



MALAHAYATI INTERNATIONAL JOURNAL
OF NURSING AND HEALTH SCIENCE
ISSN 2620-9152 (Print)
ISSN 2621-4083 (Online)
DOI: 10.33024



ARTICLE INFORMATION

Received: December, 2, 2025

Revised: December, 31, 2025

Available online: December, 31, 2025

at : <https://e-jurnal.iphorr.com/index.php/minh>

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

Abstract

Background: Stunting remains a major public health problem in Indonesia, with prevalence rates that exceed the World Health Organization threshold. In Bengkulu Province, particularly in the Kampung Melayu Subdistrict, stunting is exacerbated by limited access to health services, low maternal knowledge, unfavorable attitudes, and inadequate sanitation-related preventive behaviors. These factors contribute to recurrent infections and impaired nutrient absorption in children under two years old. The use of digital-based educational media is considered a promising strategy to improve health literacy and promote positive behavioral change among mothers.

Purpose: To evaluate the effectiveness of the Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old in the Kampung Melayu Subdistrict, Bengkulu City.

Method: A quasi-experimental design with a control group. A total of 80 participants were selected using purposive sampling and divided into an intervention group (n = 40) and a control group (n = 40). The intervention group received health education through the SESAMA Android application, while the control group received conventional health promotion. Data were analyzed using Wilcoxon test, Paired T-test, Mann-Whitney test, ANCOVA, and MANCOVA.

Results: The intervention group showed a significant improvement in knowledge, attitudes, and preventive behaviors related to stunting (p = 0.000). Mean knowledge scores increased from 5.60 to 8.23, attitude scores from 35.58 to 39.50, and behavior scores from 11.18 to 15.73. In contrast, the control group showed a significant improvement only in knowledge (p = 0.041), with no significant changes in attitudes (p = 0.172) or behaviors (p = 0.083). MANCOVA analysis confirmed that the SESAMA application had a significant effect on knowledge (p = 0.000; R² = 0.298), attitudes (p = 0.000; R² = 0.166), and behaviors (p = 0.000; R² = 0.584), with the strongest effect observed on preventive behavior.

Conclusion: The SESAMA Android-based educational application is effective in improving maternal knowledge, attitudes, and behaviors related to stunting prevention and demonstrates greater effectiveness compared to conventional health promotion methods. The SESAMA model has strong potential to support digital health education strategies and may be considered for broader implementation in stunting prevention programs.

Keywords: Android Application; Digital Health Education; Mothers of Under-Two Children; SESAMA Model; Stunting Prevention.

INTRODUCTION

Stunting remains one of the most persistent forms of chronic malnutrition and continues to pose a major public health challenge globally, including in Indonesia. Stunting is defined as a condition of growth failure in children under five years of age resulting from prolonged inadequate nutritional intake, recurrent infections, and inappropriate caregiving practices. This condition is identified when a child's height-for-age index falls below minus two standard deviations (-2 SD) of the World Health Organization (WHO) growth standards. Children affected by stunting are at increased risk of impaired cognitive development, delayed brain maturation, reduced intellectual capacity, and lower productivity in adulthood, which may ultimately hinder national human capital development (Tarmizi, 2023). Empirical evidence further indicates that stunted children demonstrate significantly lower cognitive performance, with non-verbal intelligence quotient (IQ) scores averaging 4.57 points below those of non-stunted children (Muhawarman, 2025).

In Indonesia, the prevalence of stunting remains a critical concern. National data show that 24.4% of children under five are stunted, exceeding the WHO threshold of less than 20%. The situation is more severe in Bengkulu Province, where the prevalence reaches 26.86% (Ministry of Health Republic Indonesia, 2021). Kampung Melayu Subdistrict in Bengkulu City has been designated as a priority stunting locus due to its high incidence rate and limited access to adequate health services. Environmental health and sanitation-related behaviors, including unsafe drinking water, improper fecal disposal, inadequate household waste management, and the practice of open defecation, contribute substantially to recurrent infectious diseases such as diarrhea and intestinal worm infestations. These conditions disrupt nutrient absorption and significantly increase the risk of stunting among young children (Daracantika, Ainin, & Besral, 2021; George, Zohura, Teman, Thomas, Hasan, Rana, Parvin, Sack, Bhuyian, Labrique, Masud, Winch, Leontsini, Zeller, Begum, Khan, Tahmina, Munum, Monira, & Alam, 2019; Rachmawati, Machmud, & Hatma, 2019).

To address these challenges, the Indonesian government has implemented the Community-Based Total Sanitation program as a nutrition-sensitive intervention aimed at reducing stunting. Despite its strategic importance, the implementation of Community-Based Total Sanitation program has encountered multiple barriers, including low levels of community knowledge, unfavorable attitudes, and limited participation in maintaining environmental hygiene practices. Previous studies have shown that conventional health education approaches, such as verbal counseling, posters, and leaflets, tend to be less effective due to their passive nature, limited time availability of health workers, and low information retention among community members (Hendryani & Susana, 2020).

In recent years, the transformation of digital health services has emerged as an effective strategy to enhance community health literacy through interactive, technology-based learning media [10]. Android-based mobile applications, in particular, have demonstrated effectiveness in improving health-related knowledge and behavioral outcomes across diverse population groups (George et al., 2019; Novira, Lismaningsih, & Bangsu, 2020). Furthermore, mobile health (mHealth) interventions in the sanitation sector have shown promising results in promoting hygienic behaviors and reducing the risk of infectious diseases (Ummah, 2024). Nevertheless, empirical evidence regarding the application of mobile health technologies for stunting prevention through STBM-based education remains limited, especially in remote and coastal communities.

Responding to this gap, the SESAMA (Community-Based Total Sanitation Scoring and Education) model was developed as an Android-based application designed to support stunting prevention efforts. The SESAMA application integrates environmental-based stunting risk scoring, interactive educational content aligned with the pillars of STBM, and an online consultation feature. This study aims to examine the effectiveness of the SESAMA model in improving knowledge, attitudes, and preventive behaviors related to stunting among

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

mothers of children under two years of age in Kampung Melayu Subdistrict, Bengkulu City.

RESEARCH METHOD

This study employed a quasi-experimental design with a control group using a quantitative approach. The quasi-experimental design was selected because random assignment of participants was not feasible; therefore, group allocation was conducted based on predefined inclusion criteria while still allowing for comparison between the intervention and control groups. The study was conducted from January to November 2025 in Kampung Melayu District, Bengkulu City.

The study population consisted of all mothers with children under five years of age residing in the study area. A total of 80 participants were included, comprising 40 mothers in the intervention group and 40 mothers in the control group. Participants were selected using purposive sampling, a non-probability sampling technique in which participants are deliberately chosen based on specific criteria. The inclusion criteria were ownership of a smartphone, as the intervention required access to a mobile application, and willingness to participate throughout the study period.

The intervention applied in this study was the SESAMA Application Model, an Android-based digital education platform developed to support stunting prevention through environmental health promotion. The application provides structured educational content related to the pillars of *Community-Based Total Sanitation* (CBTS), including safe water use, sanitation practices, and hygiene behavior, as well as an online consultation feature for communication with health personnel. The control group received conventional health promotion, such as verbal counseling and printed educational materials, which reflect routine practices in community health services.

Data were collected using structured questionnaires measuring knowledge, attitudes, and preventive behaviors related to stunting and environmental sanitation. Knowledge assessed participants' understanding of stunting and CBTS principles, attitudes measured perceptions and beliefs toward preventive practices, and behaviors evaluated the implementation of recommended sanitation and hygiene practices in daily life. The scores of each variable were further categorized into *at risk* and *not at risk* groups. Knowledge was classified as *at risk* when the score was below the predetermined cut-off point, indicating inadequate understanding, while scores at or above the cut-off were classified as *not at risk*. Attitudes were categorized as *at risk* when participants demonstrated negative or unsupportive perceptions toward stunting prevention, whereas positive attitudes were categorized as *not at risk*. Preventive behaviors were classified as *at risk* when participants reported unhealthy sanitation and hygiene practices, and *not at risk* when recommended practices were consistently applied.

Data analysis was conducted in stages. Univariate analysis described participants' characteristics and variable distributions. Bivariate analysis examined differences within and between groups using the Wilcoxon test, Independent *t*-test, or Mann-Whitney U test, depending on data distribution. Furthermore, *Analysis of Covariance* (ANCOVA) and *Multivariate Analysis of Covariance* (MANCOVA) were employed to evaluate the effectiveness of the SESAMA application while controlling for potential confounding variables. This research has passed the ethical review conducted by the Health Research Ethics Committee of Poltekkes Kemenkes Bengkulu, as evidenced by the ethical approval letter number No. KEPK.BKL/687/09/2025.

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

RESEARCH RESULTS

Table 1. Characteristics of Participants (N=80)

Variable	Group	
	SESAMA Application	Conventional Health Promotion
Age (n/%)		
Age (Mean±SD)(Range)(Year)	(29.8 ± 5.6)(20–40)	(30.2 ± 5.8)(20–40)
At risk	3/7.5	5/12.5
No risk	37/92.5	35/87.5
Number of Children (n/%)		
At risk	17/42.5	21/52.5
No risk	23/57.5	19/47.5
Education Level (n/%)		
Low	7/17.5	10/25
High	33/82.5	30/75
Socioeconomic Status (n/%)		
Low	16/40	13/32.5
High	24/60	27/67.5
Occupation (n/%)		
Employed	13/32.5	14/35
Unemployed	27/67.5	26/65
STBM Facilities (n/%)		
Incomplete	10/25	6/15
Complete	30/75	34/85
Application Access (n/%)		
Limited	3/7.5	7/17.5
Unlimited	37/92.5	33/82.5
Satisfaction (n/%)		
Satisfied	11/27.5	7/17.5
Unsatisfied	29/72.5	33/82.5
Knowledge (Mean±SD)(Range)		
Pretest	(5.60 ± 1.41) (2-8)	(5.88 ± 1.40) (3-9)
Posttest	(8.23 ± 1.23) (6-10)	(6.43 ± 1.34) (3-9)
Attitude (Mean±SD)(Range)		
Pretest	(35.58 ± 4.25) (22-45)	(39.03 ± 5.030) (23-49)
Posttest	(39.50 ± 3.78) (31-48)	(39.88 ± 4.20) (30-47)
Behavior (Mean±SD)(Range)		
Pretest	(11.18 ± 1.22)(9-14)	(10.73 ± 1.20)(7-13)
Posttest	(15.73 ± 2.05)(10-19)	11.13 ± 1.80(8-14)

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

DOI: <https://doi.org/10.33024/minh.v8i10.1945>

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

Table 1 describes the distribution of respondent characteristics in both intervention groups. Most participants were in the non-risk age category, had higher education, and unlimited application access. Also in table 1 indicates that an increase in mean scores after intervention, with higher improvements observed in the SESAMA application group compared to conventional health promotion.

Table 2. Effectiveness of SESAMA Application and Conventional Health Promotion Based on Pretest–Posttest Analysis

Variable	Mean Rank (Pre)	Mean Rank (Post)	Z	p-value
Knowledge				
SESAMA	0.00	19.00	5.33	0.000*
Conventional	16.17	18.96	2.04	0.041*
Attitude				
SESAMA	8.83	19.38	4.82	0.000*
Conventional	39.03	39.88	1.39	0.172
Behavior				
SESAMA	0.00	19.00	5.33	0.000*
Conventional	10.38	12.87	1.73	0.083

*Wilcoxon Test

Table 2 indicates the SESAMA application significantly improved knowledge, attitude, and behavior, while conventional health promotion showed significant improvement only in knowledge.

Table 3. Differences in Knowledge, Attitude, and Behavior Between Intervention Groups

Variable	Mean Difference	p-value
Knowledge		
SESAMA Application	2.63	0.000*
Conventional Promotion	0.55	
Attitude		
SESAMA Application	4.83	0.000**
Conventional Promotion	0.85	
Behavior		
SESAMA Application	3.87	0.000*
Conventional Promotion	0.40	

*Mann–Whitney Test; **Independent Sample t-test

Table 3 indicates that the SESAMA application model resulted in significantly greater improvements compared to conventional health promotion across all outcome variables.

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

Table 4. Multivariate Analysis of SESAMA Application Model on Knowledge, Attitude, and Behavior

Dependent Variable	Independent Variable	F	p-value	R ²
Knowledge	SESAMA Application Model	7.29	0.009	0.392
	Occupation	0.73	0.397	
	Application Access Frequency	3.18	0.079	
Attitude	SESAMA Application Model	18.41	0.000	0.389
	Age	0.25	0.619	
	Education	3.26	0.076	
	Satisfaction	0.73	0.395	
Behavior	SESAMA Application Model	55.86	0.000	0.600
	STBM Facilities	2.59	0.112	

*ANCOVA

Table 4 indicates that multivariate analysis shows that the SESAMA application model significantly influenced knowledge, attitude, and behavior independently of external variables.

DISCUSSION

The findings of this study indicate that the SESAMA educational application model had a significant effect on improving the knowledge, attitudes, and behavior of mothers with under-two children in relation to stunting prevention. This conclusion is supported by the MANCOVA test results, which showed a statistically significant influence of the intervention on all outcome variables ($p = 0.000$). The observed improvements were supported by both descriptive mean differences and non-parametric test results, indicating consistent pretest–posttest changes across outcome measures. The SESAMA application contributed to a 29.8% increase in knowledge, a 16.6% increase in attitudes, and a 58.4% increase in preventive behavior. These percentages reflect the proportion of variance explained by the intervention in the multivariate model. Among these outcomes, behavior demonstrated the greatest improvement, suggesting that the SESAMA application was

particularly effective in encouraging practical changes related to stunting prevention. The strong behavioral effect can be attributed to the nature of digital educational media, which provide continuous exposure, promote active user engagement, and reinforce health messages over time.

Educational media play a crucial role in stimulating multiple sensory channels, thereby enhancing the perception and assimilation of health information. Appropriate media selection helps clarify complex messages, increases learning motivation, and facilitates interaction through more engaging delivery methods. When educational materials are packaged in formats that align with the characteristics of the media used, learners are more likely to comprehend, retain, and apply the information in their daily practices (Kasjono & Suryani, 2020).

In the current digital era, smartphones have evolved beyond basic communication tools into multifunctional Android-based devices that are deeply integrated into everyday life. Health education delivered through smartphone applications allows individuals to independently access learning resources and supports behavioral modification. Android-based educational media offer several

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

DOI: <https://doi.org/10.33024/minh.v8i10.1945>

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

advantages, including instant notifications, ease of access, mobility, and high interactivity, all of which enhance the efficiency of public health education delivery. The ability to access health interventions anytime and anywhere makes digital platforms particularly effective for nutrition education and stunting prevention efforts (Febriana, 2024; Hidayat, Sutisna, Rowawi, Wijayanegara, Garna, & Rachmatie, 2021).

Previous studies consistently support the effectiveness of Android-based health education media compared to conventional approaches in improving knowledge and behavior related to stunting prevention. Visual media, in particular, are estimated to deliver approximately 75–87% of information to the brain, compared to 13% through auditory channels and only 12% through other sensory modalities. This finding highlights the capacity of visual digital platforms to optimize cognitive processing and facilitate behavioral adoption (Hidayat et al., 2021). A literature review further reported that mobile health (mHealth) applications are generally well accepted by users, although studies with larger sample sizes remain limited (Fitriani, & Galaresa, 2022; Gita, Surya, & Setyaningsih, 2023; Rufaindah & Patemah, 2021). In addition, Android-based educational interventions have been shown to significantly improve knowledge outcomes (Rusana, Rofiq, Sucipto, Wijayanti, & Ariani, 2023). Similarly, one study reported a significant difference in knowledge before and after the use of the “Ceting” stunting prevention application ($p = 0.005$), reinforcing the potential of digital tools as innovative platforms for public health education (Gita et al., 2023).

In contrast, the conventional health promotion group demonstrated a significant improvement only in knowledge, while changes in attitude and behavior were not statistically significant. Conventional health promotion approaches are often limited by inconsistent accessibility, the absence of reminder systems, and a high dependence on health workers for information delivery. Inadequate parental knowledge, unfavorable attitudes toward nutrition practices, and misconceptions about stunting contribute to suboptimal child-feeding behaviors,

which ultimately affect children's nutritional status and growth (Hamdin, Hamid, & Nurhayati, 2023).

Maternal attitude reflects both cognitive evaluations and emotional responses to the consequences of stunting. Cognitive components influence how information is assessed, while affective components shape emotional reactions that guide decision-making. The lack of significant improvement in attitudes within the conventional promotion group may be associated with limited awareness, deeply rooted cultural beliefs, and low levels of engagement with health services. Poor maternal attitudes have also been linked to low concern for food quality and infrequent participation in child growth monitoring activities (Rahmayanti, Dewi, & Fitriani, 2020).

Correlation analysis indicated that maternal age significantly influenced attitude ($p = 0.026$), while socioeconomic status showed a close association with preventive behavior ($p = 0.075$). Previous research has indicated that maternal age below 20 years or above 35 years is associated with a higher risk of inadequate parenting practices and nutritional care, highlighting the need for targeted educational interventions for these age groups (Santosa, Arif, & Ghoni, 2021).

Preventive behavior related to stunting was also associated with environmental sanitation factors, particularly the availability of STBM facilities. Although STBM facilities were not statistically significant in the multivariate model, sanitation-related behaviors remain contextually important determinants of stunting prevention, as supported by previous studies. Practices such as open defecation and inadequate sanitation increase exposure to pathogenic bacteria that cause diarrhea, intestinal inflammation, nutrient malabsorption, and ultimately growth failure. Numerous studies have confirmed significant relationships between sanitation behaviors and stunting incidence, emphasizing the importance of water, sanitation, and hygiene (WASH) interventions in stunting reduction strategies (Tatu, Mau, & Rua, 2021).

Proper household waste management, access to clean water, and regular handwashing with soap are essential measures for preventing the transmission

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

of infectious diseases. Handwashing alone has been shown to reduce the incidence of diarrhea and serve as a protective factor against stunting. Inadequate waste and wastewater management can create breeding grounds for vectors such as flies, which facilitate contamination of food and water sources. Previous studies support the findings of this research by demonstrating significant associations between poor sanitation practices and stunting outcomes. Unsafe waste disposal, the absence of latrines, and inadequate drainage systems increase the risk of infection and growth failure. Therefore, strengthening sanitation infrastructure and enhancing community awareness of healthy environmental practices are critical components of sustainable stunting prevention

CONCLUSION

The SESAMA Android-based educational application is effective in improving the knowledge, attitudes, and preventive behaviors of mothers with children under two years old regarding stunting prevention. Compared to conventional health promotion methods, the SESAMA application demonstrated greater effectiveness in facilitating learning and encouraging behavioral change. Its structured, accessible, and interactive digital format enables continuous engagement and supports the adoption of appropriate stunting prevention practices. Therefore, the SESAMA model shows strong potential as a digital health education strategy and may be considered for broader implementation in stunting prevention programs.

REFERENCES

- Daracantika, A., Ainin, A., & Besral, B. (2021). Systematic literature review: Pengaruh negatif stunting terhadap perkembangan kognitif anak. *Jurnal Biostatistik, Kependudukan, Dan Informatika Kesehatan*, 1(2), 6.
- Febriana, T. (2024). Efektivitas Aplikasi M-Health "Hallo Manis" Berbasis Android Pada Kepatuhan Kunjungan Nifas. *Jurnal Kesehatan*, 17(1), 37-47.
- Fitriami, E., & Galaresa, A. V. (2022). Edukasi pencegahan stunting berbasis aplikasi android dalam meningkatkan pengetahuan dan sikap ibu. *Citra Delima Scientific journal of Citra Internasional Institute*, 5(2), 78-85.
- Gita, A. P. A., Surya, N. T., & Setyaningsih, A. (2023). Aplikasi stunting berbasis android guna mempercepat deteksi dini kejadian stunting. *Journal of Public Health Innovation*, 3(02), 142-150.
- George, C. M., Zohura, F., Teman, A., Thomas, E., Hasan, T., Rana, S., Parvin, T., Sack, D. A., Bhuyian, S. I., Labrique, A., Masud, J., Winch, P., Leontsini, E., Zeller, K., Begum, F., Khan, A. H., Tahmina, S., Munum, F., Monira, S., & Alam, M. (2019). Formative research for the design of a scalable water, sanitation, and hygiene mobile health program: CHOBI7 mobile health program. *BMC Public Health*, 19(1), 1028.
- Hamdin, H., Hamid, A., & Nurhayati, N. (2023). Hubungan Pengetahuan Ibu Tentang Stunting Pada Balita Di Wilaya Kerja Puskesmas Moyo Hilir 2022. Prepotif: *Jurnal Kesehatan Masyarakat*, 7(1), 865-870.
- Hendryani, A., & Susana, E. (2020). Pengembangan aplikasi mobile health berbasis Android untuk monitoring dan evaluasi stunting. *Jurnal Sehat Mandiri*, 15(1), 24-32.
- Hidayat, F. P., Sutisna, M. M., Rowawi, R., Wijayanegara, H., Garna, H., & Rachmatie, A. (2021). Android-based Stunting Child Nutrition Application (GiAS) to Assess Macro-nutrients, Zinc, and Calcium in Stunting and Non-stunting Under Two Children. *Glob Med Heal Commun*, 9(1), 61-8.
- Kasjono, H. S., & Suryani, E. (2020). Pengaruh Aplikasi Pencegahan Stunting "Gasing" Terhadap Perilaku Pencegahan Stunting Pada Siswi SMA Di Wilayah Kecamatan Kalibawang Kulon Progo. *Jurnal Nutrisia*, 22(1), 16-22.

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com

The Android mobile application to assess mothers' knowledge, attitudes, and behaviors related to the prevention of stunting in children under two years old

- Lopa, A. F. A., Darmawansyih, D., & Helvian, F. A. (2022). Hubungan Pelaksanaan 5 Pilar Sanitasi Total Berbasis Masyarakat Dengan Kejadian Stunting. *UMI Medical Journal*, 7(1), 26-36.
- Ministry of Health Republic Indonesia. (2022). *Profil Kesehatan Indonesia Tahun 2021*. Jakarta: Kementerian Kesehatan Republik Indonesia. Retrieved from: https://kemkes.go.id/app_asset/file_content_download/Profil-Kesehatan-Indonesia-2021.pdf
- Muhawarman, A. (2025). SSGI 2024: Prevalensi stunting nasional turun menjadi 19,8%. *Kementerian Kesehatan Republik Indonesia*. Retrieved from: <https://kemkes.go.id/id/ssgi-2024-prevalensi-stunting-nasional-turun-menjadi-198>
- Nasyidah, M., Fajar, N. A., & Najmah, N. (2022). Tinjauan Faktor Air dan Sanitasi dengan Kejadian Stunting pada Balita. *Jurnal kesehatan komunitas (Journal of community health)*, 8(3), 597-606.
- Novira, D., Lismaningsih, & Bangsu, T. (2020). The exploration of local knowledge on ethnomedicine in traditional healing practices at Enggano Island, Bengkulu Province. *Research on Humanities and Social Sciences*, 10(24), 95–102.
- Rachmawati, S., Machmud, P. B., & Hatma, R. D. (2019). Hubungan Praktik Kesehatan pada Awal Kehidupan dengan Kejadian Stunting pada Balita.
- Rahmayanti, S. D., Dewi, S., & Fitriani, H. (2020). Hubungan pengetahuan dan sikap ibu tentang gizi dengan kejadian stunting pada anak usia 2-4 tahun di RW 04 dan RW 07 Kelurahan Cigugur Tengah. *Jurnal Kesehatan Kartika*, 15(2), 15-24.
- Rufaindah, E., & Patemah, P. (2021). Application Of “Stunting Prevention” Android-Based Applications To Mother Knowledge And Nutritional Status Of Toddlers Ages 0-36 Months. *Jurnal Kebidanan*, 11(1), 41-46.
- Rusana, R., Rofiq, A., Sucipto, E., Wijayanti, K., & Ariani, I. (2023). Pengaruh Pendidikan Kesehatan Menggunakan Aplikasi Cegah Stunting (Ceting) terhadap Tingkat Pengetahuan Ibu. *Jurnal Keperawatan*, 15(2), 845-852.
- Santosa, A., Arif, E. N., & Ghoni, D. A. (2021). Effect of maternal and child factors on stunting: partial least squares structural equation modeling. *Clinical and experimental pediatrics*, 65(2), 90.
- Syarif, D. (2021). Hubungan Bayi Berat Lahir Rendah (BBLR) dan Pekerjaan Ibu Terhadap Kejadian Stunting di Puskesmas Bara-Baraya Makassar Tahun 2021. *Jurnal Kesehatan Delima Pelamonia*, 5(1), 18-23.
- Tarmizi, S. N. (2023). Prevalensi stunting di Indonesia turun ke 21,6% dari 24,4%. *Kementerian Kesehatan Republik Indonesia*. Retrieved from: <https://kemkes.go.id/id/prevalensi-stunting-di-indonesia-turun-ke-216-dari-244>
- Tatu, S. S., Mau, D. T., & Rua, Y. M. (2021). Faktor-Faktor Resiko Yang Berhubungan Dengan Kejadian Stunting Pada Balita Di Desa Kabuna Kecamatan Kakuluk Mesak Kabupaten Belu. *Jurnal sahabat keperawatan*, 3(01), 1-17.
- Ummah, A. K. (2024). Implementation of intervention programs as an effort to prevent stunting in Indonesia and developing countries: Literature review. In *Proceedings of International Health Conference* (Vol. 1, No. 1, pp. 25-34).

Mely Gustina^{1*}, Epti Yorita², Aplina Kartika Sari¹, Feranita Utama³, Haryono⁴

¹Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

²Departemen Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Bengkulu

³Departemen Kesehatan Masyarakat, Universitas Sriwijaya

⁴Departemen Sanitasi, Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Corresponding author: *E-mail: melygustina4@gmail.com