Social Perceptions About Stunting in Rural Communities in Central Java, Indonesia: A Qualitative Study

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Abstract

Stunting continues to be a global health challenge. Despite numerous interventions, community engagement in addressing stunting often remains inadequate. This qualitative study explores the perceptions of stunting within rural communities in Central Java, Indonesia. Data were collected through in-depth interviews, observations, and documentation from 58 participants, including prospective brides, pregnant women, mothers, grandmothers, religious leaders, community leaders, and health cadres, who met specific selection criteria. The study uncovered widespread misconceptions in the community, where stunting is frequently perceived as a hereditary condition or a matter of fate, diminishing the perceived need for medical intervention. Through thematic analysis, the research emphasizes the critical importance of strategic communication in raising awareness about stunting and the necessity for community empowerment in designing and implementing interventions that integrate local cultural and social elements. The findings highlight the need to enhance the effectiveness and sustainability of stunting reduction programs, emphasizing the pivotal role of community involvement from planning to execution in overcoming passive attitudes and misconceptions that impede stunting prevention efforts.

Keywords

Community; perceptions; rural health; stunting

Background

Stunting remains a critical global health issue, significantly affecting child nutrition (Hanieh et al., 2019). This condition, characterized by a height-for-age z-score more than two standard deviations below the median, signifies considerable shortness for a child's age (Laksono et al., 2024; Sari & Sartika, 2021). Stunting encompasses impaired physical stature, broader developmental delays, and health challenges (Leroy & Frongillo, 2019). Typically resulting from chronic malnutrition, recurrent infections, and insufficient psychosocial stimulation during the crucial first 1,000 days of life, stunting has extensive implications for a child's health and development (Martha et al., 2020; Montenegro et al., 2022; WHO, 2015).

Stunting arises from a complex interplay of multiple determinants (Huriah & Nurjannah, 2020; Wati et al., 2022). These include genetic factors like parental height, especially maternal height, age, environmental and lifestyle influences such as early pregnancy, inadequate breastfeeding, socioeconomic challenges, poor hygiene and sanitation, varied dietary intakes, micronutrient deficiencies, immunization status, and limited healthcare services. Additional contributors to stunting include infections, physical and metabolic disorders, and parental education levels. Cultural norms, smoking habits, and parenting practices also play significant roles. Notably, the level of awareness about stunting among mothers, caregivers, community health workers, and the broader community significantly impacts the effectiveness of prevention and management efforts, as evidenced by numerous studies (Agushybana et al., 2022; Astuti et al., 2020; Atamou et al., 2023; Maravilla et al., 2020; Parenreng et al., 2020; Putri & Rong, 2021). The repercussions of stunting are severe, with both immediate and long-term effects on the human lifecycle, posing significant health concerns that persist and recur across generations (Raiten, 2020; Vaivada et al., 2020).

According to the World Health Organization (WHO), an estimated 149 million children under five are projected to be stunted by 2022, with 78.2 million of these cases originating from Asia, including Indonesia (UNICEF et al., 2020; World Health Organization [WHO], 2024). Data from the Indonesian Nutrition Status Survey indicated that while the national prevalence of stunting decreased from 24.4% in 2021 to 21.5% in 2023 in Central Java Province, the rates remained alarmingly high—consistently above 20%. Specifically, in Central Java, the stunting prevalence showed a minimal annual decrease, from 20.9% in 2021 to 20.7% in 2023, reflecting a nearly stagnant reduction rate (Health Development Policy Agency [BKPK], 2024). Despite these reductions, the prevalence is still regarded as high, particularly given the WHO's global target to reduce the number of stunting cases to under 100 million, or below 20%, by 2025 (Akombi et al., 2017).

Central Java Province, known for its diverse economic landscape, includes areas identified as economically disadvantaged, which are closely linked to higher stunting rates. Klaten District, designated in 2018 as one of the 100 areas targeted for stunting intervention efforts by the Indonesian government, has shown concerning trends. Stunting rates in Klaten have escalated from 15.8% in 2021 to 18.2% in 2022 and increased to 24.5% by 2023. This rise coincides with increases in the prevalence of underweight children, from 16.1% to 18.6%, and in cases of wasting, from 6.2% to 7.5%, indicating ongoing public health challenges (Health Development Policy Agency [BKPK], 2024). These statistics underscore the persistent stunting issues in some rural regions of Central Java, reflecting broader challenges that rural settings face in accessing comprehensive health and nutrition services compared to urban areas (Gaidhane et al., 2022; Lowe et al., 2021).

The Indonesian government has been actively attempting to curb stunting through targeted interventions aimed at adolescents, pregnant women, and families with children under five. Despite the thoughtful design of these programs, their implementation has faced significant challenges, particularly at the village level, where the impact has been less than optimal (Herawati & Sunjaya, 2022). Furthermore, the variability in understanding stunting across different community segments adds to the complexity (Hapzah, 2022). As Aronson et al. (2016) explained, theoretical and scientific interpretations often give rise to diverse individual assumptions and perceptions that complicate the dissemination of clear and actionable information. In the context of stunting, diverse theoretical and practical interpretations often obstruct the spread of comprehensive understanding, which is vital for fostering community involvement in prevention efforts. Thus, accurately mapping social perceptions of stunting is a crucial step toward designing interventions that are not only effective but also culturally and contextually appropriate.

To achieve this, our study utilized the social appraisal phase of the PRECEDE-PROCEED model to investigate community perceptions of stunting in the rural areas of Klaten District. By engaging diverse groups such as at-risk populations, health cadres, and religious and community leaders, the research aimed to comprehensively understand how stunting is perceived regarding health and illness. These insights are intended to serve as a foundational layer for designing community-involved interventions tailored to the specific needs and perceptions identified through this study. This approach ensures that the interventions are theoretically sound and practically feasible and effectively address the unique challenges and opportunities within the community.

Methodology

This qualitative study adopted an interpretive paradigm to explore stunting from the social perspective of individuals living in rural areas. The interpretive paradigm, a vital component of the phenomenological approach, emphasizes understanding how rural communities interpret and perceive stunting within their specific social contexts. This research adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ) to ensure clarity, consistency, and credibility in reporting the findings (Tong et al., 2007).

Study design and setting

The Klaten District in Central Java Province was selected as the primary research site due to its high poverty levels and increasing stunting prevalence over the past three years. As of 2023, the stunting rate in this district exceeded 20%, representing a critical area with persistent public health challenges. Among the 50 villages identified for stunting interventions in the region, four were chosen explicitly as research sites based on criteria such as high stunting prevalence, prevalent anemia in teenagers, frequent unwanted pregnancies among adolescents, households with more than three children with closely spaced births, and significant instances of high-risk pregnancies and low birth weights among newborns. These factors contribute to the complex etiology of stunting, making these villages ideal for in-depth study and intervention analysis.

Participants and the recruitment process

This research is part of a broader initiative to prevent stunting by first understanding community perceptions of the issue. The study engaged diverse participants, including prospective brides, pregnant women, mothers with children under two, grandmothers who act as caregivers, religious leaders, community leaders, and local health cadres. These individuals were selected to provide a comprehensive perspective on stunting and related health and illness concepts within their community, ensuring a well-rounded understanding of the local context.

The recruitment process commenced with an informational session conducted by the research team, which presented the study's background and objectives to village midwives at the four designated research sites. The village midwives and officials, chosen for their pivotal roles in community health and their direct involvement in maternal and child care, served as primary contacts due to their trusted positions within the community. They were instrumental not only in gathering participants but also in facilitating the research process. Health cadres also played an essential role, bridging communication between the researchers and the broader community, thus ensuring a smooth data collection process and fostering a cooperative environment conducive to the study's objectives.

Conceptual framework and learning tools

This study employed the PRECEDE phase of the PRECEDE-PROCEED model (Green & Kreuter, 2005; Kim et al., 2022) to conduct a comprehensive social assessment to delve into community perceptions of stunting in rural Central Java. This initial phase is crucial for identifying knowledge gaps and setting the groundwork for subsequent health intervention programs. By centering on social assessment, the research extends beyond medical perspectives to incorporate social, cultural, and demographic factors that significantly influence the acceptance and efficacy of stunting intervention programs.

The insights obtained are expected to assist policymakers, and health practitioners develop strategies more aligned with community needs and expectations. This approach ensures medical robustness and enhances cultural sensitivity and responsiveness to the specific conditions and challenges of the communities involved. By prioritizing a people-centered approach, the PRECEDE phase supports the creation of effective interventions that reduce stunting rates and are sustainable over time, thereby addressing both immediate and long-term community health needs.

Data collection

The lead researcher and two locally recruited research assistants, both with backgrounds in the health sector and fluent in Indonesian and Javanese, conducted the interviews. Before data collection, the lead researcher led a comprehensive two-day training session to cover the study's objectives and the use of a semi-structured interview guide. This guide was initially developed in English, based on a literature review, and later translated into Indonesian. The interview guide was refined in consultation with senior qualitative researchers and public health experts to ensure it effectively captured perceptions relevant to our research questions. It was pilot-tested with brides-to-be, pregnant women, and mothers of children under two in

other stunting-prone villages within the Klaten District. Adjustments were made based on this pilot testing.

Interview questions included: “Have you ever heard of the term ‘stunting’?”, “What is stunting?” “How does society assess stunting?” and “What are the concepts of health and illness related to stunting?”. These questions were designed to uncover community-level insights into stunting, facilitating a deeper understanding of local health and illness concepts.

Ethical consideration

Ethical approval for this study was granted by the Health Research Ethics Commission of Diponegoro University (Certificate No. 155/EA/KEPK-FKM/2023), issued on March 27, 2023. Before initiating the interviews from April to November 2023, we ensured all participants provided written informed consent. The interviews were conducted primarily in Bahasa Indonesia, with some participants integrating Javanese terms as necessary. Several interviews were undertaken in the privacy of the informants' homes to safeguard participant confidentiality and create a comfortable atmosphere.

Procedures and validity data

Interviews continued until information redundancy was reached, indicated by the repetitive nature of comments and the absence of new emerging ideas. Each interview, lasting between 30 to 45 minutes, was digitally recorded with the informants' consent. The field research team conducted daily debriefing sessions to discuss ongoing processes and emerging findings. All interviews were transcribed in Bahasa Indonesia within 24 hours and translated into English. This process included cross-verification with the original recordings to ensure contextual accuracy.

To safeguard the validity and trustworthiness of the data, we employed several methodological strategies. Triangulation was used to enhance the reliability of our findings by integrating in-depth interviews with field observations and document analysis. We also conducted member checking, involving participants in verifying data interpretations to ensure accurate and representative portrayals of their perspectives. Detailed documentation was maintained through comprehensive field notes and audit trails, documenting the research process to uphold objectivity. Additionally, independent reviews by researchers not involved in the initial data collection were conducted to minimize bias and strengthen external validity. These combined measures guaranteed the robustness of our research results, which are essential for effectively informing stunting intervention strategies in rural communities.

Data analysis

Our analysis was both exploratory and descriptive, aimed at uncovering new insights into community perceptions of stunting. We utilized a mixed-method approach, integrating both deductive and inductive thematic analysis. The process began with a deep immersion into the data; all transcripts were read multiple times to ensure a comprehensive understanding. We employed NVIVO 12 to develop an initial list of a priori codes derived from the interview

guidelines. These codes were manually applied, and the data was organized in MS Excel tables to provide a structured overview.

Subsequent discussions within the research team facilitated the refinement of our coding strategy. We adjusted the initial codes and drafted a comprehensive codebook. This iterative process involved re-coding the entire dataset to incorporate any new codes that emerged from the data. Relevant quotes were translated into English and meticulously vetted for accuracy by the team.

Further analysis led to the identification and development of themes and subthemes. These were carefully reviewed, defined, and named in alignment with our research questions. We organized these themes and subthemes into a matrix to facilitate the comparison of similarities and differences among participants within and across different residential areas. This methodical discussion and review process culminated in a consensus on the final thematic structure. Our findings are presented in a detailed report, encapsulating the rich insights gained through our analysis.

Results

This study conducted comprehensive, in-depth interviews with 58 informants, categorized as follows: eight prospective brides and grooms, eight pregnant women, 14 mothers with toddlers, three grandmothers serving as caregivers, 12 health cadres, seven community leaders, and six religious leaders. Remarkably, all individuals approached for participation in the study consented, resulting in no rejections. Most informants had at least a high school education, and many were self-employed.

The analysis of the interview data was executed through a rigorous thematic process. Initially, open coding was employed to extract significant units of meaning from the interviews, which generated a diverse array of unique codes encapsulating different perspectives on stunting. These initial codes were systematically organized into three main thematic categories: definitions of stunting, community assessments of the issue, and prevalent concepts of health and illness related to stunting.

Table 1 provides a detailed breakdown of these themes and categories, complete with definitions and exemplar quotes directly from the interview data, illustrating each identified theme.

Table 1: Overview of Themes, Codes, Definitions, and Representative Quotes Derived from Rural Communities in Central Java

Theme	Code	Definition	Illustrative Quote
Definition of Stunting According to the Community	Growth not aligned with age, Genetic factors, public stigma	Stunting is a condition where a child's weight or height does not correspond to their age. It is often attributed to genetic factors and is subject to negative social perceptions.	*"Maybe his weight is not appropriate for his age." (IW, 26 years old)* *"If stunting is just about weight and height, the main thing is health... if the cadre says your child is malnourished, we don't accept it." (Mrs. ID, 28 years old)*

Theme	Code	Definition	Illustrative Quote
Assessment of Stunting from the Community's Perspective	Stunting as a Government Program	Stunting is often viewed as a topic government programs emphasize rather than a health concern.	*"There may be those who think that grandma is stunting because of the government's program... my child must be healthy, he's cool, sometimes he's pretending to be cool... his body posture is like that." (AS, 45 years old)*
The Concept of Health and Sickness Related to Stunting	Stunting does not interfere with activities	Community members believe that stunting does not necessarily prevent children from performing normal activities, though it might limit their capacity.	*"Being healthy means being able to carry out all activities according to our abilities... if stunting doesn't interfere with your activities completely, you can do it, but not to the maximum." (AS, 50 years old)*

Theme 1. Definition of stunting according to community

This theme explores the varied understandings and perceptions of stunting among different community groups, revealing a common theme of uncertainty and misconceptions about what stunting entails. For many, stunting is mistakenly associated with general physical deficiencies, such as weight-related issues. It is often confused with broader malnutrition concepts, particularly 'gizi buruk' or severe malnutrition in English.

Illustrative Quotes Highlighting Confusion:

> *"I heard it again; I didn't understand what it was."*
>
> (A, 20 years old)

> *"Stunting... is it the same as malnutrition or what? I thought stunting meant 'gizi buruk,' which I know as severe malnutrition."*
>
> (PP, 27 years old)

Prospective newlyweds typically encounter the term "stunting" during administrative processes required for marriage, where it becomes a topic of discussion. Their responses vary widely, from uncertainty to assumptions that stunting may be linked to genetic factors or inadequate prenatal nutrition. For example, one pregnant woman expressed:

> *"I don't know, I have heard of it, but not really... I mean, I often hear the words, but I have never actually seen what stunting is."*
>
> (Mrs. RY, 27 years old)

Pregnant women tend to focus on the physical attributes associated with stunting, notably smaller body size and weight. A mother stated:

> *"Stunting is being small, eh yes, small body weight; it could be from heredity; I think it can happen right from the womb."*
>
> (Mrs. RM, 24 years old)

Among mothers with children, there is confusion about whether stunting relates to a child's height and if it is hereditary:

> *"Not tall enough, sis? The midwife said it's not because of heredity, but I think it's not hereditary, although the older people say it is. Like his father, he will be short but might grow really tall after circumcision... just look at the child. He is active, lively, very healthy, smart."*
>
> (Mrs. VN, 24 years old)

Another mother commented on her own experience:

> *"Stunting, once my second child was also considered stunting but has 'graduated,' lacking height... I don't understand."*
>
> (Mrs. EM, 28 years old)

Community and religious leaders exhibit diverse understandings of stunting, with several key themes emerging in their responses, including beliefs about heredity, God's will, and the use of negative terminology or stigma associated with stunting. For example:

> *"Well, this is stunting made by Allah... This is a government program to spend money, ha-ha... in the past, there was nothing like this (stunting), all 7 or 11 children were successful, the food was tiwul and bananas... lazy, I took care of this stunting creates continued friction with the residents,"*
>
> (Isw, 55 years old)

Health cadres, however, demonstrate a clearer understanding that stunting is a condition resulting from chronic malnutrition, which impedes a child's growth over time:

> *"Stunting comes from the term 'short.' The stunting factor is present from the beginning of pregnancy due to a lack of nutritional intake. Parents with problems like chronic energy deficiency can affect the baby from birth to 2 years if not properly attended to during the first 1000 days of life."*
>
> (SZ, 47 years old)

These narratives reveal a spectrum of understandings and beliefs about stunting, ranging from uncertainty and traditional views to the more medically informed perspectives of health cadres. This diversity underscores the complexity of addressing stunting within the community and highlights the critical need for targeted education and clear communication to effectively dispel misconceptions.

Theme 2. General community assessment regarding stunting

Within the community, a prevalent misconception exists that stunting is primarily due to genetic factors, often mistakenly believed to be tied to familial or regional traits. This perception frequently leads to the notion that stunting is a matter of destiny or is trivialized as merely a focus of governmental resource expenditure. One informant highlighted this misunderstanding:

> *"Some say it's because of heredity... even though they eat a lot… maybe it's heredity... that's a joke among mothers."*
>
> (IS, 31 years old)

Stunting is generally not perceived as a severe issue because children who are stunted often appear lively and healthy. This perception contributes to a widespread indifference towards the condition. As another participant remarked:

> *"Some think it's a government program; others don't believe it because their child looks healthy and active but is categorized as stunting."*
>
> (Syt, 47 years old)

Additionally, the belief that stunting is largely hereditary further diminishes its perceived severity. An informant explained:

> *"From a health perspective, children are said to be malnourished, but in reality, the community doesn't see it that way. The child is just small. It doesn't matter if they don't gain weight, as long as they eat a lot and are healthy."*
>
> (RDC, 31 years old)

Theme 3. Concepts of health and illness related to stunting according to society

The community has considerable ambiguity regarding the concepts of health and illness related to stunting. While some informants perceive children with stunting as unwell, their uncertainty is palpable. For instance, one participant remarked:

> *"A healthy child has weight and height appropriate to his age... but in my opinion, a stunting child is sick... The problem is that the development is not optimal."*
>
> (DP, 33 years old)

Others expressed confusion, noting that children with stunting might appear physically healthy, yet their growth and development are misaligned:

> *"A child with stunting indeed looks physically healthy... but the period of growth and development is not suitable, so whether he's healthy or sick, why is it so confusing?"*
>
> (SP, 22 years old)

In rural areas, health is often equated with a child's ability to be active and engage in play. Consequently, children with stunting are frequently perceived as healthy, although there is a recognition that their health needs ongoing monitoring:

> *"Health means eating willingly; the child is active... if the child is stunting, health needs to be monitored."*
>
> (FD, 29 years old)

Discussion

This study has engaged the social assessment phase of the PRECEDE-PROCEED model to explore community perspectives on stunting, offering new insights into its complex social underpinnings. The findings emphasize that a comprehensive understanding of stunting substantially enhances the effectiveness and societal acceptance of existing interventions. Crucially, these results demonstrate the imperative of integrating scientific evidence with the nuanced socio-cultural and religious contexts of the community when crafting health educational initiatives (Afandi et al., 2023; Anggraini & Romadona, 2020; Hossain et al., 2018).

In many communities, stunting is often viewed not as an acute medical concern but as a natural variance in physical development, frequently attributed to genetic traits inherent within families or communities. This perception undermines the urgency of medical intervention, positioning stunting as a condition that might naturally resolve or improve over time without targeted health strategies. Such views reflect a broader misunderstanding of stunting as a predetermined fate rather than a preventable health issue.

Applying the PRECEDE-PROCEED model in this research has not only facilitated a deeper understanding of these perceptions but has also demonstrated its efficacy in enhancing knowledge, attitudes, and social support across diverse health initiatives. These initiatives range from nutrition interventions for children under five to global educational programs (Arshad et al., 2023; Fitriani et al., 2020; Nguyen et al., 2022). Despite evident concerns about the impacts of stunting, the apparent absence of direct complaints from community members suggests a significant underestimation of its public health implications. This underestimation likely contributes to inadequate investment in nutritional programs and limited health interventions, exacerbating the challenges in stunting reduction.

This study has highlighted a common perception in rural communities that stunting is predominantly hereditary. This belief is supported by empirical research indicating that maternal height significantly influences the likelihood of a child experiencing stunted growth (Sartika et al., 2021). Observations that previous generations within these communities were also generally shorter—with average maternal heights between 145 and 150 cm—reinforce this perception. Research confirms that many parents perceive genetics as determining a child's height (Alhumaidi et al., 2023).

The common practice of using height-for-age anthropometric measurements to assess stunting often overlooks the multifactorial causes of the condition. Children who do not meet specific height standards are quickly classified as stunted, fostering public doubts about the accuracy of these assessments. This skepticism is reinforced by studies that challenge the application of global WHO standards, potentially leading to misclassification and overdiagnosis of stunting, especially in populous countries like Indonesia (Mchome et al., 2019; Scheffler & Hermanussen, 2022, 2023). This context emphasizes the critical need to consider historical and environmental factors beyond mere height-for-age metrics to prevent misdiagnosis and ensure culturally relevant health assessments.

Furthermore, stunting is often normalized within these communities, perceived as merely a variation of physical development rather than a serious health concern. Similar to findings from Thailand, caregivers frequently evaluate a child’s well-being based on physical activity and appearance, disregarding potential nutritional deficiencies (Ditsungnoen et al., 2020).

However, studies associate stunting with significant developmental issues, including premature aging and cognitive impairments, aspects often unnoticed by the community (Mchome et al., 2019). Additionally, it has been highlighted that while children with stunting may appear agile, they frequently suffer from deficits in muscle strength, affecting their overall physical capabilities (Verbecque et al., 2022). These critical health ramifications are commonly overlooked due to the prevailing misperceptions that stunting, characterized by reduced stature, represents a benign variant of normal growth.

In this community, the term 'stunting' is frequently conflated with 'malnutrition,' though they represent distinct nutritional issues. Stunting specifically refers to impaired growth that can occur without visible malnutrition or infection, primarily indicating a height-for-age measurement significantly below the population standard without necessarily involving overt nutritional deficiencies. Conversely, malnutrition or 'gizi buruk' in the local context refers to a broader spectrum of nutritional inadequacies, encompassing conditions like underweight or deficiencies in essential vitamins and minerals (Raiten & Bremer, 2020). In rural areas, using the less stigmatizing term 'stunting' tends to obscure the critical differences between these conditions, potentially leading to confusion among caregivers and health workers. Not all stunted children exhibit symptoms of malnutrition or chronic infection, suggesting that stunting is not synonymous with poor nutrition but a specific growth deficiency (Scheffler et al., 2020).

The preference for 'stunting' over 'malnutrition' in social discourse often leads to parental concern being masked, as parents might conceal their anxiety about their children's health. It has been observed that parents usually struggle to distinguish between genetic factors and actual nutritional deficiencies contributing to stunting. This confusion is compounded as families frequently attribute their children's stunted growth to socioeconomic conditions and evaluate their health based on community norms rather than medical standards, leading to subjective assessments that do not align with recognized health criteria (Hossain et al., 2018).

This research highlights that rural communities often attribute characteristics like interactivity and agility to stunted children, perceiving them as 'smart' despite lacking scientific backing or observable academic success. This local perception starkly contrasts with research demonstrating the detrimental effects of stunting on cognitive development and academic performance (Cameron et al., 2021; Patimah & Imam Arundhana, 2021; Wati et al., 2022). Communities generally do not consider stunting a critical health issue, often viewing it as a natural part of child development and believing that the condition will resolve over time, with some relying on traditional practices such as circumcision for improvement. Other studies have found that many mothers anticipate a natural resolution of the condition without acknowledging its severity, reflecting a cultural fatalism that attributes health outcomes to fate or God's will. This underscores the need for interventions that involve multiple community stakeholders, including religious leaders (Hapzah, 2022; Rahmadiyah et al., 2024).

Additionally, there is notable skepticism towards government initiatives to combat stunting, often perceived as ineffective and not in the community's best interest. This skepticism stems from a perceived lack of transparency and minimal community involvement in implementing and monitoring these programs. Advocates like Milwan and Sunarya (2023) call for a more inclusive and participatory approach to enhance the effectiveness and acceptance of health programs, while Lameky (2024) supports this view, suggesting that cooperative efforts between society and government can foster sustainable health outcomes and raise awareness effectively (Lameky, 2024; Milwan & Sunarya, 2023). These perspectives are bolstered by other studies emphasizing the importance of engaging all stakeholders in the fight against stunting

to ensure sustainable interventions and reduce the stigma associated with the condition. Collaborative efforts are essential for impactful, lasting changes in child health across Indonesia (Prasetyo et al., 2023; Syahrul & Ikhsan, 2022).

This research exposes the simplistic yet profound concepts of health and illness held by rural communities, diverging significantly from the WHO's definition of health as a holistic state of physical, mental, and social well-being. In rural Central Java, health is often narrowly perceived as merely the capacity to perform daily activities without physical hindrances. This is evident in the local understanding of stunting, where children are deemed healthy as long as they can function normally despite displaying abnormal growth patterns like reduced weight and height.

Contrary to the broader medical community, which often views stunting as indicative of significant health issues, the local perception categorizes it as a variant of normal health because these children can engage actively in daily life. This interpretation aligns with a broader cultural framework where illness is an interruption to daily life, often linked to chronic conditions that severely limit physical capabilities. However, a more naturalistic perspective on illness observed in these communities defines it as a physiological disorder prompting care-seeking behavior (Turgay et al., 2018; Workneh et al., 2018).

This research suggests that health and illness should be viewed as a continuous spectrum rather than two distinct categories. Stunting does not always correlate directly with illness but indicates suboptimal growth. Recognizing stunting as part of this health spectrum can lead to more appropriate interventions for affected children. By exploring rural communities' perceptions of stunting, this study has shown how these perceptions influence the acceptance of stunting intervention programs. The findings emphasize the value of using the social assessment phase of the PRECEDE-PROCEED model to identify norms and beliefs that may hinder the acceptance of interventions. This underscores the necessity of health education and communication programs that are informative and sensitive to local social, religious, and cultural contexts. Previous research has reinforced that culturally sensitive communication can drive behavior change in mothers to prevent stunting in children (Marni et al., 2021). Moreover, individual perceptions can significantly influence the success of community-based interventions (Haldar et al., 2022)

Public health programs targeting stunting must be meticulously designed to address community perceptions while grounding interventions in clear scientific evidence. Such strategies emphasize the necessity of an open, dialogic approach involving community and religious leaders as pivotal health ambassadors to foster trust and enhance the reception of health messages. Integrating health education into everyday community activities through easily accessible media channels is crucial for diminishing the stigma associated with stunting and encouraging proactive health behaviors. These interventions are more likely to effectively reduce the prevalence of stunting and improve children's quality of life in rural Central Java and comparable regions. By synthesizing an understanding of rural social dynamics with structured intervention strategies, a more potent response to stunting can be achieved. Prior studies underscore the critical need to tailor stunting education and interventions to reflect sociodemographic factors, religious beliefs, and comprehensive community awareness of child health issues (Alhumaidi et al., 2023; Hapzah, 2022; Hossain et al., 2018; Moreno et al., 2023).

Moreover, stunting intervention strategies must actively involve the community, leveraging local knowledge, values, and norms to maximize the effectiveness of these interventions and

substantially reduce stunting rates in rural settings. Social analysis highlights the imperative to amplify community involvement in tackling stunting at the grassroots level (Arini & Peranto, 2023). Effective communication methodologies—such as two-way communication, consistent information repetition, widespread dissemination, persuasive messaging, and engaging educational practices—are essential for elevating awareness, transforming perceptions, and fostering positive behavioral changes concerning stunting management (Nur et al., 2023; Soviyati et al., 2023).

Strengths and limitations

This study represents one of the pioneering efforts to delve into the perceptions of stunting within rural Indonesian communities, uniquely examining the conceptions of health and illness pertaining to stunting. Utilizing a qualitative comparative approach, our research provided deep insights from various risk groups in rural settings, delivering critical information that can help researchers and public health practitioners design stunting prevention programs that are culturally and contextually apt.

While the study benefited from rich data obtained through in-depth interviews, it was not without limitations. A potential source of bias could stem from participants' recall accuracy, an inherent challenge with retrospective interviews. To mitigate this, we employed data triangulation, incorporating perspectives from various sources such as grandmothers, health workers, and community cadres, which enriched and helped validate our findings.

One notable limitation was the lack of inter-coder reliability due to the data being primarily analyzed by a single researcher. However, the credibility of the analysis was bolstered by the involvement of a second analyst in developing the coding scheme and refining themes. This collaborative approach to analyzing qualitative data helped to enhance the trustworthiness of our results.

Conclusions and recommendations

The research demonstrated that perceptions of stunting within rural communities are varied and frequently inaccurate, often characterizing it as a hereditary issue or dismissing it as a non-critical concern. A common belief is that stunted children—yet seen as active, attractive, and intelligent—will naturally outgrow the condition without specific interventions. This misconception is exacerbated by a widespread belief that stunting interventions are more about serving bureaucratic interests than addressing genuine public health needs. These misperceptions urgently need to be corrected to improve the effectiveness of stunting interventions.

Our findings emphasize the critical need for enhanced community education to support and legitimize government efforts to combat stunting. Effective strategies should encompass comprehensive community empowerment and health promotion initiatives that provide tailored information and counseling. Such efforts are essential to dispel myths, minimize stigma, and boost the efficacy of interventions.

Employing the PRECEDE-PROCEED model has yielded valuable insights into how

community perceptions, knowledge, and social norms shape the acceptance and success of health interventions. This study reinforces the need for tailored communication strategies involving community members in stunting prevention efforts. We recommend a sustained educational approach that delivers clear, accessible information about stunting and its implications while fostering community engagement in designing and implementing interventions. Recognizing and incorporating social and cultural dimensions into these strategies can significantly enhance the effectiveness and sustainability of public health initiatives to reduce stunting.

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