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Strengthening the Role of Higher Education in Reducing Stunting Prevention in North Sumatra

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Abstract. *Indonesia has established specific objectives aligned with the Sustainable Development Goals (SDGs) Program for the year 2030 in the domain of public health. These objectives primarily focus on enhancing nutritional standards and overall health quality as a means of addressing the prevailing issue of stunting. The attainment of the Sustainable Development Goals (SDGs) necessitates proactive preparation and effective coordination across various sectors. In the past two decades, progress in addressing the issue of stunting has been notably sluggish. On a global scale, there has been a mere 0.6% annual reduction in the prevalence of stunted growth among children since 1999. According to projections, if the current trend persists, it is anticipated that in 15 years, approximately 450 million children will be affected by growth retardation or stunting. It is hypothesized that the lack of cross-sectoral roles in preventing stunting is the causative factor. Therefore, it is imperative to enhance the role through convergence actions in order to expedite the reduction of stunting. The role of higher education involves implementing a mentoring strategy for both educators and engaging students in the Program to Accelerate the Reduction of Stunting at 10 locations in the Labuhan Batu district. This program adopts a five-pillar approach, which includes: (1) enhancing the commitment and leadership of the Village/Kelurahan Government, (2) strengthening and developing systems, data, information, research, and innovation, (3) promoting behavior change and community empowerment in terms of nutrition, healthy behavior, cooperation, and self-reliance, (4) implementing specific and sensitive interventions through a stunting caring family approach, and (5) ensuring food security at the individual, family, and community levels by optimizing the utilization of local food ingredients. The factors that promote the implementation of convergence initiatives to expedite the reduction of stunting encompass the government's dedication, alongside the engagement of diverse stakeholders from both the healthcare and non-healthcare domains.*

Keywords: *Effectiveness, Stunting, Convergence Action, Assistance*

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INTRODUCTION

Stunting is a prevalent issue within the healthcare sector, specifically pertaining to suboptimal nutrition among the general population. This is evident through the alarming rate of stunting observed among young children. There is a desire for the prompt implementation of stunting treatment in order to liberate children, particularly in the Labuhan Batu region, from the potential consequences of impaired brain development, which can hinder the child's cognitive abilities from reaching their full potential. Stunting refers to a condition observed in children under the age of five, characterized by inadequate growth and development as a result of persistent malnutrition (Kar et al., 2008). This condition manifests as a significant reduction in height relative to the child's chronological age.

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Malnutrition manifests during the prenatal period and in the initial stages of infancy, while stunting becomes apparent only after the child reaches the age of two (Golden, 1994). From the prenatal stage until the age of two, children undergo a period of accelerated growth commonly referred to as a "growth spurt." This phase represents a critical period of optimal development, often referred to as a "window of opportunity," for children. According to available data, there are two provinces in Indonesia that exhibit a significantly high prevalence of stunting, specifically exceeding 40%. These provinces are North Sumatra and South Sumatra. Based on the provided prevalence figures, it is evident that the occurrence of stunting in Sumatra is considerably high (Departemen Kesehatan RI, 2008). In the year 2018, the North Sumatra Province exhibited a prevalence rate of 32.5 percent for individuals classified as being of short stature, encompassing both the categories of very short and short. In the year 2018, the Labuhan Batu Regency exhibited a prevalence rate of 16.31% for individuals classified as short, while 21.06% of the population fell under the category of very short. Efforts aimed at mitigating stunting necessitate the integrated implementation of nutrition interventions within households, targeting specific locations and priority groups during the first 1,000 days of life (HPK). According to the annual survey conducted by the Labuhanbatu Regency Health Office in 2020, the proportion of families who adhere to the Family Awareness of Nutrition (Kadarzi) program in Labuhanbatu Regency amounts to 76.68%. The proportion of Kadarzi individuals in Labuhanbatu Regency remains below the national benchmark of 80%.

Higher education serves as a platform for cultivating intellectuals who are adept at implementing innovative solutions that bring about positive outcomes for the community (Departemen Kesehatan RI, 2008). Consequently, the active participation of individuals in applying the knowledge they have acquired plays a crucial role in addressing prevailing challenges (Haamann & Basten, 2019). The government has conducted coordination and consolidation meetings with various sectors in the community, including Higher Education, in order to collaboratively implement a program aimed at accelerating the reduction of stunting. The target is to decrease the prevalence of stunting from 25.8% to 14% by the year 2024. Numerous initiatives have been undertaken, yet optimal outcomes have not been achieved through the North Sumatra Chancellor's Forum.

Therefore, Higher Education assumes a significant role in the acceleration program for reducing stunting, which is encompassed within the stunting locus section, aiming to effectively implement the 5 Pillars of stunting management interventions. Stunting is a persistent nutritional issue that arises from a combination of various factors and exhibits intergenerational characteristics (Soekirman, 2000). In the context of Indonesia, it is commonly observed that stunting is frequently attributed to hereditary factors by the local population. The prevalence of incorrect societal perceptions poses a significant challenge in mitigating this issue (Lim & Teo, 2005). The findings of the study indicate that heredity accounts for a mere 15% of the observed effects, with the primary factors being associated with issues pertaining to nutrient intake, growth hormone, and the prevalence of recurrent infectious diseases among both mothers and toddlers. There is a prevalent consideration among individuals regarding the enhancement of human society's intellect. However, it is worth noting that a relatively limited number of individuals acknowledge the inherent development of intelligence through the enhancement of human nutrition and health during the prenatal stage and the initial 1000 days of life.

Based on the data spanning from 2020 to 2022, the stunting prevention program is anticipated to encounter significant challenges and hurdles. The foremost obstacle is the profound impact of the Covid-19 pandemic, which is expected to impede program activities across various domains of life, particularly within the health sector (Norouzi et al., 2020). This particular fact subsequently influences the failure to attain the objective of stunting prevention and control. One of the primary concerns in the endeavor to expedite the reduction of stunting pertains to the scarcity of human resources dedicated to stunting intervention in various regions (Muhafidin, 2022). To address this issue, it is imperative for the government to prioritize the mobilization of health personnel, encouraging them to volunteer their services in order to

accelerate the efforts aimed at combating stunting in these regions. Stunting cadres refer to trained individuals who have undergone specialized education and training to facilitate the efficient implementation of interventions aimed at reducing stunting prevalence (Siswati et al., 2022). These cadres are equipped to operate at various administrative levels, including the neighborhood unit (RT/RW), sub-district, district/city, and provincial levels. Stunting cadres can be recruited from a variety of sources, including volunteers, posyandu cadres, medical personnel/health workers, and members of the general public (Prevent Stunting in 1000 HPK, 2021).

The significance of possessing nutritional knowledge in relation to consumption is grounded in three fundamental principles (Tyler, 2013). Firstly, maintaining an adequate nutritional status is crucial for promoting overall health and well-being. Secondly, individuals can only acquire the necessary nutrients for optimal body growth, maintenance, and energy if the food they consume is capable of providing such nutrients. Lastly, the field of nutrition science equips individuals with essential information, enabling them to effectively utilize food as a means of enhancing their nutritional well-being. The level of nutrition and health awareness possessed by a mother is significantly correlated with her capacity to effectively handle and utilize locally available food resources. This, in turn, affords her toddler the opportunity to experience optimal growth and development.

METHODS

This Community Service Activity is a method that aims to answer a problem by trying to collect data and information through the Rector's Forum in North Sumatra which is then concluded deductively. This activity is a form of Higher Education's concern in accelerating the reduction of stunting. This service was carried out in the Labuhan Batu PIC stunting locus area. Service activities are carried out by 4 people consisting of 1 person as the Head of Service and 2 members from lecturers and 2 members from students. This activity is carried out based on the scientific expertise needed to carry out the activity

Chairman: in charge of designing community service activities starting from submitting proposals, activities to be carried out and the Team as a member of researchers who will assist at the service location

Lecturer Team: Lecturers as Members are tasked with helping prepare materials and materials to be prepared in carrying out community service activities, including paperwork and permits and providing stunting counseling materials.

Students: Students who are involved are students who have been given debriefing regarding activities in the field..

RESULTS AND DISCUSSION

The service is carried out together with the stunting acceleration team at the Labuhan Batu health office. The Helvetia Health Institute stunting acceleration team work program is designed according to the 5 pillars, as follows:

Stunting Pillar	Activities	Target/ Audience	Objective of The Activity	Main Role By Pic/Lecturer/Student (Mbkm)
Pillar 1				
Increasing Village Government Commitment and leadership	Coordinating and advocating with the district government	District Government	Budgets are available in the form of APBD and Village Funds on an ongoing basis	Lecturer Team

	Coordinating and advocating with sub-district and village governments	District and Village Parties	Formation of PKK Collaboration in the Formation of Dasawisma and Satellite Posyandu (Environmental Area)	Lecturer Team
	Coordinating and advocating with the Ministry of Religion and the Office of Education	SMP (Junior High School)/MTS (Junior High School), SMA/MA (Senior High School)	Adding Health Education Subjects to Local content	Lecturer Team
	Coordinating and advocating with the Office of Religious Affairs (KUA)	Religious Counselor Marriage Counselor	Provision of Lecture Materials to Catin about Germas	Lecturer Team
Pilar 2				
System Strengthening and Development, Data, Information, Research and Innovation	Family Based Surveillance	Locus of 10 Villages	There were indications of families at risk of stunting	Lecturer Team/Students
	Conduct Nutritional Status Assessment: Anthropometry (IMT, LILA) Biochemistry (HB Examination), Food Consumption Survey (Food Recall)	WUS (Young Women, Pregnant Women, Breastfeeding Mothers)	Identified WUS nutritional status	Lecturer Team/Students
	Data on the Nutritional Status of Infants/Toddlers (Measure BB, LILA, TB/PB, Age, LK)	Infant/Toddler	Obtained categories of nutritional status of toddlers and toddlers who are at risk	Lecturer Team/Students
	FGD dengan Guru sekolah/ Madrasah	SMP/MTs SMA/MA	Arranged RPP Madrasa / Aliyah level	Lecturer Team/Students

	FGD Family balanced nutrition	Youth organization Busui pregnant women Cadre Nakes	Identified the information needs of adolescents on anemia prevention	Lecturer Team/Students
Pilar 3				
Communication of Behavior Change and Community Empowerment in terms of nutrition, healthy behavior, mutual cooperation and self-reliance	Compassionate and Fostering Education MARTABE (Stunting Risk Management Creates Quality Children)	Families at risk of stunting	Increase family Knowledge	Lecturer Team/Students
	Health Information Utilization Simulation (Adolescent Health Tiktok Making Contest)	Adults	Building healthy living habits in adolescents and using social media	Lecturer Team/Students
	Peer Formation and Training	Adults	Increasing Adolescents' Knowledge and Understanding of Health	Lecturer Team/Students
	Culture Campaign for Healthy Pregnancy and Breastfeeding Environment (media, leaflets, videos, tiktok)	Working Group (WUS)	Increased WUS understanding of work-related risks and injury prevention	Lecturer Team/Students
	Campaign for healthy life for pregnant women, busui (media leaflets, brochures, pocket books)	Pregnant mother Breastfeeding mothers	Changes in healthy lifestyle (BSE, Pregnancy Exercise)	Lecturer Team/Students
Pilar 4				
Convergence, Specific and sensitive Interventions,	Counseling to stop eating unhealthy snacks for			Lecturer Team/Students -

through the Quality Family Village Approach	elementary school children			
	Stunting Education and Examination of Hb Levels in catins at the stunting locus			Lecturer Team/Students
	Environmental sanitation Training on household waste processing			Lecturer Team/Students
	Healthy food educational game through a highly nutritious, varied menu competition			Lecturer Team/Students
	Adolescent reproductive health care practice			Lecturer Team/Students
Pillar 5				
Food Security at the Individual, Family and Community Levels	Conducting FGDs related to local food ingredients in districts/districts	Village Head / Toma	Identifikasi bahan pangan lokal	Lecturer Team/Students
	Training on making cakes with a variety of vegetables	Housewife and Adults	Meet the needs of iron and increase family income	Lecturer Team/Students
	Training on making Shredded catfish with highly nutritious spices	Cadre, catin and toddler mother	Meet the nutritional needs of the family	Lecturer Team/Students
	Family Empowerment Utilization of Yard to Become High Nutrition Land (LAGINZI)	Families at risk of stunting	Community independence in utilizing land for food crops	Lecturer Team/Students

The contribution of protein, zinc, and iron to energy intake is also noteworthy. Proteins play a crucial role in the formation of new tissue and the development of the human body. Additionally, they are responsible for maintaining, repairing, and replacing damaged tissue. Despite the fact that the energy requirements of toddlers may be met, it is important to note that prolonged insufficiency of protein intake among toddlers can lead to impaired growth in terms of height. The demand for zinc in the body intensifies during phases of rapid growth as a result of essential biological processes such as DNA replication, DNA transcription, and endocrine functions. Zinc is involved in the process of DNA and RNA synthesis, which holds significant importance in the replication and differentiation of chondrocytes and osteoblasts. Additionally, zinc plays a crucial role in the transcription and synthesis of somatomedin, osteocalcin, and collagen. Furthermore, zinc is involved in the metabolic processes of carbohydrates, proteins, and fats. Iron is a crucial micronutrient for the human body, as it plays a vital role in hemopoiesis, specifically in the synthesis of hemoglobin (Hb) molecules. Adequate iron stores ensure a continuous supply of red blood cell production in the bone marrow. Nevertheless, in the event that this condition is not met, an imbalance of iron within the human body arises. Toddlers are susceptible to the potential hazard of developing iron deficiency. Insufficient dietary iron consumption among young children can lead to growth retardation and, if prolonged, may result in stunting. Maternal factors and suboptimal parenting patterns, particularly in relation to child feeding behaviors and practices, can contribute to the occurrence of child stunting when mothers fail to provide sufficient and appropriate nutrition.

Figure 1. Socialization on the importance of preventing stunting in children

The primary factor contributing to the elevated prevalence of stunting in Indonesia is a confluence of factors including inadequate awareness regarding stunting, absence of cohesive policies aimed at facilitating stunting prevention, and challenges in effectively communicating behavior change at the individual, community, and healthcare levels.

The occurrence of stunting is a complex issue that encompasses multiple sectors and dimensions. This implies that the occurrence of stunting is not solely attributed to factors such as health and sanitation issues, but is also influenced by economic factors and limited access to health-related information, among others. The prevention of stunting necessitates bolstering and assistance from diverse components within society.

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Figure 2. Sosialisasi penggunaan Aplikasi Deteksi Dini Stunting

In an effort to provide guarantees for reducing the prevalence of stunting in children, the Government of Indonesia already has a food and nutrition program foundation contained in Law no. 17 of 2007 concerning the 2005-2025 National Long-Term Development Plan (RPJPN). Through this law, the Indonesian government guarantees the availability of production, management, distribution and consumption of nutritious food which includes the nutritional content needed to reduce the prevalence of stunting in several regions in Indonesia. Implementation of the program in an effort to reduce stunting cases requires synergy between parties (stakeholders) which includes coordination of several ministries to ensure access to good nutrition for mothers and children throughout Indonesia.

CONCLUSION

The roles and responsibilities of various stakeholders in communication activities to accelerate stunting prevention still need to be improved. Stunting prevention requires integrated management efforts, including specific and sensitive nutrition interventions. Global experience shows that implementing integrated interventions to target priority groups is the key to success in improving nutrition, child growth and development, and stunting prevention.

SUGGESTION

The involvement of all levels of society is needed in order to increase awareness of the importance of access to health services and adequate nutrition for mothers and children so as to minimize the increase in the prevalence of stunting in Indonesia. So an innovation is needed to increase the fulfillment of nutrition in children by carrying out activities to strengthen local food security, one of which is to encourage people to consume processed fish which is a high source of protein for their growth and development. Besides that, it can also be used as an economic source to increase family income for the welfare of his family.

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