

Evaluation of policies and implementation of early initiation of breastfeeding, exclusive breastfeeding, and stunting reduction in Gunungkidul regency: Integration of local evidence and policy-based recommendations

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Abstract

Early Initiation of Breastfeeding (EIBF) and exclusive breastfeeding are key strategies in preventing stunting. Although Gunungkidul Regency has achieved a relatively high EIBF coverage of 80%, the exclusive breastfeeding rate remains only 52%, far below the national target of 85%. This study aims to analyze the barriers, policies, and local innovations in the context of national and global policies related to exclusive breastfeeding programs and stunting reduction. A qualitative study using thematic analysis was conducted with both primary and supporting informants. Major barriers to exclusive breastfeeding include socioeconomic factors, such as working mothers, and cultural myths surrounding breastfeeding. Local stunting prevention programs, such as "Ayunda Si Menik" and the use of moringa leaves in complementary feeding, show potential but are limited in scale. Strengthening evidence-based policies, utilizing technology for education and monitoring, and fostering cross-sectoral collaboration are required to meet national targets and align with WHO/WMA recommendations.

Keywords : Breastfeeding; stunting; education

1. Introduction

Malnutrition contributes to 35% of deaths among children under five years old. More than two million children under five die every year due to inadequate nutrition. One of the consequences of malnutrition is stunting, caused by deficiencies in one or more essential nutrients. According to WHO data (2019), 21.3% or 144 million children under five worldwide suffer from stunting. Indonesia ranks third in Southeast Asia (SEAR) with an average prevalence of 36.4% between 2005–2017. The Indonesian Nutritional Status Survey (SSGI) in 2022 reported a decrease in stunting prevalence from 27.7% in 2019 and 24.4% in 2021 to 21.6% in 2022. In Yogyakarta, stunting prevalence in 2022 was 16.4%, with the highest rates in Gunungkidul (23.5%), followed by Kulonprogo (15.8%), Sleman (15%), Bantul (14.9%), and Yogyakarta City (13.8%). (kementerian kesehatan RI, 2022; Kementerian Kesehatan, 2023)

Breast milk contains essential nutrients for infant growth and development, including vitamins, proteins, fats, carbohydrates, and minerals. Colostrum provides both nutrition and antibodies that protect infants from infection and supports digestive function. Breastfeeding is the best nutrition for preventing disease, saving lives, and ensuring healthy growth and development during the first 1,000 days of life. WHO emphasizes that breastfeeding reduces child mortality and contributes to maternal health. According to WHO and UNICEF, over 50% of child deaths are related to malnutrition, with two-thirds caused by inappropriate feeding practices. (UNICEF, 2023; Wrottesley et al., 2016) Inadequate feeding practices weaken immunity, making children more susceptible to illness and growth failure. Key interventions include Early Initiation of Breastfeeding (EIBF), exclusive breastfeeding until six months, providing high-quality complementary feeding, and continued breastfeeding until two years or beyond. (Zalumin & Fadlan, 2024)

A mother's knowledge plays a critical role in child nutrition, as mothers are the closest caregivers and decision-makers regarding food intake. Other contributing factors include socioeconomic status

and parenting practices. Therefore, empowering mothers with nutritional knowledge is essential for preventing stunting. Balanced nutrition, with adequate portions and quality, supports optimal growth and health.(Damayanti, 2016)

The Indonesian Ministry of Health has implemented stunting reduction efforts through primary health services (puskesmas) and community health posts (posyandu) under the First 1,000 Days of Life Movement (HPK). Programs include supplementary feeding for undernourished children and pregnant women, iron supplementation for adolescent girls and pregnant women, expanded immunization coverage, vitamin A supplementation, and zinc administration for diarrhea cases.(Kementrian Kesehatan RI, 2021)

Thus, health departments and Community Health Center (Primary Health Service) need to empower posyandu cadres to strengthen knowledge and support exclusive breastfeeding and infant and young child feeding (IYCF) practices, in order to build a stunting-free generation..

2. Method

This study employed a qualitative method to explore participants' experiences regarding behaviors, perceptions, motivations, and actions in a natural context. A descriptive-exploratory design was applied to illustrate the implementation process and performance of primary health facilities. A cross-sectional approach was used, collecting data at a single point in time to analyze correlations between risk factors and outcomes.

Primary and triangulation informants were selected using purposive sampling. Main informants included the Head/Secretary of Gunungkidul Health Office, Head of Public Health Division, and Head of Family and Community Nutrition Section. Triangulation informants included maternal and child health (MCH) officers and nutrition coordinators at community Health Center (Primary Health Service). Data were collected through in-depth interviews using open-ended questions covering the implementation of Government Regulation No. 33 of 2012 on Exclusive Breastfeeding, women's roles in Community Health Center (Primary Health Service), barriers to implementation, and stunting reduction targets.

3. Results and Discussion

3.1. Implementation of Government Regulation No. 33 of 2012

Interviews with Gunungkidul Health Office officials revealed that Government Regulation No. 33 of 2012 on Exclusive Breastfeeding has been adapted into Regent Regulation No. 9 of 2019 mandating Early Initiation of Breastfeeding (EIBF) for newborns. According to the Gunungkidul Health Office report, exclusive breastfeeding coverage in 2024 reached only 52%, compared to the national target of 85%, while EIBF coverage reached 80%. (primary data 2024)

The local government has provided public breastfeeding facilities, such as lactation rooms in government offices (OPDs) equipped with sofas and refrigerators, although facilities remain incomplete. Similar spaces exist in markets but are underutilized. Interviews with Community Health Service (Primary Health Service) staff indicated that most health facilities already have lactation rooms, but these are modest and lack standard equipment, such as refrigerators and sinks. (primary data, 2024)

“In offices like these, there are lactation rooms so that mothers can breastfeed or express milk. Although the facilities are not luxurious or up to standards, at least space is provided.”

Public education has been carried out mainly through conventional maternal classes, supplemented by the “SMS Bunda” program, though responses remain low. This suggests the need for broader digital education strategies using social media to reach younger generations. (primary data, 2024)

At the Community Health Service (Primary Health Service) level, similar adaptations of PP No. 33/2012 into local regulations were observed. Exclusive breastfeeding coverage in 2024 was 52%, compared to 76% in 2023. Nationally, Basic Health Research (RISKESDAS) 2021 reported that only 52.5% of infants under six months received exclusive breastfeeding, a 12% decrease from 2019. EIBF coverage also declined from 58.2% in 2019 to 48.6% in 2021.(primary data, 2024)

WHO and UNICEF highlight the global importance of breastfeeding: optimal practices could save 820,000 children annually and prevent 20,000 maternal breast cancer cases each year. The COVID-19 pandemic further limited breastfeeding counseling services, with less than half of mothers receiving support in 2021. Violations of the International Code of Marketing of Breastmilk Substitutes also worsened the situation.(Wrottesley et al., 2016)

WHO Representative Dr. N. Paranietharan stated:“Optimal breastfeeding practices are key to reducing stunting in children under five. Early initiation and exclusive breastfeeding for six months provide essential protection against infections and the nutrition needed to prevent stunting.” UNICEF Acting Representative Robert Gass emphasized: “Breastfeeding is one of the most effective ways to protect the health of children and mothers, and to give children the best start in life. Stakeholders must continue to protect, promote, and support breastfeeding, even during global crises.”(Dunkel et al., 2021; Sirajuddin et al., 2013) WHO and UNICEF called for increased investments in breastfeeding promotion, ensuring access to counseling services, strengthening hospital standards through the “Ten Steps to Successful Breastfeeding,” and stricter enforcement of the International Code.

The prevalence of stunting among the children studied was 43.7%, significantly higher than the national average. Children who were exclusively breastfed for six months had a reduced risk of stunting compared to those who were not exclusively breastfed. Other contributing factors included household poverty, low maternal education, and poor dietary diversity after six months. Exclusive breastfeeding provides significant protection against stunting in young children from low-income populations. However, breastfeeding alone is not sufficient to eliminate stunting; it must be combined with improved complementary feeding practices, maternal education, and socioeconomic support. Policies and programs should: Strengthen promotion of exclusive breastfeeding for the first six months. Ensure timely introduction of diverse and nutritious complementary foods. Target maternal education and poverty reduction to improve child nutrition outcomes. (Campos et al., 2021; Hadi et al., 2021)

3.2. Barriers to implementation of exclusive Breastfeeding

The research found that several challenges such as Socioeconomic factors: Working mothers often cannot sustain exclusive breastfeeding, resorting to formula feeding. Cultural beliefs: Family members, especially grandmothers, may introduce complementary foods before six months, believing the baby is ready to eat. Perceived low milk supply: Some mothers give formula when breast milk seems insufficient, often leading to infant diarrhea or allergies, which are mistakenly attributed to breast milk. *“Based on our community experience, working mothers with infants under six months often fail to maintain exclusive breastfeeding, leading to formula supplementation.”*

EIBF implementation also faced barriers, including maternal or neonatal complications (e.g., asphyxia, hemorrhage), and cesarean deliveries where skin-to-skin contact was too brief. In developed countries, EIBF coverage is much higher (Australia >90%, UK 81%, USA 79%), supported by policy, trained health workers, and strong promotion. In the U.S., breastfeeding policies emphasize maternal and family education, supportive facilities, trained health professionals, hospital standards, and strict regulation of formula marketing. These policies correlate strongly with higher exclusive breastfeeding rates and better maternal-infant outcomes. (Abu et al., 2013; Caffarelli et al., 2019)

Association Between Breastfeeding and Child Stunting in Mexico 12.3% of children were stunted. 71.1% received breastfeeding for ≥ 6 months. Protective factors: Any breastfeeding, being female, and grandparent cohabitation. Risk factors: Low birthweight, maternal short stature, maternal indigenous status, higher number of children under 5, food insecurity, low socioeconomic status, and poor sanitation. Breastfeeding (any duration) reduced the risk of child stunting. Policies should combine prenatal strategies (preventing low birthweight, supporting vulnerable mothers) and postnatal strategies (multilevel breastfeeding support and food security programs).(Campos et al., 2021). Exclusive breastfeeding and childhood stunting in sub-Saharan Africa Overall prevalence of EBF was 44.8%, while stunting prevalence among children under six months was 17.4%. Children who were exclusively breastfed were significantly less likely to be stunted than those who were not. Maternal education, household wealth, and place of residence were important predictors of both EBF and child growth outcomes. Conclusion: Exclusive breastfeeding substantially reduces the risk of early childhood stunting in sub-Saharan Africa. Improving EBF rates requires maternal education, poverty reduction, and community-based breastfeeding promotion. (Sk et al., 2021)

A study Effects of Exclusive Breastfeeding, Antenatal Care Visit, and Maternal Education on Stunting in Toddlers (Meta analysis) It was shown that children under five who received exclusive breastfeeding had a 0.54 times lower risk of stunting compared to those who did not (aOR = 0.54; 95% CI = 0.35–0.85; p = 0.007). Children whose mothers attended antenatal care (ANC) regularly (≥ 4 visits) had a 0.81 times lower risk of stunting compared to those with fewer visits (aOR = 0.81; 95% CI = 0.72–0.90; p = 0.001). Children of mothers with higher education had a 0.72 times lower risk of stunting compared to those with lower education levels (aOR = 0.72; 95% CI = 0.61–0.86; p = 0.003). Exclusive breastfeeding, regular ANC visits, and higher maternal education play a significant role in reducing the risk of stunting among children under five. Stunting prevention efforts should therefore focus on promoting exclusive breastfeeding, improving access to and quality of ANC, and enhancing maternal education and health literacy.(Tari et al., 2023)

3.3. The Role of Women’s Supports on Breastfeeding in Community Health Center

Gunungkidul Governments has implemented stunting prevention strategies through Supplementary Feeding (PMT) and the Stunting Reduction Acceleration Team (TPPS). PMT is provided to high-risk groups such as pregnant women with chronic energy deficiency (CED) or anemia, and undernourished children. Foods are prepared locally with higher portions of animal protein, distributed for 120 days, funded by central government non-physical allocations. (primary data, 2024)

The Health Office clarified that direct stunting management is not limited to PMT but involves family accompaniment from pre-marriage counseling through pregnancy and breastfeeding. Stunting prevention efforts also include training for health workers and posyandu cadres on child growth monitoring and Infant and Young Child Feeding (IYCF/PMBA). (primary data 2024)

Innovative programs at Community Health Center (Primary Health Service) include campaigns against early marriage (Yunda Simenik), and district-level initiatives such as LANTING SIHENI, which promotes animal protein-based complementary foods. Education on exclusive breastfeeding is also integrated into maternal classes. (primary data, 2024)

Stunting has multidimensional impacts, including impaired growth, poor cognitive and motor development, and reduced productivity, leading to long-term economic losses. Prevention must focus on the first 1,000 days of life, beginning in pregnancy with adequate antenatal care, nutritional supplementation, and health education, continuing through exclusive breastfeeding for the first six months, and appropriate complementary feeding thereafter. (Rahman et al., 2023; Wrottesley et al., 2016)

The study from Eastern Indonesia highlighted that exclusive breastfeeding significantly protects children under two years old from stunting, particularly in low-income households, where exclusively breastfed children were 20–50% less likely to be stunted compared to their non-exclusively breastfed peers. It also found that cultural beliefs, caregiver knowledge, and economic status strongly influenced feeding practices, with misconceptions about colostrum and lack of adequate health education as barriers. Similarly, research conducted in the Nkwanta South Municipality of Ghana revealed a stunting prevalence of 12.5% and wasting prevalence of 27.5% among children aged 1–5 years, with exclusive breastfeeding emerging as a key protective factor, reducing the risk of both stunting and wasting. Other significant predictors included parents’ working status, number of children, birth interval, vaccination status, and recurrent diarrhea. Together, these studies reinforce that exclusive breastfeeding is a crucial, low-cost intervention to reduce stunting and wasting across diverse low-income contexts, but its success depends on maternal education, cultural acceptance, healthcare access, and broader socioeconomic support. (Danso & Appiah, 2023)

Stunting has wide-ranging impacts on children’s physical health, cognitive development, and future economic potential. Prevention and early intervention during the first 1,000 days of life are crucial. A multisectoral approach focusing on maternal and child nutrition, exclusive breastfeeding, quality complementary feeding, sanitation, and socio-economic support is key to accelerating the achievement of global stunting reduction targets. Impacts of Stunting include: Growth failure: Children experience impaired height growth due to deficiencies in energy, protein, and essential micronutrients. Cognitive impairment: Increased risk of delayed brain development, poor learning ability, low academic achievement, and reduced productivity in adulthood. Gut dysbiosis: Imbalance

of gut microbiota leading to impaired nutrient absorption, inflammation, and recurrent diarrhea. Endocrine dysfunction: Including hypothyroidism due to iodine deficiency, higher risk of type 2 diabetes mellitus, and other metabolic disorders. Anemia: Frequently coexisting with stunting, caused by iron deficiency, recurrent infections, and other micronutrient deficiencies. Main Causes of Stunting (multifactorial): Poor maternal nutrition during pregnancy. Lack of exclusive breastfeeding and inadequate complementary feeding. Poor sanitation and environmental hygiene. Recurrent infections (e.g., diarrhea, gastrointestinal infections). Socioeconomic factors (poverty, low education, and limited access to healthcare). (Mulyani et al., 2025)

Children who do not receive exclusive breastfeeding have a higher risk of experiencing stunting compared to those who do. Exclusive breastfeeding has been proven to be a protective factor against stunting, even after controlling for other variables such as household income, maternal education, and dietary patterns. Additional risk factors for stunting include low income, low maternal education, and poor sanitation. Exclusive breastfeeding during the first six months plays a crucial role in protecting children from stunting, particularly in low-income areas. Nutritional interventions to prevent stunting should emphasize: Educating mothers about the importance of exclusive breastfeeding. Improving the quality of maternal and child healthcare services. Enhancing socio-economic and environmental conditions (sanitation, food access). (Syeda et al., 2021).

4. Conclusion

This study identified multiple barriers to exclusive breastfeeding and stunting reduction: Socioeconomic constraints (working mothers); Cultural beliefs and family influence (early complementary feeding, breastfeeding myths); Inadequate facilities (non-standard lactation rooms, underutilized spaces); Limited technology-based education and monitoring. While Indonesia's policies align with international standards, local-level implementation faces significant challenges. Recommendations include: Strengthening lactation facilities in line with WHO guidelines, Leveraging digital platforms for nutrition education and monitoring, Enhancing cross-sectoral collaboration, particularly in sanitation and environmental health

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