MINH
MALAHAYATI INTERNATIONAL JOURNAL OF NURSING AND HEALTH SCIENCE
ISSN 2620-9152 (Print)
ISSN 2621-4083 (Online)
DOI: 10.33024
Nomor: 79/E/KPT/2023

ARTICLE INFORMATION
Received: May, 14, 2025
Revised: August, 31, 2025
Available online: September, 1, 2025
at : https://e-jurnal.iphorr.com/index.php/minh

Pocket book on knowledge and perception of stunting among public health cadre in Indonesia

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

Abstract

Background: As many as 24 million children in Indonesia are at risk of malnutrition. Equipped with training using appropriate media and opportunities, interacting with early childhood education teachers and parents, health cadres are expected to be able to detect stunting early and provide counseling to parents. Meanwhile, health cadres have never received material on early detection and prevention of stunting.
Purpose: To determine the effectiveness of a stunting pocketbook developed for health cadres.
Method: Quantitative research using a survey of 36 health cadres selected randomly in Ngaliyan District. The study population was all health cadres in Ngaliyan District, with a sample of 36 teachers determined by total sampling. Data analysis used univariate analysis with frequency distribution and the Wilcoxon Signed Rank test.
Results: There was a difference in the average knowledge of health cadres after using the stunting pocketbook (p-value: 0.000).
Conclusion: The stunting pocketbook can be used by health cadres as a medium for providing counseling to parents to reduce the prevalence of stunting in Indonesia.

Keywords: Cadres; Knowledge; Pocket Book; Stunting.

INTRODUCTION

As many as 24 million children in Indonesia are at risk of malnutrition during the Covid-19 pandemic (Marni & Ratnasari, 2021). According to the 2022 Indonesian Nutritional Status Survey (SSGI), stunting cases in toddlers decreased from 24.4% to 21.6% compared to 2021. In Central Java Province, the rate increased from 8.8% to 9.8% in 2023 compared to 2022. Semarang City has demonstrated significant progress in reducing stunting rates. This is evident in the decline in stunting prevalence from 21.30 percent in 2021 to 10.40 percent in 2022.

Stunting is a condition characterized by low height/length for age in children under 8 years of age caused by malnutrition or prolonged infection (World Health Organization, 2015). It is generally associated with low socioeconomic conditions, poor maternal nutrition and health during pregnancy, recurrent illnesses, and inappropriate feeding practices for infants and children (Gordon & Maule, 2014; Ayu, Rahmadhani, Pangestuti, & Ibarra, 2024). Meanwhile, children aged 3-6 years who are not enrolled in early childhood education programs show a decreased rate of attendance at Integrated Health Service Centers (Surani & Susilowati, 2020).

Stunting can affect toddlers, children, and adults, with irreversible effects (Hanindita, 2020). Children under two years of age may experience increased morbidity, while school-age children tend to be short and achieve low academic grades. Meanwhile, adults may have a low IQ, decreased stamina, and a

DOI: https://doi.org/10.33024/minh.v8i6.948

higher risk of stroke, obesity, and heart disease. Children's growth should be monitored and their nutritional status assessed according to child growth trends and standards for preventing childhood nutritional problems. Early detection at integrated health posts (Posyandu) begins with growth monitoring using the Length/Height-by-Age Index (Ministry of Health of the Republic of Indonesia, 2022).

Health cadres can play a strategic role in preventing and addressing stunting by imparting information, knowledge, and understanding to children from an early age. Therefore, their competencies are needed in terms of knowledge and skills to stimulate early childhood development (Sasmita, Jumadewi, & Maria, 2020; Hakimah, Nadiroh, Dhorta, Taproadi, FD, Fajar, & Hadisuyitno, 2022). However, health cadres and cadres need support for better nutrition education, including training and educational tools (Friska, Kekalih, Runtu, Rahmawati, Ibrahim, Anugrapaksi, & Ayuningtyas, 2022; World Health Organization, 2021).

Nutrition education using pocket books can improve mothers' nutritional knowledge for their children (Setyawati & Herlambang, 2015). Steps that need to be taken include facilitating health cadres in accessing information and media sources, such as pocket books, which can facilitate the provision of early detection services for stunting prevention.

RESEARCH METHOD

This quantitative, observational, descriptive-analytical study used a cross-sectional design. The study was conducted from September 2022 to July 2023. Data were obtained from the Semarang City and Central Java Provincial Health Offices, with a stunting prevalence of 1.6%, or 1,416 children under five. Three sub-districts in Semarang City had a high stunting prevalence in 2022: North Semarang (14.5%), Ngaliyan (9.3%), and West Semarang (9.2%).

The construct validity of the stunting pocketbook was conducted with pediatricians. The material covers the definition of stunting, its causes, impacts, prevention, the roles of parents, health workers, and early childhood education teachers, and anthropometric assessment methods. The pocketbook also includes practical cases of stunting diagnosis using child anthropometric standards as stipulated in the Indonesian Minister of Health Regulation No. 2 of 2020.

The population of this study was all health cadres in Ngaliyan District. Ngaliyan District had the second-highest stunting prevalence in 2022. There are 20 early childhood education centers (PAUD), 36 health cadres, and 2,642 students in Ngaliyan District. The sampling method used was total sampling. The data source used in this study was primary data obtained through direct interviews using a structured questionnaire.

The questionnaire consisted of twenty questions and met construct validity. Its validity and reliability were tested. Data were analyzed using univariate analysis with frequency distribution and bivariate analysis with the Wilcoxon Signed Rank test. This study was approved by the ethics committee of the Institute of Health Sciences and the Faculty of Widya Husada University Semarang under No. 16/EC-LPPM/UWHS/II-2023.

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

DOI: https://doi.org/10.33024/minh.v8i6.948

RESEARCH RESULTS

Table 1. Description of Respondent Characteristics (N= 36)

Variables	Results
Age (n/%)	
≤40	8/22.2
41- 50	12/33.3
51-60	14/38.9
≥61	2/5.6
Gender (n/%)	
Male	0/0
Female	36/100
Educational Background (n/%)	
Senior high school	20/55.6
Associate degree	5/13.8
Bachelor degree	10/27.8
Master degree	1/2.8
Occupation (n/%)	
≤5	13/36.1
6-10	16/44.4
11-15	5/13.9
>16	2/5.6
Already Received Stunting Socialization (n/%)	
Not yet received stunting socialization	5/13.9
Already received stunting socialization	31/86.1

Table 1 shows the frequency distribution data of the study respondents. The majority of respondents were aged 51-60 years (14 respondents) (38.9%). In addition, Table 1 also shows that all respondents were female with the last education being senior high school (20 respondents) (55.6%). The majority of respondents' occupations were 6-10 years (16 respondents) (44.4%), and the majority stated that they had already received stunting socialization (31 respondents) (86.1%).

Table 2. Differences in Cadre Knowledge Levels Before and After Using the Stunting Pocket Book (N= 36)

Variables	Knowledge		Sig.	Z
	Good	Fair		
Pre-test (n/%)	22/61.10	14/38.9	0.000	-4,740
Post-test (n/%)	34/94.0	2/6.0		

Table 2 shows the differences in knowledge levels of cadres before and after being given the stunting pocketbook. The number of respondents with good knowledge increased from 22 (61.1%) to 34 (94%). The bivariate analysis yielded a significant value of 0.000.

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

DOI: https://doi.org/10.33024/minh.v8i6.948

DISCUSSION

Based on the research results presented in Table 1, 13 respondents (38.8%) were aged 51-60 years. This indicates that the age of the cadres moderates the direct and indirect relationship with cadre competence (Liu, Zhao, & Su, 2022). This aligns with previous research that suggests the influence of teachers' productive age on children's learning enthusiasm. For example, a lack of creative and monotonous learning can lead to children learning less enthusiastically in class (Aini & Cahyo, 2023; Rusydiana, 2021).

All cadres in this study were female, and stakeholders considered women to have better competencies than men in health cadre roles (Mukhlis, 2019). However, no differences were found in the teaching styles of male and female cadres in developing student learning interests (Muhasanah, 2020). Most cadres (55.5%) had a high school education. Therefore, a cadre's educational background can influence the learning process in the classroom (Rehalat & Nurul 'ainy, 2022).

Furthermore, nearly half of the cadres (44.4%) had 6-10 years of service, which is considered to have better teaching performance than teachers with less service (Andriana, Sumarsih, & Delrefi, 2018). Finally, the majority (86.1%) of cadres had never received any information about stunting. Based on this, information dissemination is needed to improve stunting prevention and detection by health cadres, including preschool teachers (Mediani, Hendrawati, Pahria, Mediawati, & Suryani, 2022).

Table 2 shows a 32.9% increase in cadre knowledge levels before and after using the stunting handbook. This aligns with previous research that suggests that handbooks can engage families and patients in health discussions, motivating them to make routine changes to improve health status and awareness, alleviating doubts, and providing opportunities to discuss options with community members (Linton, Porteous, Eatson, Chepesiuk, Long, Inrig, & Sale, 2020).

Furthermore, this aligns with other research that suggests that pocket books are a useful educational tool for patients and families to increase health knowledge and awareness (Shaari & Wahab, Abdul Halim Zaki, Akias, Zulkifli, Ali, & Tan, 2022). Pocket books that focus on health cases help provide knowledge, dispel doubts, and provide an opportunity to discuss options with family members (Tripathi, Jani, Bhatta, Batish, Yagnick, Madan, & Chauhan, 2023).

The results of the Wilcoxon Signed Test, with a Z value of -4.740 and an Asymp. Sig. (2-tailed) value of 0.000, which is smaller than the 5% alpha level (0.05). Thus, there is a statistically significant difference in the level of knowledge of cadres before and after using the Stunting pocketbook. This is in line with previous research stating that educational software and pocketbooks with health education content should be recommended for families and communities (Abbasi, Mohammad-Alizadeh Charandabi, & Mirghafourvand, 2021).

Improving the relevance and readability of educational resources such as health handbooks can positively impact the knowledge and awareness of patients, their families, the community, and the effectiveness of interventions (Espigares-Tribo & Ensenyat, 2021). Handbooks can influence the communication process to improve decision-making power and treatment adherence by providing information that increases awareness among individuals, families, and communities (Lima, Gomes, Melo, Vasconcelos, Sousa, Martins, & Barbosa, 2021). Furthermore, information pocketbooks are visual resources with logical and progressive messages, sharing knowledge through text and images as well as patient experiences and health situations through dialogue (de Souza, Moreira, Oliveira, Menezes, Loureiro, Silva, & Borges, 2016).

Health knowledge increases due to the stimulation of health education using media. When the senses are involved in the information-receiving process, an individual's opportunity to receive and digest information is greater (Jatmika & Maulana M, 2019). The combination of a series of images and words is more effective in retaining memory than using images or words alone (Fauziah, Moedjiono, Seveng, & Hidayaty, 2023). Pocket books can be used for independent learning, and independent learning programs are more effective in developing cognitive, activity, and reflective components, and independent learning can also utilize pocket books

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

DOI: https://doi.org/10.33024/minh.v8i6.948

(Zdanevych, Pisotska, Honchar, Myskova, & Kazakova, 2022).

Providing health information media is crucial because it has been proven to increase family and community knowledge. Health information media must meet quality standards, including readability, layout, and design (Giannopoulos, Mertens, Secomandi, Olsder, & van Leeuwen, 2021). Pocket books provide information to the public quickly and relatively cost-effectively. Furthermore, pocket books serve as a bridge between academic knowledge and the lives of local communities (Okuyama, Seto, Fukuda, Suzukamo, Okazaki, Furusawa, & Imamura, 2024).

This is in line with the previous statement which states that educational pocket books with or without a combination of motivation can increase the self-efficacy of parents/child caregivers (Lima, Lima, Ruiz, Mandes, Rocha, Brito, & Barbosa, 2024). Pocket books and mobile phone call reminders can also improve postpartum visit compliance compared to standard services (Manoharan, Jayaseelan, Kar, & Jha, 2022).

CONCLUSION

The study results showed a statistically significant difference in the knowledge levels of cadres before and after using the stunting handbook. Cadres can use the handbook to detect stunting early by measuring students' height and weight and recording them on a height-for-age or height-for-age chart, ensuring students' health, and communicating information about stunting prevention to children and their parents.

REFERENCES

Abbasi, P., Mohammad-Alizadeh Charandabi, S., & Mirghafourvand, M. (2021). Comparison of the effect of educational software and booklet on anxiety and pain during labour: a randomised controlled clinical trial. *Journal of Obstetrics and Gynaecology*, *41*(2), 234-241.

Aini, N., & Cahyo, E. D. (2023). Pengaruh Usia Produktif Guru Terhadap Semangat Belajar Anak di TK Perintis Rejo Asri. *Jurnal Usia Dini*, *9*(1), 52.

Andriana, J., Sumarsih, S., & Delrefi, D. (2018). Kinerja Guru PAUD ditinjau dari Kualifikasi Pendidik, Pengalaman Mengajar, dan Pelatihan. *Jurnal Ilmiah Potensia*, *3*(2), 83-88.

Ayu, M. S., Rahmadhani, M., Pangestuti, D., & Ibarra, F. (2024). Identifying risk factors for stunting among under-five Indonesian children. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, *8*(2), 794-803.

de Souza, A. C. C., Moreira, T. M. M., Oliveira, E. S. D., Menezes, A. V. B. D., Loureiro, A. M. O., Silva, C. B. D. A., & Borges, J. W. P. (2016). Effectiveness of educational technology in promoting quality of life and treatment adherence in hypertensive people. *PLoS One*, *11*(11), e0165311.

Espigares-Tribo, G., & Ensenyat, A. (2021). Assessing an educational booklet for promotion of healthy lifestyles in sedentary adults with cardiometabolic risk factors. *Patient Education and Counseling*, *104*(1), 201-206.

Fauziah, A. B., Moedjiono, A. I., Seweng, A., & Hidayanty, H. (2023). The effect of health education in improving the knowledge and attitudes of integrated service post cadres about early detection of high-risk pregnancies in the working area of the Mamajang health center, Makassar city, Indonesia. *Journal of Public Health in Africa*, *14*(10), 2774.

Friska, D., Kekalih, A., Runtu, F., Rahmawati, A., Ibrahim, N. A. A., Anugrapaksi, E., & Ayuningtyas, R. (2022). Health cadres empowerment program through smartphone application-based educational videos to promote child growth and development. *Frontiers in Public Health*, *10*, 887288.

Giannopoulos, P., Mertens, Y. J., Secomandi, L. E., Olsder, L., & van Leeuwen, B. L. (2021). Development, validation and evaluation of a patient information booklet for rectal cancer survivors with a stoma: A three-step approach. *Patient Education and Counseling*, *104*(9), 2275-2285.

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

DOI: https://doi.org/10.33024/minh.v8i6.948

Gordon, J. R., & Maule, C. J. (2014). What's at stake. *Canadian Pharmaceutical Journal*, *122*(2), 74–76, 78.

Hakimah, N., Nadhiroh, S. R., Dhorta, N. F., Tapriadi, P., FD, H. I., Fajar, I., & Hadisuyitno, J.(2022). Dual role of early childhood teachers as health cadres in reducing stunting. *Media Gizi Indonesia*, *17*, 244-249.

Hanindita, M. H. (2020). *Mommyclopedia 78 Complementary Foods Breast Milk Recipe*. Gramedia Pustaka Utama.

Jatmika, S. E. D., & Maulana M, K. M. S. (2019). *Health promotion media development textbook.* K-Media.

Lima, K. F., Lima, R. B., Ruiz, V. M., Mendes, E. R., Rocha, D. M., Brito, L. C., & Barbosa, L. P. (2024). Booklet and motivational interviewing to promote self-efficacy in parents/caregivers of children with asthma: a clinical trial. *International Journal of Community Based Nursing and Midwifery*, *12*(2), 76.

Lima, K. F., Gomes, A. L. A., Melo, E. S. J., Vasconcelos, F. X., Sousa, J. L. D., Martins, M. C., & Barbosa, L. P. (2021). Validación del contenido del folleto educativo para el control y manejo del asma en niños. *Revista Brasileira de Enfermagem*, *74*, e20200353.

Linton, D. N., Porteous, J., Eatson, H., Chepesiuk, R., Long, T., Inrig, T. M., & Sale, J. E. M. (2020). Educational booklet reinforces knowledge of osteoporosis and influences intentions to improve bone health in previously diagnosed and treated patients. *Osteoporosis International*, *31*(9), 1703-1711.

Liu, Y., Zhao, L., & Su, Y. S. (2022). The impact of teacher competence in online teaching on perceived online learning outcomes during the COVID-19 outbreak: A moderated-mediation model of teacher resilience and age. *International journal of environmental research and public health*, *19*(10), 6282.

Manoharan, N., Jayaseelan, V., Kar, S. S., & Jha, N. (2022). Effectiveness of Mobile Call Reminders and Health Information Booklet to Improve Postnatal Blood Glucose Monitoring among Mothers with Gestational Diabetes Mellitus Receiving Care from a Tertiary Health Centre, Puducherry-A Randomized Controlled Trial. *Indian Journal of Endocrinology and Metabolism*, *26*(4), 319-327.

Marni, M., & Ratnasari, N. Y. (2021). Penyuluhan Pencegahan Risiko Stunting 1000 Hari Pertama Kehidupan pada Generasi Muda. *Indonesian Journal of Community Services*, *3*(2), 116-125.

Mediani, H. S., Hendrawati, S., Pahria, T., Mediawati, A. S., & Suryani, M. (2022). Factors affecting the knowledge and motivation of health cadres in stunting prevention among children in Indonesia. *Journal of multidisciplinary healthcare*, 1069-1082.

Ministry of Health of the Republic of Indonesia. (2022). Profil Kesehatan Indonesia Tahun 2022. Retrieved: https://kemkes.go.id/id/profil-kesehatan-indonesia-2022

Muhasanah, L. Z. (2020). Perbedaan Gaya Mengajar Guru Laki-Laki Dan Perempuan Dalam Mengembangkan Minat Belajar Siswa Pada Mata Pelajaran Rumpun Pendidikan Agama Islam Di Kelas X Dan Xi Madrasah Aliyah Negeri 2 Jember Tahun Ajaran 2017/2018. *Auladuna: Jurnal Prodi Pendidikan Guru Madrasah Ibtidaiyah*, *2*(2), 92-124.

Mukhlis, A. (2019). Dominasi guru perempuan dalam pendidikan anak usia dini: Persepsi stakeholder. *Al-Athfal Jurnal Pendidikan Anak*, *5*(2), 117-134.

Okuyama, J., Seto, S., Fukuda, Y., Suzukamo, Y., Okazaki, T., Furusawa, Y., & Imamura, F. (2024). Establishment of a post-disaster healthcare information booklet for the Turkey–Syrian earthquake, based on past disasters. *Scientific reports*, *14*(1), 1558.

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

DOI: https://doi.org/10.33024/minh.v8i6.948

Rehalat, A., & Nurul'ainy, Z. (2022). Pengaruh Latar Belakang Pendidikan Guru Terhadap Proses Pembelajaran Di Kelas Pada SMP Muhammadiyah Ambon. *Perspektif Pendidikan dan Keguruan*, *13*(2), 81-87.

Rusydiana, R. D. (2021). Pengaruh Usia Guru Pengalaman Mengajar Dan Tingkat Pendidikan Guru Terhadap Profesionalitas Kinerja Guru Di Mts Al Urwatul Wustqo Bulurejo Diwek Jombang. In *Proceedings of International Conference On Islam Education Management and Sharia Economics* (Vol. 2, No. 1, pp. 15-30).

Sasmita, Y., Jumadewi, A., & Maria, K. (2020). Hubungan Pengetahuan tentang Stunting dengan Akurasi Hasi Deteksi Dini Kasus Stunting pada Anak Oleh Guru PAUD di Wilayah Kerja Puskesmas Samadua Kabupaten Aceh Selatan. *Jurnal Serambi Akademica*, *8*(4), 546-554.

Setyawati, V. A. V., & Herlambang, B. A. (2015). Model edukasi gizi berbasis e-booklet untuk meningkatkan pengetahuan gizi ibu balita. *Jurnal informatika UPGRIS*, *1*(1 Juni).

Shaari, M. S., Wahab, M. S. A., Abdul Halim Zaki, I., Alias, R., Zulkifli, M. H., Ali, A. A., & Tan, C. S. (2022). Development and pilot testing of a booklet concerning medications that can increase the risk of falls in older people. *International journal of environmental research and public health*, *20*(1), 404.

Surani, E., & Susilowati, E. (2020). The relationship between fulfilment of basic needs with the incidence of stunting in toddlers.

Tripathi, M., Jani, P., Bhatta, R., Batish, A., Yagnick, N. S., Madan, R., & Chauhan, R. (2023). Development, Validation, and Impact of Patient Information Booklet for Gamma Knife Radiosurgery. *Neurology India*, *71*(Suppl 1), S224-S229.

World Health Organization, (2015). *Stunting in a Nutshell*. Retrieved: https://www.who.int/news/item/19-11-2015-stunting-in-a-nutshell

World Heath Organization. (2021). *The UNICEF/WHO/WB Joint Child Malnutrition Estimates (JME) group released new data for 2021*. Retrieved: https://www.who.int/news/item/06-05-2021-the-unicef-who-wb-joint-child-malnutrition-estimates-group-released-new-data-for-2021

Zdanevych, L., Pisotska, L., Honchar, N., Myskova, N., & Kazakova, N. (2022). The role of self-learning in the practical training among preschool teachers. *International Journal of Evaluation and Research in Education*, *11*(3), 1125-1133.

Sugeng Santoso[1], Rinayati[1]*, Harsono[1], Eman Dawood[2]

[1]Universitas Widya Husada Semarang
[2]King Saud Bin Abdulaziz University for Health Sciences
Corresponding author. *E-mail: rinayati@uwhs.ac.id

DOI: https://doi.org/10.33024/minh.v8i6.948