



EMPOWERMENT OF HEALTH CADRES IN EARLY DETECTION SCREENING FOR STUNTING IN TODDLERS USING THE 'MENUJU SEHAT' GROWTH MONITORING CARD

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ABSTRACT

Stunting remains a significant health issue with relatively high prevalence rates at the local level, including in Gentan Village. Early detection through Posyandu clinics has not been optimal due to the limited capacity of community health workers to screen for growth in young children. Therefore, capacity building for these workers through training is essential. The aim of this study is to determine the improvement in community health workers ability to detect stunting at an early stage following training. This activity employed a community nursing care approach comprising the assessment, diagnosis, planning, implementation and evaluation stages. The target group for the activity was 27 health cadres. The intervention was carried out using a one-group pre-test post-test design and observation through the provision of education on stunting screening, demonstrations of anthropometric measurements, and the completion of the Kartu Menuju Sehat (KMS) chart. The analysis was carried out by comparing the pre-test and post-test results to assess changes in the volunteers knowledge and skills following the training. The data are presented as percentages and frequency distributions. The results showed an increase in the health workers' knowledge following the intervention. The number of health workers in the 'good knowledge' category increased from 12 (42.9%) to 27 (100%). All cadres (100%) demonstrated good skills in performing anthropometric measurements. The cadres' ability to complete the KMS charts also improved from 11 cadres (39.3%) to 21 cadres (75.0%). There was an improvement in the cadres' knowledge, skills and ability to carry out the early detection screening process.

Keywords: early detection; empowerment; health cadres; knowledge; skills; stunting

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INTRODUCTION

Nutrition is a key factor in the development of high-quality human resources. One chronic nutritional problem among infants and young children is stunting, defined as a child's height or length being below minus two standard deviations from the WHO growth standards (BKPK Kemenkes RI, 2024). Globally, stunting remains a health issue, affecting approximately 150.2 million infants in 2024 (WHO, 2024). In Indonesia, the prevalence of stunting decreased from 21.5% in 2023 to 19.8% in 2024, but further efforts are still required to achieve the target of 18.8% by 2025 (Kemenkes RI, 2025).

In Central Java, the prevalence of stunting ranges from 19–22% (Kemenkes RI, 2023). In Sukoharjo Regency, the figure is lower, at around 15–18% in 2023, whilst in Gentan Village it is estimated to be around 18–20% (Dinas Kesehatan Kabupaten Sukoharjo, 2024). Stunting occurs as a result of long-term malnutrition, particularly during the first 1,000 days of life, and can lead to growth impairments, cognitive development issues, and reduced future productivity (Nuliana et al., 2025). Therefore, early detection through monitoring the growth of infants and toddlers, alongside enhancing the role of health workers, is crucial in stunting prevention efforts (Ningrum et al., 2021).

The stunting issues identified in four children in Gentan Village indicate that the risk of chronic growth impairment persists within the community. The Ministry of Health of the Republic of Indonesia emphasises that early detection through routine growth monitoring at Posyandu centres is a key strategy in accelerating the reduction of stunting. If screening is not conducted accurately and regularly, children at risk of stunting may not be identified early, resulting in delayed intervention. In Gentan Village, health checks for infants and young children are carried out at the Posyandu every month by village health workers and midwives; however, the capacity of these workers in stunting screening is not yet optimal, as they have not received specialised training regarding stunting detection screening. Training for these workers is a strategic approach to strengthen early detection and community education in performing correct anthropometric measurements, as well as calculating and interpreting assessments on growth charts. Enhancing the capacity of community health workers, as the frontline of health services at the village level, is expected to strengthen early detection, accelerate intervention, and prevent an increase in stunting cases in Gentan Village. The aim of this study is to determine the improvement in community health workers ability to detect stunting at an early stage following training.

METHOD

This activity employed a community nursing care approach comprising the stages of assessment, data analysis, diagnosis, planning, implementation and evaluation. The target group for the activity was 27 health workers in Gentan Village, Baki Sub-district, Sukoharjo District. The assessment was conducted through interviews with the village midwife and health workers, as well as an analysis of Posyandu activity data. The assessment results indicated that there were still around four children suffering from stunting and that the health cadres had never received training on stunting screening. The collected data were analysed to identify the community nursing problem: a lack of knowledge regarding the early detection of stunting. The intervention planning was based on the Nursing Interventions Classification (NIC), with the expected outcomes referring to the Nursing Outcomes Classification (NOC).

The intervention was carried out through training on stunting screening and early detection using a one-group pre-test post-test design. The implementation of the activities included a pre-test of the health workers' knowledge, followed by education on stunting (definition, causes, impacts, prevention, and assessment of nutritional status) using lectures, discussions and question-and-answer sessions, then practical sessions on anthropometric measurements (height and weight), as well as practice in completing growth charts in accordance with Indonesian Ministry of Health standards. Evaluation was carried out through a post-test and observation of the cadres' ability to complete growth charts as part of the early detection screening for stunting

RESULT

The results of the nursing intervention showed an increase in cadres' knowledge before and after the intervention

Table 1.
Health workers' knowledge before and after the intervention

Pre-Post-Test	Pre-Test		Post-Test	
	f	%	f	%
Good	12	42.9	27	100
Fair	15	57.1	0	0
Less	0	0	0	0

Following the intervention, the level of knowledge among cadres regarding early detection screening for stunting increased both before and after the intervention was delivered. It was found that the number of cadres with good knowledge increased from 12 cadres (42.9%) to 27 cadres (100%), whilst the number of cadres with adequate knowledge decreased from 15 cadres (57.1%) to

none (0%) having adequate knowledge regarding early detection screening for stunting; similarly, there were no cadres with insufficient knowledge about early detection screening for stunting (0%).

Table 2.

Categories of health cadres' anthropometric measurement skills

Health Cadre Skills		
Skill Category	f	%
Good	27	100%
Fair	0	0%
Insufficient	0	0%

Based on the results of the observation of the health workers' skills in the practical measurement of anthropometric body length (BL) and height (HT), 27 health workers (100%) who took part in the practical measurement of height and body length were classified as having 'good' skills, whilst no health workers were classified as 'adequate' or 'poor'. This indicates that the health workers have achieved an optimal level of competence in carrying out anthropometric measurements.

Table 3.

Ability to complete the KMS chart

	Pre		Post	
	f	%	f	%
Able	11	39.3%	21	75.0%
Unable	16	60.7%	6	25.0%

Following the intervention, the ability of health workers to complete the KMS chart improved from 11 health workers (39.3%) to 21 health workers (75.0%) who were classified as capable of completing the KMS chart, whilst the number of cadres unable to complete the KMS chart decreased from 16 cadres (60.7%) to 6 cadres (25.0%) in the 'unable' category.

DISCUSSION

The results of the intervention, comprising training and education on screening and early detection of stunting for health cadres, proved effective in addressing the issue of cadres' lack of knowledge regarding early stunting detection. This was evident from the improved understanding of the cadres following the provision of educational materials, as well as practical training in anthropometric measurements and the completion of growth charts. Health workers who had previously never received training on stunting screening gained a better understanding of the concept of stunting, its causes, impacts, and early detection steps through body length or height measurements and the interpretation of growth charts. The number of cadres classified as having 'good' knowledge increased from 12 (42.9%) to 27 (100%) in the post-test. This was further supported by all cadres (100%) demonstrating 'good' skill levels in the practical measurement of height (TB) and length (PB). Furthermore, the intervention results also showed an improvement in the health workers' ability to complete the KMS growth charts, rising from 11 health workers (39.3%) to 21 health workers (75.0%). Although there were still 6 health workers (25.0%) who had not yet improved in their ability to complete the KMS growth charts, the intervention still demonstrated an increase in the health workers' knowledge and skills following the intervention.

The improvement in the cadres' knowledge was achieved through information provided during educational sessions on stunting, using methods such as lectures, discussions and question-and-answer sessions. Knowledge is a crucial factor underpinning behavioural change. Individuals with good knowledge of health issues are better able to understand risks and their prevention, thereby fostering better attitudes and behaviours (Notoatmodjo, 2020). With good knowledge of stunting, community health workers can carry out early detection, monitor the growth of infants, and provide education to the community regarding stunting prevention more effectively (Ramadhaniah et al., 2024). This aligns with the findings of Lau et al. (2022), which state that community health workers with a high level of knowledge tend to have better ability in conducting early detection of stunting in infants; therefore, enhancing the knowledge of community health workers is essential to support stunting prevention programmes at the community level.

Health workers' knowledge is also linked to their skills in conducting anthropometric measurements such as the height and weight of infants. Accurate measurements are vital as they form the basis for determining a child's nutritional status and identifying the potential for stunting at an early stage (Oktaviasari et al., 2024). Health workers' skills in conducting anthropometric measurements are a crucial aspect of infant growth monitoring activities at Posyandu. Weight and height measurements carried out using the correct techniques will yield accurate data for assessing a child's nutritional status. Therefore, health cadres need to possess good skills in conducting anthropometric measurements so that early detection of nutritional problems, including stunting, can be carried out accurately (Sari et al., 2021).

The demonstration and skills mentoring activities on height and length measurements, which were carried out with health cadres in Gentan village, showed that all cadres (100%) possessed good skills; this indicates that the cadres have adequate basic abilities in carrying out growth monitoring of infants. This situation represents a good first step in efforts to detect stunting at an early stage. This is in line with guidelines from the World Health Organization (WHO), which state that accurate anthropometric measurements are a key component in assessing children's nutritional status and growth. The WHO also emphasises that the accuracy of measurements is significantly influenced by the skills of health workers and the application of standard procedures when conducting anthropometric measurements (WHO, 2023).

The skills of the community health workers also support their ability to record and complete the charts on the Kartu Menuju Sehat (KMS). During this training session on the early detection of stunting, the community health workers were provided with explanations and guidance on how to complete and record the charts on the Kartu Menuju Sehat (KMS) based on the results of anthropometric measurements, specifically body length and height measurements that had been taken. By correctly completing the KMS charts, the growth of infants and young children can be monitored regularly, allowing changes in growth patterns to be addressed at an early stage. The use of growth charts is a key component of growth monitoring activities, as the data plotted on the charts help health workers assess a child's nutritional status and detect growth problems early on (Melkamu et al., 2021). The capacity-building activities for community health workers in completing the KMS growth chart were supported by the findings of Tesfa et al. (2022), who noted that the ability to plot and interpret growth charts is crucial for the success of child growth monitoring.

In the final stage of the activity, an evaluation was conducted regarding the activities carried out by administering a post-test on the health workers' knowledge of early stunting detection screening and a post-test on their ability to complete the Kartu Menuju Sehat (KMS) charts. The results of the activity showed an increase in cadres' knowledge, evidenced by the 'adequate' knowledge category decreasing to 0% and the 'good' knowledge category increasing to 100% similarly, cadres' ability to complete the Kartu Menuju Sehat (KMS) growth charts improved from 39.3% to 75.0%. The improvement in knowledge, skills and competence regarding early detection screening for stunting in infants has brought about a significant change in the attitudes of health cadres towards understanding the importance of infant growth monitoring procedures in preventing stunting. This is in line with the research by Ferla et al. (2023), which states that training accompanied by guidance and mentoring has been proven to improve the knowledge and skills of health cadres in carrying out their duties within the community.

The enthusiasm and positive attitude demonstrated by the cadres during the implementation of the activities are expected to form the basis for strengthening support and the involvement of cadres in efforts to prevent and address stunting in the community. This is consistent with the research by Weningtyas et al. (2023), which concluded that training and mentoring of health cadres have been proven to enhance their knowledge and skills in conducting early detection of stunting in infants,

thereby enabling them to better monitor growth and identify stunting risks within the community. Continuous care that can be provided by community nurses involves continuing nursing care by conducting regular monitoring of Posyandu activities, providing guidance and support to community health workers in carrying out anthropometric measurements and completing the Child Growth Monitoring Card (KMS), as well as delivering health education to mothers of infants regarding growth monitoring and the prevention of stunting in the community.

CONCLUSION

Following empowerment through training in the form of mentoring and awareness-raising, the health workers' knowledge of early stunting detection screening improved, as evidenced by an increase in their knowledge, skills and ability to carry out the early detection screening process; this demonstrates that the activities carried out were able to enhance the health workers' capacity to conduct early stunting detection screening.

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