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Guwosari Village Community Empowerment in Overcoming Stunting Post Covid-19 Pandemic

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ABSTRACT

Stunting children has been linked to several health and developmental issues. As primary caregivers, mothers are expected to have the ability and skill to care for their children. The current COVID-19 outbreak also affects the health of stunted children. Stunting children necessitates integrated education efforts involving multiple sectors and family participation. The community service target was achieved through several stages of preparation, training, and evaluation of activities in Guwosari village, Pajangan, and Bantul. The program was referred to 165 health centers and 105 families with stunted children. It included training in preparing complementary healthy food for toddlers using local ingredients, stimulation training, early detection and intervention in children, and health sector training. Community service helped to improve the health and knowledge of family members. This program, which emphasized the role of health cadres in combating stunting, required ongoing assistance and evaluation from the Guwosari Village Head, the Health Office, and the local health center.

KEYWORDS
Covid-19;
Empowered Village;
Empowerment;
Health Care;
Stunting

1. Introduction

Stunting is defined as stunted growth or, more colloquially, growing short [1]. Stunting is a child's failure to grow and develop due to poor health conditions and nutritional intake [2]. It is frequently associated with socioeconomic conditions, disease exposure, and inadequate nutritional intake in quantity and quality [3]. According to World Health Organization (WHO) data from 2017, 22% of children under age five, or approximately 151 million stunted globally. In Asia, Indonesia ranked fifth from 2010 to 2016. In Indonesia, the prevalence of stunting among children under age five is 30.8%, a 6.4% decrease from 2016 [4]. According to data from the Indonesian Ministry of Health's Health Research and Development Agency in 2019, the prevalence of stunting in DI Yogyakarta Province was 21.4%. The problem of stunting can have short and long-term consequences [5]. Stunting has a short-term impact on cognitive, motor, and language development and increases mortality and morbidity. Stunting has long-term consequences, including a decrease in cognitive function abilities and low learning achievement; weakened immunity, making them susceptible to infectious diseases and at high risk of developing degenerative diseases, obesity, and reproductive disorders; and a negative impact on economic productivity.

Research on stunting becomes a reference to support the community service program. Wang [6] analyzed the first case report of a complete paternal isodysomy of chromosome 10 harboring a novel variant in COL17A1 causing junctional epidermolysis bullosa intermediate. Can Nepal meet its nutrition goals by 2030? Adhikari [7] answered the trends in childhood malnutrition in Nepal from 2001 to 2016. Complementary food for babies is crucial to fill their nutrition needs. Delayed introduction of complementary foods and community and household, according to Dhami [8], is a factor in severe infant stunting in India. Kandil [9] investigated the effect of chitosan and emamectin benzoate on the reproductive system of the ground snail Eobania vermiculata (Muller). Anemia among adolescents was studied by Chauhan [10] in his research on the prevalence and predictors of anemia among adolescents

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in Bihar and Uttar Pradesh, India. Choudhry [11] studied the reversal of pathogen-induced barrier defects in intestinal epithelial cells by anti-pathogenic agents. Drought, as written by Cooper [12], had an impact on child stunting. Min [13] investigated the relationship between maternal and infant disease and the risk of postpartum depression in rural China using a cross-sectional observational study.

Stunting relates to nutritional intake by mothers and their babies. Khadija [14], in her research, studied the nutritional health status of children who were stunted or wasted and their mothers. Vitamin D plays a crucial role in children's growth, as researched by Crowe on Randomized Trial on Vitamin D for Growth and Rickets in Stunting Children [15]. Gebre studied the prevalence of malnutrition and associated factors among toddler children in pastoral communities in Afar State, Northeast Ethiopia. [16]. Do fetal HIV exposure and the early nutritional environment influence infant development and immune outcomes? White [17] investigated the findings of a pilot study in Pretoria, South Africa. Sebsbie [18] investigated the coexistence of overweight/obesity and stunting among children under age five in Addis Abeba, Ethiopia. Shafiq [19] investigated the interaction of the watermelon chlorosis acrobat virus with the satellite. Trends in socioeconomic inequality in childhood malnutrition was research evidence from a Nigerian demographic and health survey (2003–2013) conducted by Akombi [20]. Fahmida [21] investigated the impact of the integrated package nutrition behavior change intervention on infant and child feeding practices and child development from birth to 18 months in East Java, Indonesia, using a cohort of Baduta cluster randomized controlled trials.

Bayih [22] discovered that the nutritional status of children aged 6-59 months in Zege, North West Ethiopia, in 2020 did not differ significantly between households with and without home gardening practices. Maternal height and the double burden of household malnutrition in Mexico was researched conducted by Felix-Stuy Beltrán on stunted children with overweight or obese mothers [23]. Black [24] studied the factors that contributed to the reduction of diarrhea-related deaths in children between 1980 and 2015, as well as interventions to eliminate preventable diarrhea-related deaths by 2030. Maximizing growth should start from an early age, the reason Pelizzo [25] examined esophageal atresia's nutritional status and energy metabolism to maximize growth outcomes. Som [26] used a retrospective cohort analysis on adherence to child-feeding practices and child growth in Cambodia. Asiki [27] investigated the effects of childhood stunting and wasting on adolescent cardiovascular disease risk and educational achievement in rural Uganda. Al-Shameri [28] reviewed the Eastern Mediterranean region's nutritional status and its determinants. Nutrients in complementary foods protect against wasting but not stunting is the findings from Hoffman's [29] multi-country longitudinal cohort study.

Anemia affects children who are malnourished. Hence, Obasohan [30] conducted a scoping review of risk factors associated with anemia in children under five in sub-Saharan African countries. Stentiford [31] investigated the ultimate opportunist, Microsporidia, an emerging enterocyte zoon group. Nutritional foods intaken by mothers during pregnancy would affect the health status of both the mother and the baby. Karbin [32] conducted a retrospective, longitudinal study on household food insecurity during pregnancy as a predictor of anthropometric index failure in infants younger than six months, and Khan [33] investigated the effects of soy-wheat mixture supplementation during pregnancy and lactation on pregnancy outcomes and infant nutritional status at six months of age in the Sindh districts of Thatta and Sujawal, Pakistan. Socioeconomic disparities in hidden hunger, malnutrition, and overweight among children under five in 35 sub-Saharan African countries were studied by Ekholuenetale [34]. The effect of timing of exclusive breastfeeding cessation on childhood morbidity and adverse nutritional outcomes in Ethiopia was a Nigatu's [35] demographic and health survey analysis [35]. Tella consumption in pregnant and lactating women: Does it affect child growth? Tafese [36] sought an answer to it. In Tanzania, DiClemente [37] investigated the relationship between food insecurity and fertility preference.

The multiple and complex relationships between baby washing and stunting are a synthesis of Waller's [38] evidence. A systematic review and meta-analysis performed by Abate [39] concluded that chronic malnutrition among Ethiopian toddlers may be uneconomical. Haq [40] explored a multilevel analysis of stunting factors in children younger than two years using the Multiple Indicator Cluster Survey (MICS) 2017–18 in Punjab, Pakistan. In an experimental human challenge model, Brubaker [41] studied the impact of symptomatic and asymptomatic enterotoxigenic E. coli infections on gut colonization and an ETEC-specific immune response. Obasohan [30] reviewed risk factors associated with anemia in children under five years of age in sub-Saharan African countries. Keleidari's [42] review

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on liver failure after bariatric surgery. Vorovi [43] investigated father investment, stepfather presence, and early childhood development and growth among Serbian Roma. Acibenzolar S-methyl induces protection against the vascular wilt pathogen. Meja [44] discovered Fusarium oxysporum in Cape gooseberry, Physalis peruviana.

Bantul Regency is one of the areas where the government is concentrating its efforts to combat stunting. Because of the increase in stunting, Guwosari Village became a specific location for stunting in 2021. Stunting socialization is currently being carried out in Guwosari village with relevant stakeholders. On-site observations and interviews were used to collect data on stunted children. According to the information obtained, Guwosari Village, Pajangan District, Bantul Regency, had 19 Integrated Health Stations (Posyandu). From January to September 2020, there were 153 baby births, with several low-birth-weight cases—as many as 12 cases—during the last nine months. The total number of under-five years old is 1057, with 105 cases of stunting and 21 cases of malnourished.

The issues in the field are a lack of family awareness regarding nutrition and infection prevention following Ministry of Health recommendations and inadequate parental roles in stimulating the growth and development of stunted children. It is compounded by the not-yet-optimal health promotion strategy implemented by health cadres, with only about 50% of mothers and their children visiting Health service station (Posyandu). Guwosari. Posyandu cadres are at the forefront of family education and empowerment. The Guwosari village program, which includes pre-marital classes and a pregnant women's program, has yet to begin, although it has been proposed in the 2021 budget. Posyandu is one of the community service targets. The community service targets are Posyandu cadres for toddlers and all parents with stunted children. Guwosari village partners are currently dealing with a high number of cases of stunting children amid economic difficulties caused by the COVID-19 pandemic. The COVID-19 pandemic has undoubtedly had an impact on the quality of care for stunted children. As a target for the stunting locus in the Bantul district, a high level of effort and commitment from the village and its apparatus is required to address the stunting problem. Training is also critical as an initial strategy for empowering village communities, health cadres, and families to work together to support the project.

The community service contribution was to teach health cadres and parents how to make complementary foods for toddlers from local raw materials and how to create a balanced menu list. In addition, training for parents on how to detect growth and developmental disorders and early intervention in the form of a referral system was needed if there were developmental abnormalities in children. The importance of effective communication, negotiation, community mapping, coordination and advocacy, Posyandu management, and extension practices was also conveyed in this activity.

2. Method

The following are the goals of PKM activities. a) provide knowledge and skills to health cadres through training activities for making complementary healthy foods from local raw materials and health promotion training to optimize the role of health cadres; b) provide knowledge and skills to parents of stunted children through educational activities and family assistance in the care and care of stunted children; and c) increase cooperation with the Guwosari Village.

Figure 1 depicts the program activities, including preparation, implementation, and monitoring and evaluation stages. In the preparation stage, the team members carried out the socialization activities with the Guwosari Village Head and representatives of health cadres. A preliminary test was conducted to determine the level of understanding among health cadres and families about complementary healthy foods, parenting patterns, child development, and other things that would be conveyed in the training. The implementation stage consisted of two training activities for health cadres and families of stunted children, the making and listing of a balanced menu of complementary healthy foods and health promotion training for further assistance for health cadres. In the monitoring and evaluation stage, health cadres were evaluated and given feedback regarding their understanding and skills in empowering families with stunted children.

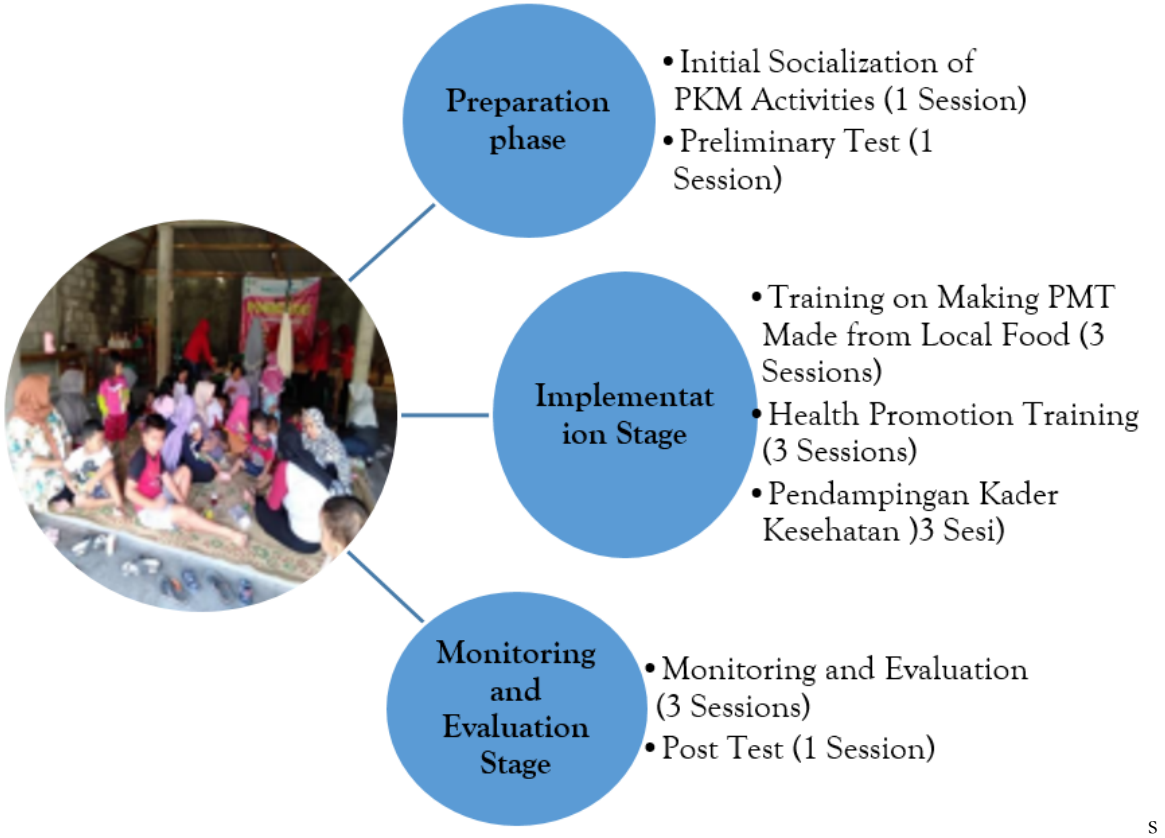

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Fig. 1. Stages of PKM Stunting Activities in Guwosari Village

All training and mentoring activities lasted two months, beginning June 8, 2021, and ending July 17, 2021. Each training activity session lasted 100 minutes, and three activity sessions per week. Tes activity was carried out with the agreement of the Guwosari Village Head and health cadres and the parents of stunted children. The materials for all activities were in the form of hard copies in a training module, making it easier for trainees to open and study them. The training was held in the village office hall in Guwosari. During this training, three students from the Nursing Science Study Program and three from the Nutrition Study Program assisted in facilitating the training activities.

3. Results and Discussion

The training activities for health cadres and families of stunted toddlers were designed to give families a better understanding of the stunting problem and to maximize the active role of health cadres in monitoring and evaluating children's development through activities carried out at health service stations. A joint evaluation of participants' understanding and skills was carried out in specific sessions so that participants were aware of the areas that required special attention for improvement. Participants were required to practice the skills taught in this section, and it was hoped that participants would have better skills.

Fig. 2. Health and Family Cadre Training Activities

Fig. 3. Assistance and Evaluation of Health Cadre Activities

The activity was evaluated by administering a pre-test-post-test questionnaire. The questionnaire aimed to provide an overview of the conditions of knowledge, skills, and services of the cadres at the start of the activity so that they could be recorded and included during cadre training and mentoring. The training was intended to improve conditions by increasing the knowledge and skills of cadres and parents. Community service programs had an impact on the social and economy of the community:

a. Social Impact

Several evaluations of activities were conducted using the pre-post-test questionnaire, which yielded data on increasing the knowledge and skills of health cadres, as shown in Table 1.

Table 1. Average Pre-Test and Post-Test Scores for Health Cadres

Category	*Skor Mean Pre Test*	*Skor Mean Post Test*	*Average Increase*
Knowledge	73.91 ± 5.82	83.91 ± 3.99	10.00 ± 1.83
Skills	70.10 ± 3.84	83.94 ± 3.66	13.84 ± 0.18

Table 1 presents that the knowledge score of cadres increased by an average of 10.00 before and after the intervention, with an average post-test knowledge score of 83.91. Cadre's skills improved by 13.84 points and the average post-test skill score was 83.94.

Table 2. Average Pre-Test and Post-Test Scores of Parents

Category	*Skor Mean Pre Test*	*Skor Mean Post Test*	*Average Increase*
Knowledge	73.67 ± 4.92	84.29 ± 3.56	10.62 ± 1.36
Skills	69.43 ± 3.75	83.14 ± 3.83	13.71 ± 0.08

Table 2 presents that the knowledge score of parents increased by an average of 10.62 before and after the intervention, with an average post-test knowledge score of 84.29. Parents' skills improved by 13.71 points and the average post-test skill score was 83.14.

Table 3. Cadres' Knowledge and Skills Before – After Intervention

Category	*Skor Mean Pre Test*	*Skor Mean Post Test*	*Average Increase*
Knowledge Before – After Intervention	73.91 ± 5.82	83.91 ± 3.98	0.000
Skills Before-After PKM Intervention	70.10 ± 3.84	83.94 ± 3.65	0.000

Table 3 shows that the difference in knowledge and skills before and after the intervention was significant, with a p-value of 0.000, implying that the activities through cadre training have a positive effect on cadres' knowledge and skills in dealing with stunting.

Table 4. Parents' Knowledge and Skills Before - After Intervention

Category	*Skor Mean Pre Test*	*Skor Mean Post Test*	*Average Increase*
Knowledge Before – After Intervention	73.67 ± 4.92	84.29 ± 3.56	0.000
Skills Before-After PKM Intervention	69.43 ± 3.75	83.14 ± 3.83	0.000

Table 3 shows that the difference in knowledge and skills before and after the intervention was significant, with a p-value of 0.000, implying that the activities through parents training have a positive effect on parents' knowledge and skills in dealing with stunting.

b. Economic Impact

Community activities, in this case, for families with stunted children, can help reduce the utilization of health services due to illness problems in children by maintaining the quality of their health. Finances for the treatment can be reallocated to other uses. Thus, it would ease the family's economic burden.

Stunting is closely related to family and household factors such as maternal factors and home environment. Malnourished mothers during preconception, pregnancy, and breastfeeding; short motherhood; teenage pregnancy; infections; mental health; low birth weight and premature birth; short birth spacing; and a history of hypertension during pregnancy are all maternal factors. Children's insufficient stimulation and activity, poor care, inadequate sanitation and water, poor access to food and insufficient food availability, and low caregiver education are all examples of household environmental factors. The internal factor problem might be resolved through educational activities, family assistance, and motivating the use of information and access to health services both in the community and at home.

The educational process and practical simulation activities aimed to empower health cadres and families of stunted children to improve their children's health and development through integrated training activities. The ultimate goal of all community service activities is to raise awareness of the importance of optimizing the health of children under two years old at the Guwosari stunting locus so that, with the active participation of health cadres and family awareness, they will be more attentive and introspective about children's health related to stimulation of growth and development, immunization, nutrition, and infection prevention in stunted children.

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The community service activity program directly affected the acquisition of knowledge and skills of health cadres and families, indicated by the increase of the pre-and post-intervention means with a p-value of 0.000. Training materials delivered to individuals or groups aimed to stimulate thoughts, feelings, concerns, and interests, making the learning process more interesting. It means that increased knowledge will boost health cadres' confidence, resulting in improved skills. The Family Centered Care program's training and mentoring activities for neonatal nurses also demonstrated a significant acquisition in nurses' knowledge and attitudes toward caring for low birth rates.

4. Conclusion

Based on the outcomes of community service activities conducted with health cadres and parents of stunted children in Guwosari Village, the program "Guwosari Community Empowerment as a Healthy and Empowered Village in Overcoming Stunting Post COVID-19 Pandemic Based on Family Participation Approach and Stunting Education Integrated," in the form of training and mentoring, has been carried out successfully and has significant positive effects. Many similar activities have been carried out by community service teams from various institutions. However, they merely cover training and mentoring. As a result, many health cadres are not performing optimally in their roles, and the problem of stunted children remains there for parents and families. Ongoing assistance and evaluation from Guwosari Village, the Health Service, and the local Health Center are required in the management of the stunting issues.

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Author Contribution

The researchers also acknowledge the contribution of the Guwosari Village and participants for their support to participate in this research.

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Conflict of Interest

The authors declare no conflict of interest.

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