al. (2019) that this determined sample also meets the SEM-PLS feasibility based on the 10-Times Rule (minimum requirement of 50 with the most indicators ≤ 5 and incoming arrows ≤ 4) as well as power considerations for medium effects ($\approx 55-60$ respondents). The questionnaire distribution procedure in this study was coordinated with the health office/community health Centre in Medan City to distribute the questionnaire link (google form) in the Posyandu WA group. Meanwhile, the determination of informants in data collection through interviews is determined, such as individuals who are specifically selected because they have knowledge, experience or direct involvement with the issue being studied, so they can provide richer and more in-depth information (Saldana, 2014). Informants in this study were 6 people, namely 1) health workers (posyandu cadres) as many as 1 person; 2) PKK cadres as many as 1 person; 3) Health Office program management section as many as 1 person; 4) target groups as many as 3 people.

Table 1. Informant Criteria

No.	Informant target	Criteria	Total (Person)
1.	Posyandu Cadres	Have empirical knowledge, direct involvement, and contextual socio-cultural understanding of nutritional problems in society	1
2.	PKK Cadres	Minimum 2 years of experience in running PKK and Posyandu activities, as well as stunting prevention programs	1
3.	Health Office program management section	Minimum 2 years experience in the field of public health programs, especially monitoring and evaluating stunting programs	1
4.	Target Groups	Individuals who experience or are at risk of stunting are mothers of toddlers or pregnant women	3
Total number of informants in this study			6

Source: Researcher (2025)

Then the results of this data collection will be analysed quantitatively and qualitatively. The quantitative analysis used is Smart PLS software which is run on a computer. (Liang et al., 2019) that PLS (Partial Least Square) is a variant-based structural equation analysis (SEM) that can simultaneously test measurement models and test structural models. The measurement model is used for validity and reliability tests, while the structural model is used for causality tests (hypothesis testing with prediction models). SEM has been widely known in business research under various names: causal modelling, causal analysis, or confirmatory factor analysis. Furthermore, (Pham et al., 2024) explains that PLS is a soft modelling analysis method because it does not assume that data must be measured on a certain scale, which means that the number of samples can be small (under 100 samples). There are several reasons why PLS is used in a study. In this study, the reasons are: first, PLS (Partial Least Square) is a data analysis method based on the assumption that the sample does not have to be large, namely the number of samples less than 100 can be analysed, and the residual distribution. Second, PLS (Partial Least Squares) can be used to analyse theories that are still considered weak, because PLS (Partial Least Square) can be used for prediction. Third, PLS (Partial Least Square) allows logarithms using ordinary least square (OLS) series analysis so that logarithm calculation efficiency is obtained. Fourth, in the PLS approach, it is assumed that all variance measures can be used to explain the strengthening of public value.

Furthermore, Saldana (2014) explained that qualitative analysis is carried out on the results of interviews, observations and secondary sources. Data analysis through this qualitative approach is carried out with thematic analysis which aims to identify themes or patterns from interview data and group discussions. The data that has been collected will be analysed qualitatively by classifying information based on relevant categories. Thematic analysis of digital-based communication strategies in handling stunting in Medan City shows that this approach does not only focus on delivering information but also creating a strong community and support. Through social media, public awareness can be increased, and community involvement can be

strengthened, so that it is expected to significantly reduce stunting rates in the area. This approach based on collaboration and participation is an innovative solution in overcoming complex problems such as stunting.

RESULTS AND DISCUSSION

The problem of stunting in Medan City is a strategic issue that urgently requires systematic and integrated addressing. As one of Indonesia's metropolitan cities with a high urbanisation rate, Medan City faces complex challenges in realising quality human resource development. Stunting not only impacts individual health dimensions but also has long-term socio-economic consequences that can hamper community productivity and slow the achievement of overall regional development goals. Stunting is a complex and multidimensional public health problem, characterised by growth failure in toddlers due to chronic malnutrition and recurrent infections, especially in the first 1,000 days of life, from pregnancy to age two (Ndagijimana et al., 2024). Stunting reflects the accumulated inability of social, economic, and health service systems to provide an optimal growth and development environment for children. Therefore, this study can be used as a solution to reduce stunting rates in Medan City. Based on the characteristics of the 57 respondents, the majority were female (61.40%) and male (38.60%). Based on age, the largest number of respondents were in the 25-34 age group (31.58%), followed by the 35-44 age group (26.32%). In terms of occupation, the majority of respondents (See Figure 3) were housewives (35.09%), followed by health workers (21.05%) and government employees (15.79%). Based on the results of distributing questionnaires to all 57 respondents, it can be seen that in handling stunting, a digital-based communication approach through social media is needed, as illustrated at Figure 4.

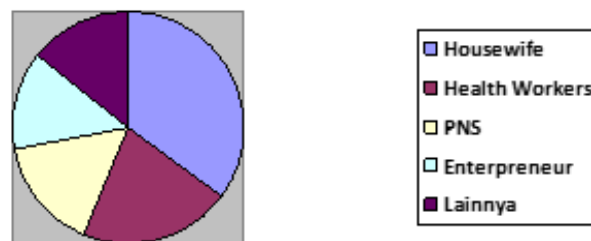


Figure 3. Occupation of Respondents
Source: Researcher (2025)

Outer loading

The results of the outer loading analysis show that all indicators in the Social Media, Stunting Reduction, and Digital-Based Communication Strategy constructs have values above 0.7, which means they are valid and can be used in model measurement (See Table 3). The MS2 indicator (0.902) is the strongest in measuring the Social Media construct, while the PS7 indicator (0.938) is the most dominant in explaining Stunting Reduction, and SKB2 (0.853) provides the largest contribution to the Digital-Based Communication Strategy. This shows that all indicators have a high relationship strength to their respective constructs, so that this research instrument has met the convergent validity criteria and is suitable for use in further analysis.

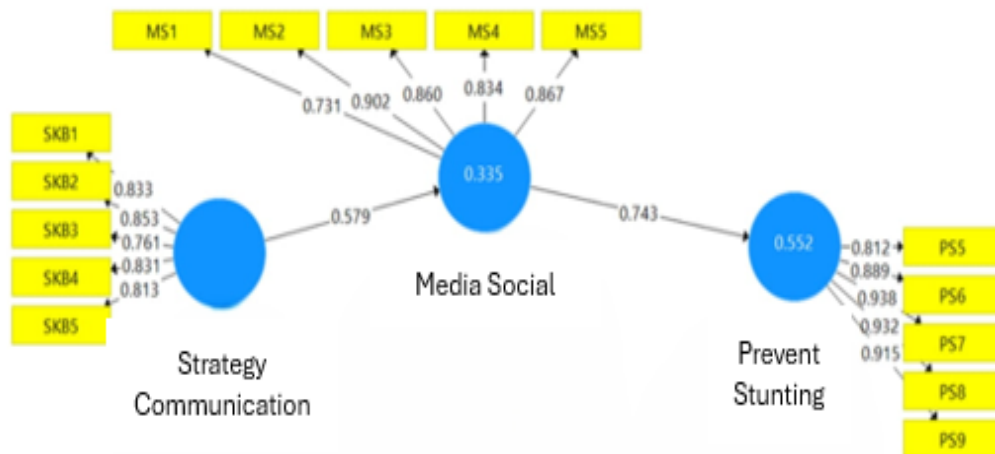


Figure 4. Path diagram of partial least squares structural equation modelling
 Source: Data processing with SEM-PLS (2025)

Convergent validity and reliability

The results of the convergent validity test show that all constructs have Cronbach's Alpha, rho_A, Composite Reliability, and AVE values above the recommended minimum limit (≥ 0.7), indicating that this research instrument is reliable and valid in terms of constructs (See Table 4). The highest Composite Reliability value is found in the Stunting Reduction construct (0.954), followed by Social Media (0.923) and Digital-Based Communication Strategy (0.910), indicating very strong internal consistency. In addition, the AVE values for the three constructs also exceed the threshold of 0.5, with the highest value in Stunting Reduction (0.807), indicating that the indicator variables are able to optimally explain the construct variance. Thus, this model has met the convergent validity requirements and is ready to be used in structural analysis.

Table 3. Outer loading

	Social Media	Reducing Stunting	Digital Based Communication Strategy
MS1	0.731		
MS2	0.902		
MS3	0.860		
MS4	0.834		
MS5	0.867		
PS5		0.812	
PS6		0.889	
PS7		0.938	
PS8		0.932	
PS9		0.915	
SKB1			0.833
SKB2			0.853
SKB3			0.761
SKB4			0.831
SKB5			0.813

Source: Data processing (2025)

Table 4. Construct reliability and validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Social Media	0.897	0.915	0.923	0.707
Reducing Stunting	0.940	0.953	0.954	0.807
Digital Based Communication Strategy	0.877	0.883	0.910	0.670

Source: Data processing (2025)

Path coefficient- direct effect

The results of the path analysis show that the influence of Digital-Based Communication Strategy on Social Media is significant with a coefficient value of 0.579, T-statistic 4.783 (>1.96), and p-value 0.000 (<0.05), which means that the digital communication strategy positively and significantly influences the optimization of social media in the stunting reduction campaign (Table 5). Furthermore, Social Media also has a significant effect on Stunting Reduction with a coefficient of 0.743, T-statistic 8.856, and p-value 0.000, which shows that the effective use of social media contributes strongly to efforts to accelerate stunting reduction. Thus, it can be concluded that digital-based communication strategies play an important role indirectly in reducing stunting through the use of social media as an effective campaign medium.

Table 5. Table direct effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Social Media -> Reducing Stunting	0.743	0.751	0.084	8.856	0.000
Digital Based Communication Strategy -> Social Media	0.579	0.589	0.121	4.783	0.000

Source: Data processing (2025)

Indirect effect

The results of the indirect effect analysis show that the Digital-Based Communication Strategy has an indirect effect on Stunting Reduction through Social Media with a coefficient value of 0.430, T-statistic 3.800 (>1.96), and p-value 0.000 (<0.05), which means the effect is significant (See Table 6). This indicates that the use of digital communication strategies can increase the effectiveness of social media, which ultimately has a positive impact on accelerating the reduction of stunting. Thus, Social Media has proven to be a strong mediator in bridging the influence of digital communication strategies on the expected result, namely, reducing stunting rates in the community.

Table 6. Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Digital Based Communication Strategy -> Social Media -> Reducing Stunting	0.430	0.445	0.113	3.800	0.000

Source: Data processing (2025)

Based on the results of the study, this confirms that the success of a digital communication strategy in the context of reducing stunting rates is largely determined by the

quality and strength of the main indicators that form each construct. Thus, the model used in this study is not only statistically valid, but also thematically relevant in explaining the phenomenon of digital communication and its impact on accelerating stunting reduction in urban areas such as Medan City. Meanwhile, empirically it is also appropriate and adequate that the digital-based communication strategy in accelerating stunting reduction through social media has given rise to three themes that can be developed, namely 1) internal consistency of the digital communication strategy; 2) social media as a strategic mediation in health development; and 3) strengthening the impact of communication on stunting reduction interventions.

The Medan City Government has prioritised stunting in its regional development agenda, in line with the Medan City Medium-Term Development Plan (RPJMD) mission to improve the quality of basic services and reduce social inequality. Stunting is understood as a structural obstacle that undermines the foundation of long-term development, particularly in preparing a productive generation for Golden Indonesia 2045. Stunting manifests not only in less-than-ideal physical form but also indicates nutritional problems and inadequate parenting. According to Adinda et al. (2024); Salsabila et al. (2024), stunting contributes to a long-term decline in human productivity. This indicates that addressing stunting must be carried out comprehensively, involving various sectors, including education, health, and communication. The target group for utilising digital-based communication in the stunting campaign are young people, who are the focus group for stunting prevalence, such as teenagers (prospective brides/grooms). This is in accordance with research made by Astika et al. (2023); Widiastuti et al. (2024) that young people receive more health information through social media than through traditional channels. However, research by Ridho et al. (2024) noted that health communication programs in Indonesia often focus on informational materials that are not well integrated into digital platforms. Recognising this behavioural shift, health interventions that rely on social media offer a significant opportunity to reach a large audience.

Social media has become a dominant platform for disseminating health information and campaigns. Platforms like Instagram, Facebook, and Twitter offer a space for sharing knowledge, experiences, and support. Fahri & Sayekti, (2024); Rawat et al., (2017) show that health campaigns conducted on social media can increase public knowledge by 30-40%. This approach can help address the problem of information asymmetry often faced by communities, especially in dense urban areas like Medan. Interactive communication strategies engage the public in the learning process. For example, campaigns involving quizzes, polls, or live sessions on social media can increase user engagement. Astuti et al., (2025); Christian et al. (2020) found that interactive patterns can improve information retention compared to traditional outreach methods. Disseminating messages to the public about the importance of nutrition and stunting management can also be expanded by partnering with local influencers or community leaders to disseminate the message. Research by Chioma, Ogor Uzoamaka; Uygun, Hayri; Gujrati, (2022); Sanusi et al. (2025), shows that recommendations from trusted individuals (influencers) have a greater impact on shaping healthy behaviours than information from official sources. Meanwhile, the use of multimedia content such as infographics, short videos, and engaging stories can convey information effectively. A study by Onsu et al. (2023) showed that the use of visuals in health communication can increase public understanding by up to 50% compared to text-based information. Furthermore, research by Christian et al. (2020; Dearden et al. (2023) shows that social support can increase adherence to recommended health programs. Therefore, building communities on social media where parents and community members can share experiences and information related to child nutrition can create important social support.

This research shows that social media increases user engagement on health topics. Content presented in visual form, such as infographics or short videos, is able to attract more attention than plain text. Studies by Mansur et al. (2023; Nurhaeni et al. (2024) show that the public is more responsive to visual content, which can increase understanding of health issues, including stunting. Compared with previous research, such as those conducted by Dearden et al. (2023); Setyowati et al. (2022), this study confirms that community engagement and social media use have a significant impact on changing health behaviours. However, this research focuses more on the operational details of digital communication strategies. Thus, along with the development of technology and information oriented towards digital transformation, it has changed the way information is disseminated and received, including on health aspects, particularly stunting. Through digitalisation, it can facilitate faster and broader access to health

information, making it accessible to all. Humaerah & Rahayu (2024); Kurniawan et al. (2022) explain that digital technology offers opportunities for a more personalised approach to health communication. Pourkarim et al. (2022) also align with these findings, stating that the use of community leaders or influencers in digital health campaigns can increase public trust in the information provided. This study found that social media can serve as a platform to enhance collaboration between various stakeholders, including the government, non-governmental organisations, and the community.

In accordance with these explanations, this study identifies several strategic focuses related to digital-based communication in accelerating stunting reduction through social media in Medan City. To present these focuses more systematically, the strategies are summarised in Table 7, which outlines the core elements, detailed explanations, practical implications, and supporting references.

Therefore, utilising digital communication through social media is a crucial and promising strategy for accelerating stunting reduction in Medan. As a health issue with long-term impacts on children's physical and cognitive development, stunting must be addressed promptly through innovative intervention strategies. The success of this approach depends heavily on the ability to educate the public, expand knowledge about nutrition, and build social support. Therefore, digital communication provides a strategic solution to the challenge of rapid, broad, and two-way information distribution. Social media, health apps, chatbots, digital infographics, and short interactive videos have been shown to increase public awareness of stunting issues, particularly among pregnant women, breastfeeding mothers, and adolescent girls. This approach is adaptive, enabling the delivery of messages that are contextual, personalised, and easily understood by the target audience. As noted by Hashim (2024); Kertati & Makarim (2024), digital communication based on user-generated content and influencer health marketing can increase public engagement in health issues, including stunting. This is because audiences tend to be more responsive to messages that are packaged emotionally, visually, and delivered by figures they trust, such as the examples of public campaigns.

Table 7. Matrix of core elements, detailed explanations, practical implications, and supporting references

Strategic focus	Detailed explanation	Practical implications	References
Internal Consistency of Digital Communication Strategy	The consistency of messages, formats, and communication channels is the foundation of effective health campaigns. Messages on nutrition, parenting, and health practices need to be delivered repeatedly, in an integrated and structured manner. This strategy may take the form of replication (re-disseminating the same message), transformation (adjusting formats to suit the audience), or innovation (creating new approaches based on technology).	With consistency, especially mothers and families, will more easily understand, remember, and internalize health messages. This is crucial to building sustainable, healthy behaviours.	(Beal et al., 2018; Hermawan & Rofiq, 2020)
Social Media as Strategic Media in Health Development	Social media serves as a strategic mediator in the rapid, widespread, and interactive dissemination of health information. Beyond delivering messages, platforms such as Instagram, Facebook, and Twitter also shape social norms, influence attitudes, and encourage community participation in health programs.	Social media can be applied in Social and Behaviour Change Communication (SBCC), increase public participation, strengthen social support, and accelerate the adoption of recommended health practices.	(Onsu et al., 2023; Suryanto et al., 2022)
Strengthening the Impact of Communication on Stunting Reduction Interventions	The use of digital technology in health promotion has been proven to increase knowledge about stunting, as shown among nursing students during the pandemic. Digitalization strengthens the effectiveness of social media-based interventions through increased awareness and behavior change within communities.	This strategy fosters real behavioural changes, enhances the impact of health interventions, and accelerates the achievement of stunting reduction targets through measurable and sustainable digital communication.	(Keswara et al., 2019; Kristiyono et al., 2025)

Source: Data processing (2025)

Therefore, integrating digital communication and social media is an optimal hybrid approach. According to Mansur et al. (2023); Salsabila et al. (2024) showed that interactive, community-based digital campaigns were more successful in improving knowledge and

practices of complementary feeding compared to one-way campaigns. Therefore, the Medan City government's efforts to reduce and prevent stunting include public campaigns on social media, through popular platforms such as Instagram, Facebook, TikTok, and WhatsApp groups, to convey messages about balanced nutrition, the importance of exclusive breastfeeding, maternal diets, and hygiene. Therefore, digital communication strategies can be a tool for social transformation in addressing stunting in Medan. However, their effectiveness depends on the relevance of the content to community needs and cross-sector collaboration (government, health workers, and digital communication). Public campaigns, as a digital communication strategy, must be followed up with field activities, such as integrated health posts (Posyandu), school counselling, and home visits to residents suspected of stunting. With the right approach, digital communication is not only a means of disseminating information but also of encouraging sustainable changes in health behaviour.

CONCLUSION

Stunting is a serious health problem that negatively impacts children's growth and development, as well as their future productivity. In Indonesia, including Medan City, the prevalence of stunting remains high, necessitating innovative and effective interventions. Digital communication strategies through social media have emerged as a key public campaign tool in stunting management efforts. As an increasingly popular and widely used platform, social media can be used to disseminate information and raise awareness of the importance of adequate nutrition and good parenting. The high prevalence of stunting in Medan City poses a major public health challenge, and the long-term impacts of stunting affect not only children's physical development but also their cognitive and social development. Therefore, addressing stunting must be a top priority, with an integrated approach tailored to the needs of the local community.

Public campaigns, which utilise digital technology to convey messages and information, specifically about stunting management, are conducted through various social media platforms such as Facebook, Instagram, and Twitter. The presence of social media provides an opportunity to reach a broader and more diverse audience, who are often more responsive to information delivered interactively. Social media has tremendous potential for disseminating health information. With features that enable user interaction, social media enables the provision of more engaging and easily understood information. This communication approach not only provides information but also provides a space for the public to share experiences and best practices in caring for children to prevent stunting.

The importance of a digital communication approach through social media as a public campaign in addressing stunting cannot be overstated. By utilising digital technology, information about nutrition and health can be disseminated in a more engaging and accessible manner. Social media enables active public engagement in dialogue about health issues and provides crucial social support in addressing stunting. Social media serves as an effective tool for raising awareness, educating the public, and encouraging positive behavioural changes in stunting prevention. In this context, innovative, digital-based communication strategies can accelerate the reduction of stunting rates and their prevention in Medan City and ensure the health of future generations. This study also provides recommendations: 1) stakeholders should continue to involve more influencers to expand the campaign's reach; 2) increase the development of digital content to engage audiences; 3) encourage the formation of communities that can support the exchange of information and experiences, which is crucial. and 4) Conduct regular evaluations to understand the impact of the campaign and adapt strategies according to community needs.

ACKNOWLEDGMENTS

The authors would like to thank the Chancellor of the University of Muhammadiyah Sumatera Utara who has provided facilities in the implementation of this study, especially the budget through LP2M UMSU. Thank you also to the Government Medan City, who helped, and the data needed to complete this research.

REFERENCES

- Abdullah, A., Emery, C., Xu, Y., & Mensah, F. (2025). Associations between child neglect, informal interventions in food neglect, and child stunting: Evidence from the Ghana families study. *Children and Youth Services Review*, 172(September 2023), 108273. <https://doi.org/10.1016/j.childyouth.2025.108273>
- Adinda, R. G., Windah, A., Kartika, T., Nurhaida, I., Aryanti, N. Y., Lampung, U., Lampung, U., & Author, C. (2024). Online Health Navigation: Study Case of @leonavictoria_ahligizi's Instagram's Impact on Information Fulfilment for Stunting Prevention. *International Journal of Health, Engineering and Technology (IJHET)*, 2(5), 215-225. <https://doi.org/https://doi.org/10.55227/ijhet.v2i6.196>
- Aritonang, E. A., Margawati, A., & Dieny, F. F. (2020). Analisis Pengeluaran Pangan, Ketahanan Pangan Dan Asupan Zat Gizi Anak Bawah Dua Tahun (Baduta) Sebagai Faktor Risiko Stunting. *Journal of Nutrition College*, 9(1), 71-80. <https://doi.org/10.14710/jnc.v9i1.26584>
- Astika, T., Permatasari, E., Turrahmi, H., Gizi, P. S., Jakarta, U. M., Kebidanan, P. S., & Jakarta, U. M. (2023). Edukasi kemandirian pangan dan gizi bagi kader posyandu pada masa pandemi covid-19. *Aptekmas: Jurnal Pengabdian Kepada Masyarakat*, 6(1), 64-71.
- Astuti, S. J. W., Suindyah Dwiningwarni, S., & Atmojo, S. (2025). Modeling environmental interactions and collaborative interventions for childhood stunting: A case from Indonesia. *Dialogues in Health*, 6(December 2024), 100206. <https://doi.org/10.1016/j.dialog.2025.100206>
- Beal, T., Tumilowicz, A., Sutrisna, A., Izwardy, D., & Neufeld, L. M. (2018). A review of child stunting determinants in Indonesia. *Maternal and Child Nutrition*, 14(4), 1-10. <https://doi.org/10.1111/mcn.12617>
- Chandra, B. R., Darwis, R. S., & Humaedi, S. (2022). Peran Pemberdayaan Kesejahteraan Keluarga (Pkk) Dalam Pencegahan Stunting. *Focus: Jurnal Pekerjaan Sosial*, 4(2), 107. <https://doi.org/10.24198/focus.v4i2.35060>
- Chioma, Ogor Uzoamaka; Uygun, Hayri; Gujrati, R. (2022). New Media and Digital Mums: The Role of Social Media in Promoting Healthy Dietary Practices amongst Pregnant Women in Enugu State , Nigeria. *VIMARSH*, 13(2), 16-27.
- Christian, P., Hurley, K. M., Phuka, J., Kang, Y., Ruel-Bergeron, J., Buckland, A. J., Mitra, M., Wu, L., Klemm, R., & West, K. P. (2020). Impact evaluation of a comprehensive nutrition program for reducing stunting in children aged 6-23 months in rural Malawi. *Journal of Nutrition*, 150(11), 3024-3032. <https://doi.org/10.1093/jn/nxaa236>
- Creswell, J. W. (2014). *Research Design Qualitative, Quantitative and Mixed Methods Approaches* (Third Edit).
- Dearden, K., Mulokozi, G., Linehan, M., Cherian, D., Torres, S., West, J., Crookston, B., & Hall, C. (2023). The Impact of a Large-Scale Social and Behavior Change Communication Intervention in the Lake Zone Region of Tanzania on Knowledge, Attitudes, and Practices Related to Stunting Prevention. *International Journal of Environmental Research and Public Health*, 20(2). <https://doi.org/10.3390/ijerph20021214>
- Fahri, M. S., & Sayekti, R. (2024). Stunting Literacy Strategy of the Library and Archives Office: Increasing Public Awareness and Understanding. *Journal La Edusci*, 5(3), 152-161. <https://doi.org/10.37899/journallaedusci.v5i3.1504>
- Hair, J. F., Hult, G. T. M., & Ringle, C. M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications, Inc. Printed. <http://lccn.loc.gov/2016005380>
- Handayani, B., & Ariyanto, B. (2023). Media Sosial Dan Kampanye Pencegahan Stunting. *Journal of Humanity Studies*, 2(1), 2023. <https://ejournal.upgrisba.ac.id/index.php/jhs/index>
- Hashim, H. (2024). E-government impact on developing smart cities initiative in Saudi Arabia: Opportunities & challenges. *Alexandria Engineering Journal*, 96(April), 124-131. <https://doi.org/10.1016/j.aej.2024.04.008>
- Hermawan, Y., & Rofiq, A. (2020). Community Participation in Covid-19 Prevention. *Journal of Nonformal Education and Community Empowerment*, 4(1), 17-22. file:///C:/Users/User/Documents/Downloads/39032-Article Text-114739-1-10-20201231.pdf
- Hidayat, R. (2022). Use of Twitter for Public Education on Stunting in Indonesia. *Sustainability Science and Resources*, 3, 17-31. <https://doi.org/10.55168/ssr2809-6029.2022.3002>
- Humaerah, M. Al, & Rahayu, M. (2024). Analysis of stunting prevention through communication, information, and education with empowerment. *Jurnal Ilmiah Kesehatan Sandi Husada*, 13(2), 396-402. <https://doi.org/10.35816/jiskh.v13i2.1229>
- Irawan, Septia Anggi; Alristina, Dwi Arie; Laili, Dzariyani Rizky; Amalia, Nuke; Tewabe, Walelign; Dobrossy, Bence; Girasek, E. (2024). *Unveiling Peak Detection, Sentiment Analysis and Post Engagement: Social Media Listening Discourses on Stunting in Indonesia*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4888137
- Kertati, I., & Makarim, F. R. (2024). The Transformation of Affirmative Action Policies: A Strategy to Enhance the Gender Empowerment Index in the Digital Era. *Proceedings of International Conference on Social, Politics, Administration, and Communication Sciences*, 1(1), 1-13. <https://jurnal2.untagsmg.ac.id/index.php/ICoSPACS>
- Keswara, U. R., Wahyudi, D. A., & Sari, W. E. P. (2019). Pengetahuan, Sikap Dan Peran Tenaga Kesehatan Terhadap Penerapan Pola Hidup Bersih Dan Sehat (Phbs) Rumah Tangga. *Holistik Jurnal Kesehatan*, 13(1), 37-47. <https://doi.org/10.33024/hjk.v13i1.1128>
- Kodish, S. R., Farhikhtah, A., Mlambo, T., Hambayi, M. N., Jones, V., & Aburto, N. J. (2022). Leveraging the Scaling Up Nutrition Movement to Operationalize Stunting Prevention Activities: Implementation Lessons From Rural Malawi. *Food and Nutrition Bulletin*, 43(1), 104-120. <https://doi.org/10.1177/037957212111046140>
- Kristiyono, J., Luh, N., Purnama, A., Oktarina, R. A., & Kurniawaty, Y. (2025). Digital literacy health promotion in stunting prevention efforts for Surabaya Hebat Cadres. *ABDIMAS: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang*, 10(February), 1-12. [https://doi.org/ABDIMAS: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang Vol.10\(1\) February 2025, 1-12 p-ISSN: 2721-138X e-ISSN: 2548-7159](https://doi.org/ABDIMAS: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang Vol.10(1) February 2025, 1-12 p-ISSN: 2721-138X e-ISSN: 2548-7159) <http://jurnal.unmer.ac.id/index.php/jpkm LPPM>

- Kurniawan, T. A., Dzarfan Othman, M. H., Hwang, G. H., & Gikas, P. (2022). Unlocking digital technologies for waste recycling in Industry 4.0 era: A transformation towards a digitalization-based circular economy in Indonesia. *Journal of Cleaner Production*, 357(April), 131911. <https://doi.org/10.1016/j.jclepro.2022.131911>
- Laporan Monev RAD PANGAN Dan GIZI Kota Medan, 1 Forum Koordinasi Penyelenggaraan RAD PANGAN dan GIZI Kota Medan 195 (2023).
- Lestari, D., Rochaida, E., Suharto, R. B., Mixila, S., & Sutapa, I. N. (2022). In the Era of Digitization, Government's Role in Alleviating Stunting. *Webology*, 19(1), 4925-4941. <https://doi.org/10.14704/web/v19i1/web19330>
- Liang, Y., Qi, G., Zhang, X., & Li, G. (2019). The effects of e-Government cloud assimilation on public value creation: An empirical study of China. *Government Information Quarterly*, 36(4), 101397. <https://doi.org/10.1016/j.giq.2019.101397>
- Mansur, S., Saragih, N., Afgiansyah, A., Novianti, W., & Istiyanto, S. B. (2023). Child Stunting: Revealing the Lack of Concern of National Media in Indonesia. *Profetik: Jurnal Komunikasi*, 16(2), 419-436. <https://doi.org/10.14421/pjk.v16i2.2837>
- Marlinawati, D. A., Rahfiludin, M. Z., & Mustofa, S. B. (2023). Effectiveness of Media-Based Health Education on Stunting Prevention in Adolescents: A Systematic Review. *AgriHealth: Journal of Agri-Food, Nutrition and Public Health*, 4(2), 102. <https://doi.org/10.20961/agrihealth.v4i2.71357>
- Masya, H., & Salim Alatas. (2024). Social intervention as a communication strategy in reducing stunting in Sidoarjo East Java. *Communicology: Journal of Communication Sciences*, 12(1), 104-124.
- Moekahar, F., Ayuningtyas, F., & Hardianti, F. (2022). Social media political campaign model of local elections in Pelalawan Regency Riau. *Jurnal Kajian Komunikasi*, 10(2), 242. <https://doi.org/10.24198/jkk.v10i2.41680>
- Ndagijimana, A., Nduwayezu, G., Kagoyire, C., Elfving, K., Umubyeyi, A., Mansourian, A., & Lind, T. (2024). Childhood stunting is highly clustered in Northern Province of Rwanda: A spatial analysis of a population-based study. *Heliyon*, 10(2). <https://doi.org/10.1016/j.heliyon.2024.e24922>
- Nurhaeni, N., Huda, M. H., Chodidjah, S., Agustini, N., Waluyanti, F. T., Nadi, H. I. K., Armini, N. K. S., Sari, M., & Jackson, D. (2024). Exploring the strategies and components of interventions to build adolescent awareness about stunting prevention in West Java: A qualitative study. *PLoS ONE*, 19(12 December), 1-22. <https://doi.org/10.1371/journal.pone.0314651>
- Onsu, R. R., Waleleng, G. J., & Sondakh, M. (2023). Public Health Behavior Change Communication Strategies in Accelerating the Reduction of Stunting in North Minahasa Regency. *Journal La Sociale*, 4(3), 140-148. <https://doi.org/10.37899/journal-la-sociale.v4i3.858>
- Pham, T. P. T., Van Nguyen, T., Van Nguyen, P., & Ahmed, Z. U. (2024). The pathways to innovative work behavior and job performance: Exploring the role of public service motivation, transformational leadership, and person-organization fit in Vietnam's public sector. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), 100315. <https://doi.org/10.1016/j.joitmc.2024.100315>
- Pourkarim, M., Nayebedeh, S., Alavian, S. M., & Hataminasab, S. H. (2022). Digital Marketing: A Unique Multidisciplinary Approach towards the Elimination of Viral Hepatitis. *Pathogens*, 11(6), 1-22. <https://doi.org/10.3390/pathogens11060626>
- Puji, S. (2016). Konstruksi Sosial Media Massa Puji Santoso Dosen Komunikasi Fakultas Ilmu Sosial dan Ilmu Politik Universitas Muhammadiyah Sumatera Utara. *Al-Balagh*, 1(1), 34.
- Rawat, R., Nguyen, P. H., Tran, L. M., Hajebehoy, N., Van Nguyen, H., Baker, J., Frongillo, E. A., Ruel, M. T., & Menon, P. (2017). Social franchising and a nationwide mass media campaign increased the prevalence of adequate complementary feeding in Vietnam: A cluster-randomized program evaluation. *Journal of Nutrition*, 147(4), 670-679. <https://doi.org/10.3945/jn.116.243907>
- Ridho, F. M., Fauzan, M., Faisal, A., & Hanafi, H. (2024). The Effectiveness of Health Communication in Preventing Stunting. *Jurnal Studi Ilmu Sosial Dan Politik*, 3(2), 99-107. <https://doi.org/10.35912/jasispol.v3i2.2609>
- Rusilanti, & Riska, N. (2021). Pengaruh Pelatihan Tentang Pemilihan Makanan Sehat Untuk Mencegah Terjadinya Stunting Melalui Edukasi Gizi Terhadap Peningkatan Pengetahuan Remaja Putri. *JKKP (Jurnal Kesejahteraan Keluarga Dan Pendidikan)*, 8(02), 175-185. <https://doi.org/10.21009/jkkp.082.06>
- Saldana, M. B. M. A. M. H. J. (2014). *Qualitative Data Analysis* (Third, Vol. 11, Issue 1). Sage Publications. http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI
- Salsabila, O. L., Hastjarjo, S., & Satyawan, I. A. (2024). Government public relations strategy in the digital age: Social Media Influencer (SMI) collaboration in building community participation in Madiun Regency. *Informasi*, 54(1), 89-104. <https://doi.org/10.21831/informasi.v54i1.70577>
- Sanusi, B. O., Amusan, O. G., & Dada, D. O. (2025). Social Media and Sustainable Development: Thematic and Sentiment Analysis of Twitter (X) Conversations on Zero Hunger in Nigeria. *African Journal of Social and Behavioural Sciences (AJSBS)*, 15(1), 391-409. <https://journals.aphriapub.com/index.php/AJSBS/article/view/3035>
- Sari, T Mila; Hajar, S. F. T. (2023). Peningkatan Pemahaman Ibu PKK tentang Pola Hidup Sehat dan Bersih (PHBS) Sebagai Upaya Penanganan Stunting di Desa Hamparan Perak. *Abdiraja*, 6(2), 21-26. <https://doi.org/http://dx.doi.org/10.24929/adr.v6i2.2887>
- Setyowati, K., Prakoso, S. G., Utomo, I. H., Parwiyanto, H., Suryawati, R., Nugroho, R. A., Susiloadi, P., & Santoso, S. A. (2022). Digital Literacy and The Prevention of Stunting from Suburban Perspective: Case in Sepat Village, Sragen. *Proceedings of the 7th International Conference on Social and Political Sciences (ICoSaPS 2022)*, 45-50. https://doi.org/10.2991/978-2-494069-77-0_8

- Suryanto, D., Basid, A., Kusuma Negara, C., & Kalimantan Muhammad Arsyad Al Banjari, I. (2022). The Effect of Community Nutrition Education Innovation Based on Social Media Marketing on Knowledge, Attitude, And Behavior To Prevent Stunting under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0). *Jurnal Eduhealth*, 13(02), 2022. <http://ejournal.seaninstitute.or.id/index.php/health>
- Widiastuti, T., Al-shami, S. A., Mawardi, I., Zulaikha, S., Haron, R., Kasri, R. A., Mustofa, M. U. Al, & Dewi, E. P. (2024). Capturing the barriers and strategic solutions for women empowerment: Delphy analytical network process. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), 100345. <https://doi.org/10.1016/j.joitmc.2024.100345>