



Community Health Empowerment Efforts to Establish a Preparedness Village in Bantardawa, Ciamis Regency

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Abstract

Background: Health challenges in rural areas like Bantardawa Village, Ciamis Regency, often stem from inadequate sanitation, poor health practices, and limited access to healthcare services. To address these issues, community empowerment through health education and accessible health programs is essential. This study focuses on the health empowerment initiatives in Bantardawa, aiming to promote healthy living behaviors (PHBS), prevent stunting, encourage the use of herbal medicine (TOGA), and support routine health monitoring.

Methods: A 40-day Community Service Program (KKN) was implemented in Dusun Sukadana, Bantardawa. The program employed lectures, practical demonstrations, and community-based activities to educate and engage local residents. Activities targeted schoolchildren, pregnant women, and families, focusing on hygiene, nutrition, and sustainable health practices.

Results: The program led to an increase in PHBS awareness and improved hygiene practices among students. Stunting prevention initiatives successfully raised maternal awareness about nutrition, while TOGA training equipped families with knowledge to use local herbal remedies. Routine health programs, including screenings and medical check-ups, enhanced community access to essential health services.

Discussion: The integration of health education with practical activities successfully shifted community behavior. However, challenges like resource limitations and sustained engagement remain.



Conclusion: Community empowerment through targeted health programs effectively addresses rural health issues, with an emphasis on education, local resources, and sustainable practices.

Novelty: This study demonstrates the potential of combining traditional knowledge (TOGA) with modern health practices to improve rural healthcare outcomes.

Keywords: Community Health Empowerment, Stunting Prevention, Healthy Living Behavior, Herbal Medicine (TOGA), Rural Health Programs

INTRODUCTION

Community health is an essential component of sustainable living (Hussain et al., 2024), impacting the quality of life and productivity of a community (Malekahmadi et al., 2024). It directly influences the well-being of individuals and the functioning of the society as a whole (Messner, 2022). Health empowerment, in the context of community development, focuses on enhancing the ability of communities to control and improve their health through informed decision-making and actions (Kim et al., 2023). The process involves utilizing local resources and knowledge to tackle health challenges and promote healthier lifestyles (Abiddin & Akinyemi, 2024; Cheng & and Avieson, 2024). Empowerment, therefore, is an ongoing process that encourages individuals and communities to take control of their health and well-being through education, resource access, and collaborative initiatives (Das et al., 2024).

Community health empowerment emphasizes the importance of increasing awareness and knowledge within communities to help individuals make informed choices about their health (Hasheminejad & Mojahed, 2016). These efforts can significantly improve not only individual health outcomes but also overall community health (Kim et al., 2023; Tennety et al., 2024; Wulandari et al., 2024). For such empowerment to be successful, it requires a deep understanding of the community's needs, its social structure, and the existing health challenges it faces. Furthermore, it necessitates a collaboration between local government, non-governmental organizations (NGOs), community leaders, and citizens themselves. This collective approach can help identify health issues, plan for interventions, and implement sustainable solutions that are deeply rooted in the local context (Álvarez-Otero et al., 2024).

In many rural areas, particularly in Indonesia, the lack of access to basic healthcare services and the insufficient knowledge of healthy living practices are major barriers to improving community health (Rollan, 2024). A promising strategy to overcome these barriers is the establishment of "Preparedness Villages," or *Desa Siaga* (Diskominfo Ciamis, 2024). This concept aims to create self-reliant villages that are well-equipped to manage health crises and promote general well-being. The *Desa Siaga* initiative focuses on increasing access to basic healthcare services, improving health awareness, and creating a more responsive and proactive community in the face of health challenges. It operates on the premise that healthy communities are those that are capable of preventing and responding to health issues on their own (Ruslanjari et al., 2023).



One of the core components of the *Desa Siaga* program is improving access to basic healthcare services. These services include health posts (Posyandu), maternal and child health services, and public health education. The initiative also incorporates surveillance systems within the community to monitor health trends and detect potential health risks early. Community-based surveillance not only involves healthcare professionals but also the community members, who actively participate in identifying health issues, reporting them, and taking part in preventive measures. Through such community engagement, *Desa Siaga* fosters a sense of ownership and responsibility towards health among the residents.

In the context of *Desa Siaga*, the role of health partnerships is crucial in ensuring that health programs are effective and sustainable. Partnerships between community members and health service providers, such as local health centers, Posyandu workers, and NGOs, play a pivotal role in health empowerment. The partnership encourages collaborative decision-making and the sharing of resources and knowledge, making health programs more inclusive and responsive to community needs. Such collaborations are instrumental in delivering health services and promoting health education in ways that resonate with the local population. For example, Posyandu, as a community-based healthcare program, provides services such as immunization, growth monitoring, and maternal health support (Kusuma, 2022). The role of Posyandu is not just as a healthcare provider but also as an educational platform for empowering parents, especially mothers, to take an active role in their children's health and nutrition (Rospiati et al., 2023).

Moreover, to achieve effective health empowerment, it is important to acknowledge that health is not only the absence of illness but also the overall well-being of individuals (Muslimin & Mursyidah, 2024). This involves fostering a healthy environment where people are encouraged to adopt healthy lifestyles, participate in physical activities, and maintain a balanced diet. The empowerment of communities in this regard goes beyond mere medical intervention and focuses on a holistic approach to health. Encouraging physical activities such as community sports, regular exercise for seniors, and healthy living practices is essential in creating a community that values long-term well-being.

Despite the existence of basic health services and initiatives like Posyandu, certain geographical areas, especially rural or remote villages, face unique challenges that hinder effective health intervention (Miranda et al., 2024). These challenges include limited healthcare infrastructure, distance from health centers, and insufficient awareness about health programs. As a result, many health problems remain unaddressed, or solutions may be ineffective if they do not take into account the specific needs of the community. In response to these challenges, it is crucial to involve multiple stakeholders, including academics, local leaders, and healthcare providers, to help develop and implement effective strategies that address local health issues.

One important aspect of community health empowerment is the role of universities and educational institutions. Universities can contribute to the development of health programs through *Community Service Programs* or *Kuliah Kerja Nyata (KKN)*. These programs involve students in real-life community development activities, allowing them to apply theoretical knowledge in practical settings. KKN serves as a bridge between academic knowledge and



community needs, empowering students to become agents of change and helping communities address their health challenges. The involvement of students also brings fresh perspectives and innovative ideas that can be utilized to solve community health problems in novel ways. The KKN program provides students with the opportunity to work closely with community members, identify local health issues, and develop feasible solutions (Pangestu et al., 2024). These solutions may include health education campaigns, the establishment of support networks, or the implementation of new health initiatives tailored to the specific needs of the community. Students also help identify gaps in existing health services and suggest improvements. By collaborating with local stakeholders, including village leaders and health workers, students play a crucial role in fostering a collaborative environment where the community actively participates in its own health empowerment.

In the case of Bantardawa Village, Ciamis Regency, the application of community health empowerment through the *Desa Siaga* program presents an opportunity to address several local health issues. These issues range from limited access to healthcare services to low awareness about health risks and prevention strategies. To overcome these challenges, the KKN program, in collaboration with local health authorities, can help strengthen the capacity of the village to manage its health needs effectively. This collaboration aims to improve health literacy, enhance access to healthcare services, and build a strong support system for sustainable health management.

In conclusion, community health empowerment is a multifaceted approach that requires a combination of education, resource mobilization, and collaborative efforts among various stakeholders. The *Desa Siaga* initiative provides a framework for communities to take charge of their health, making health services more accessible, responsive, and preventive. Through such programs, communities not only address immediate health concerns but also work towards long-term health sustainability. In Bantardawa Village, the efforts of students through KKN can further enhance these initiatives, ensuring that the community becomes more resilient, informed, and empowered in addressing its health challenges. Empowering communities with the necessary knowledge, skills, and resources ultimately leads to healthier, more productive societies capable of managing their health and well-being independently.

LITERATURE REVIEW

Community health empowerment is a critical aspect of sustainable development and improving the well-being of populations. Empowering communities involves enhancing their ability to make decisions and take actions that impact their health and quality of life. Effective community health empowerment is essential in achieving long-term improvements in public health outcomes, especially in rural or underserved areas. Various studies have examined the dynamics of community health empowerment, exploring both the challenges and strategies necessary for success. One significant factor contributing to health empowerment is the active participation of the community in decision-making processes related to health. This includes engaging local populations in health assessments, needs identification, and the co-creation of health policies. Such participation ensures that health interventions are tailored to the specific



needs of the community, increasing the likelihood of their success. In the context of Indonesia, community health empowerment is seen as a critical strategy to address health disparities, particularly in rural and remote regions. This is especially true in the case of the Posyandu (Pos Pelayanan Terpadu or Integrated Health Services Posts), which serves as a cornerstone of community-based health care in the country. The Posyandu system is designed to improve maternal and child health by providing services such as immunizations, health education, and growth monitoring for children, particularly in rural areas where access to healthcare facilities is limited (Kusuma, 2022).

In line with community health efforts, the concept of a "Preparedness Village" (Desa Siaga) has emerged as an innovative approach to strengthen community resilience, particularly in the face of health emergencies and disasters. A Preparedness Village is a community that is equipped with the knowledge, resources, and systems necessary to respond effectively to health crises, natural disasters, and other emergencies. These villages aim to improve health literacy, preparedness, and the overall well-being of their populations. One prominent example of such initiatives is the village of Bantardawa in Ciamis Regency, West Java, Indonesia. The village has taken proactive measures to improve its health and disaster preparedness. According to the official website of the village, various community-based programs have been established to increase awareness and equip residents with the necessary skills to respond to health emergencies (Diskominfo Ciamis, 2024). These initiatives focus on health education, disaster risk reduction, and improving access to basic health services.

The establishment of Preparedness Villages aligns with Indonesia's broader health and disaster management goals. It helps ensure that local communities are better prepared for potential health threats, such as outbreaks of infectious diseases, as well as natural disasters like floods and earthquakes. The initiative is based on the recognition that local communities are the first line of defense in responding to health emergencies and that empowering these communities can significantly reduce the impact of health crises. Posyandu is a key component of Indonesia's community health empowerment strategies. It serves as a platform for providing essential health services to remote communities, including immunization programs, maternal and child health services, and health education. However, the effectiveness of Posyandu in improving health outcomes relies heavily on the involvement and empowerment of local communities.

Studies have shown that the success of Posyandu programs is closely tied to the active engagement of community members, particularly mothers and health cadres. By training local volunteers and health workers (cadres), Posyandu can enhance its reach and impact. For example, the study by Rospiati et al. (2023) demonstrated that empowering Posyandu cadres through targeted training programs significantly improved their knowledge and skills, which in turn enhanced the effectiveness of the stunting prevention programs in the community. However, despite these successes, challenges remain in fully realizing the potential of community health programs. One of the primary challenges is the lack of sustained funding and support for Posyandu and other community health initiatives. Furthermore, there are barriers to access, particularly in geographically isolated regions where transportation and infrastructure are limited. The implementation of programs like Desa Siaga in such areas often requires overcoming these logistical challenges.



Another important aspect of community health empowerment is the role of technology and information and communication technology (ICT) in improving healthcare access and outcomes. Recent advancements in ICT have revolutionized the way health information is shared and accessed. In rural and remote areas, mobile health applications, telemedicine, and digital health platforms are increasingly being used to connect communities with healthcare providers and health information. For instance, the study by Ruslanjari et al. (2023) highlighted the role of ICT in raising public awareness about disaster preparedness and health risks in Indonesia. By utilizing digital platforms, communities can receive real-time updates on health emergencies, disaster warnings, and public health campaigns. This technological integration improves communication and ensures that residents have access to critical health information when needed. Similarly, in Bantardawa, ICT has played a role in promoting health awareness and preparedness. Local authorities have used digital tools to disseminate information about health risks, preventive measures, and available health services. This technology-driven approach is particularly useful in areas where traditional forms of communication may not be as effective.

While there is a growing body of literature on community health empowerment and preparedness village initiatives, there remains a significant gap in research focusing specifically on the integration of these concepts in rural Indonesia, particularly in areas like Bantardawa. Existing studies have predominantly focused on individual elements of community health empowerment, such as Posyandu or disaster preparedness, without fully examining how these elements can be integrated to create a comprehensive community health and preparedness framework. Furthermore, the role of academic institutions, like universities, in supporting community health initiatives through programs such as Community Service (KKN) has not been explored extensively. These initiatives, which aim to engage students in community development projects, could play a critical role in enhancing the capacity of local communities to address their health challenges and improve their overall well-being. This gap in the literature presents an opportunity for further research. Investigating how academic institutions, local governments, and community members can collaborate to create integrated health and preparedness programs could provide valuable insights into improving community health outcomes in rural Indonesia.

Table 1: Key Findings from Literature Review

Study	Key Focus	Findings	Implications for Research
Kusuma (2022)	Posyandu and community health	Posyandu is vital for maternal and child health in rural areas. Community involvement is key.	Need for a comprehensive approach integrating Posyandu with other community health programs.
Rospiati et al. (2023)	Posyandu Cadre Empowerment and Stunting Prevention	Empowering Posyandu cadres improves stunting prevention programs.	Further studies needed on how cadre empowerment intersects with broader



Study	Key Focus	Findings	Implications for Research
			community health strategies.
Diskominfo Ciamis (2024)	Preparedness Village Initiatives in Bantardawa	Bantardawa village has implemented health and disaster preparedness programs.	Explore the role of academic institutions in supporting these initiatives.
Ruslanjari et al. (2023)	ICT for disaster and health awareness	ICT enhances public awareness on disaster preparedness and health risks in rural areas.	Investigate how ICT can be integrated into community health programs for better engagement.

The gap in current research lies in examining the intersection of community health empowerment, disaster preparedness, and the role of academic institutions in rural Indonesia. While existing studies have addressed individual components, there is limited exploration of how these elements work together to improve health outcomes and community resilience. Future research should focus on understanding the collaborative mechanisms between local governments, universities, and community members in developing integrated health programs that address both everyday health needs and emergency preparedness.

METHODOLOGY

The Community Service Program (KKN IMA) was conducted over a span of 40 days, taking place in the Bantardawa Village area, with a series of community empowerment initiatives. The program officially commenced on August 5th, 2024, and concluded with the final activities on September 10th, 2024. The team consisted of five students from the Institut Miftahul Huda Al-Azhar, each tasked with addressing various community needs, particularly in the health sector. In line with the ongoing health issues identified in the area, the health-focused initiatives were prioritized, with the following programs being central to the KKN:

1. Promotion of Healthy Living Behavior (PHBS)
2. Stunting Prevention Awareness
3. Herbal Medicine Program (TOGA)
4. Routine Health Programs for Community Welfare

The implementation of these programs required careful planning and consideration of the local context. The students aimed to bring about awareness and create sustainable practices that could be carried on by the residents of Bantardawa Village. Each of the health initiatives was tailored to address the pressing issues of the community, ensuring that every intervention was not only informative but also practical and relevant to the participants' everyday lives. The methods used in the outreach activities were carefully chosen based on the specific objectives



of each program. The primary focus was on delivering accessible, understandable, and practical content for the community. The methods were selected to ensure that the messages conveyed during the interventions could effectively reach the target audience. The strategies employed included both lecture-based and hands-on approaches to maximize engagement and impact.

1. **Lecture Method:** This method was employed to deliver essential information either verbally or in written form. Lectures were primarily used at the beginning of each session to introduce participants to the key concepts and ideas of the programs. This approach was ideal for presenting foundational knowledge and setting the stage for more interactive sessions later on.
2. **Practical Application:** After providing the theoretical groundwork through lectures, the students used practical demonstrations to give participants direct experience with the topics being taught. This method was particularly useful in the herbal medicine (TOGA) program, where participants were shown how to plant and use medicinal herbs. By using hands-on activities, the students helped participants gain the confidence and skills needed to implement the practices in their own homes.

The combination of these methods ensured that the knowledge was not only received but could also be applied by the community members, making the outreach more effective and sustainable. The use of both verbal and practical teaching allowed for a balanced and well-rounded learning experience, catering to different learning styles.

Table 2. Summary of Health Programs and Methodologies in Dusun Sukadana, Desa Bantardawa

Program	Methodology Used	Key Activities	Expected Outcome
Promotion of Healthy Living Behavior (PHBS)	Lecture, Practical	Group discussions, role-play, demonstration	Increase in health awareness and behavior changes
Stunting Prevention Awareness	Lecture, Practical	Workshops on nutrition, health monitoring	Reduction in stunting incidence and awareness
Herbal Medicine Program (TOGA)	Lecture, Practical	Gardening, making herbal remedies	Empowerment in sustainable health practices
Routine Health Programs	Lecture, Practical	Community health screenings, routine check-ups	Improved access to regular health services

This table illustrates how each program within the KKN IMA utilized different methods to ensure that the community was actively engaged and could apply the knowledge gained in practical, everyday situations.



RESULTS

In this section, the outcomes of the Community Health Empowerment Program carried out during the KKN IMA in Dusun Sukadana, Desa Bantardawa, are presented. The program was designed to address several community health issues through educational outreach and intervention. The primary focus areas were Healthy Living Behavior (PHBS), Stunting Prevention, Family Medicinal Plants (TOGA), and Routine Health Programs such as Posyandu and Posbindu. Each of these interventions aimed at improving the health of the community, specifically targeting school-age children, mothers, and elderly residents. These activities were carried out between August 5 to September 10, 2024, with the help of five KKN IMA students. Healthy Living Behavior (PHBS) and Deworming Treatment One of the key programs that took place was the PHBS (Perilaku Hidup Bersih dan Sehat), or Healthy Living Behavior program, aimed at promoting proper hygiene habits. This event was held on August 14, 2024, targeting elementary school students in Sukadana Village. During this session, students learned about important hygiene practices, such as cleaning their ears, nails, and teeth. These hygiene practices are vital for preventing diseases, and through this initiative, the students were educated on maintaining proper personal hygiene.

In addition to PHBS, the Deworming Treatment Program was also implemented. This program was conducted bi-annually, with doses of deworming medication administered every March and August to children over one year of age. Children aged 1-2 years received half a tablet, while those 2 years and older received a full tablet. The main objective of this intervention was to prevent intestinal worm infections, which can hinder the absorption of essential nutrients such as carbohydrates, proteins, and iron. By preventing these infections, the program aimed to improve children's nutritional status and overall development. The causes of worm infections often include poor sanitation, improper waste disposal, and lack of proper hygiene practices such as nail trimming and wearing shoes. The images below capture the implementation of both PHBS inspections and deworming treatment activities at MI Sukadana.

Table 3: Summary of PHBS and Deworming Program Outcomes

Activity	Target Group	Date	Results/Observations
PHBS Inspection	Elementary School Students	August 14, 2024	Students gained knowledge about hygiene practices.
Deworming Treatment	Children over 1 year old	March & August	Reduction in intestinal worm prevalence in children.

Stunting prevention is a critical issue in the context of public health. It is recommended to start prevention efforts as early as possible, particularly during pregnancy. The Stunting Prevention Education Program aimed at educating parents, especially mothers, about the importance of proper nutrition and a healthy lifestyle to prevent stunting in their children. Educating mothers about the importance of consuming adequate iron and folic acid during pregnancy is a key preventive measure. Iron helps prevent anemia and low birth weight, while folic acid contributes to the development of the brain and spinal cord, reducing the risk of congenital disabilities. The program also included social assistance from the local Department of

Livestock, which provided chicken and eggs to families with undernourished children. This initiative was essential in combating the economic challenges faced by many families, improving their access to nutritious foods that are critical for stunting prevention. The outreach efforts were aimed at increasing awareness among parents about the impacts of stunting on the long-term health and development of children. The activities conducted are shown in the image below.

Table 4: Summary of Stunting Prevention Program Outcomes

Activity	Target Group	Date	Results/Observations
Stunting Prevention Education	Mothers and Families	August 2024	Increased awareness of stunting prevention methods.
Social Assistance (Chicken/Eggs)	Families with young children	August 2024	Enhanced nutrition for families in need.

Another important program was the Family Medicinal Plants (TOGA) education, which aimed to reintroduce the concept of using medicinal plants within the local community. TOGA is a sustainable approach to healthcare, utilizing locally available plants to address minor health issues and promote overall well-being. The program targeted elementary school students, especially those in Grade 6, at Madrasah Ibtidaiyah Sukadana. The goal was to educate the students about the various medicinal plants that could be cultivated at home and how to use them effectively. The activity began with a lecture introducing the different types of medicinal plants, including ginger, turmeric, shallots, and galangal, followed by a hands-on planting session. Students learned not only about the health benefits of these plants but also how to grow them in their own backyards. This program aimed to promote a healthier lifestyle by reintroducing the traditional knowledge of medicinal plants, which has often been forgotten. The photos below show the educational activities and planting sessions carried out at MI Sukadana.

Table 5: Summary of TOGA Education Program Outcomes

Activity	Target Group	Date	Results/Observations
TOGA Education and Planting	Grade 6 Students	August 2024	Students learned the benefits of medicinal plants and practiced planting.
TOGA Planting at MI Sukadana	Elementary School	August 2024	Enhanced awareness of sustainable health practices.

The Posyandu (Integrated Health Post) and Posbindu (Integrated Health Post for Non-Communicable Diseases) are regular community health programs that provide essential services to improve public health. In Dusun Sukadana, the KKN IMA students assisted with the routine health programs, which were held throughout the month of August. The Posyandu program primarily focused on maternal and child health, including weight monitoring, additional nutrition, and deworming treatment for children. In addition to Posyandu, the Posbindu program was also conducted to monitor the health of older adults, particularly those at risk for non-communicable diseases (NCDs) like diabetes, hypertension, and cholesterol. At



the Posbindu, regular screenings were performed, including blood pressure measurements, body fat analysis, and counseling for lifestyle changes. These activities were vital in controlling the spread of chronic diseases and improving the health of the elderly in the community. The routine health programs were conducted with the active involvement of health cadres and healthcare workers from the local Puskesmas (public health center). The photos below illustrate the Posyandu and Posbindu activities conducted in Dusun Sukadana.

Table 6: Summary of Routine Health Programs Outcomes

Activity	Target Group	Date	Results/Observations
Posyandu (Integrated Health Post)	Children, Pregnant Mothers	Mid-August 2024	Improved maternal and child health, including deworming.
Posbindu (Non-Communicable Diseases Health Post)	Elderly and Adults	Mid-August 2024	Regular monitoring and control of NCDs among community members.

The activities conducted as part of the KKN IMA program in Dusun Sukadana, Desa Bantardawa, contributed significantly to the health empowerment of the local community. By focusing on core health issues such as hygiene, nutrition, medicinal plants, and routine health monitoring, the program successfully addressed key challenges in community health. The PHBS and deworming programs raised awareness about hygiene and reduced the risk of parasitic infections, while the stunting prevention efforts improved understanding of nutrition during pregnancy. Additionally, the TOGA education revitalized traditional health practices, and the routine health programs (Posyandu and Posbindu) provided ongoing support for maternal, child, and elderly health. These activities were strategically designed to educate and empower community members, ensuring that they are equipped with the knowledge and tools to manage their health effectively. As recommended, continuity of these programs is essential to further improve public health outcomes and should be carried out with continued support from local authorities, health professionals, and community members.

DISCUSSION

The KKN IMA program conducted in Dusun Sukadana, Desa Bantardawa has successfully implemented a series of health intervention initiatives that align with the goal of fostering a healthier community through education, awareness, and empowerment. The activities conducted were multifaceted, targeting a range of health issues such as Healthy Living Behavior (PHBS), Stunting Prevention, Family Medicinal Plants (TOGA), and Routine Health Programs like Posyandu and Posbindu. Each program aimed not only to deliver crucial health knowledge but also to facilitate behavior change, which is essential for sustaining long-term health improvements. In this discussion, the results of the various health initiatives will be analyzed in depth, exploring their impacts, challenges, and future implications.



Healthy Living Behavior (PHBS) and Deworming Treatment: Impact and Challenges

The PHBS program and Deworming Treatment were among the most impactful programs of the KKN IMA initiative. The significance of PHBS cannot be overstated, as it plays a vital role in preventing diseases by instilling healthy habits in children and adults alike. The session with elementary school students in MI Sukadana focused on essential practices like handwashing, nail trimming, ear cleaning, and maintaining oral hygiene. These simple yet effective measures are foundational in reducing the transmission of common infectious diseases such as diarrhea, respiratory infections, and skin diseases, which are prevalent in rural settings due to inadequate sanitation and hygiene infrastructure.

The deworming treatment, administered as part of this initiative, was also crucial. Intestinal worm infestations are common in rural areas due to environmental factors such as poor sanitation and improper waste disposal. Deworming programs have long been recognized as an essential public health measure to improve nutritional status, growth, and cognitive development, especially in children. The World Health Organization (WHO) recommends deworming treatments for children in endemic areas, with benefits ranging from improved school attendance to enhanced academic performance. By providing deworming medication to children in Dusun Sukadana, the program aimed to address an underlying cause of malnutrition and impaired growth, which are closely related to stunting and poor cognitive development.

However, challenges were encountered in the PHBS and Deworming programs. While the content was well-received, the integration of PHBS practices into daily routines can be slow, especially when cultural norms and habits need to be shifted. For example, many community members may not recognize the importance of practices such as regular handwashing or trimming nails as part of a healthy lifestyle. As the research indicates (Kaddi, 2014), the effectiveness of health education programs depends largely on the ability to transform theoretical knowledge into real-world behavior change, a process that can take considerable time and effort. Similarly, although deworming efforts were successful, the long-term success of these initiatives relies on sustained participation. Deworming requires periodic administration of medication, and the community needs continuous reminders and incentives to ensure the program is adhered to year after year. This necessitates collaboration between local health authorities, schools, and community leaders to ensure that the deworming treatment is integrated into the community's regular health monitoring routines.

Stunting Prevention Education: Addressing a Public Health Crisis

The Stunting Prevention Education program was one of the most vital components of the health initiative, especially in light of the widespread issue of stunting in Indonesia. Stunting, or impaired growth and development caused by chronic malnutrition, is a significant concern, particularly in rural areas where access to nutritious food may be limited. The KKN IMA program, which included educational sessions for pregnant women and mothers with young children, sought to address the root causes of stunting, emphasizing the importance of adequate nutrition during pregnancy and early childhood. The Government's role in providing nutritional assistance, such as chicken and eggs to families with malnourished children, was crucial in alleviating food insecurity and providing immediate relief to those in need. This initiative, which provided food support in tandem with educational efforts, helped to improve



the nutritional intake of vulnerable families. Education on proper diet and nutrient-rich foods, particularly the importance of iron and folic acid, is essential, as research has shown that deficiencies in these nutrients are directly linked to the high rates of stunting seen in many parts of Indonesia.

Despite the positive aspects of the program, there were some challenges in implementing stunting prevention efforts. First, stunting prevention is a long-term endeavor that requires continuous monitoring of maternal and child nutrition over an extended period. While the program provided valuable information on the importance of proper nutrition, behavior change among families may be slow. In rural settings, economic constraints, cultural food practices, and a lack of awareness about the long-term consequences of stunting can impede immediate improvements in nutrition. As findings from research (Sulaeman et al., 2012) suggest, while health interventions are important, they must be followed by consistent support from local governments, health professionals, and community leaders to create a sustainable impact. Moreover, stunting prevention goes beyond food; it also requires an integrated approach that includes access to clean water, adequate sanitation, healthcare services, and education. These factors were touched upon in the program but will require more comprehensive efforts to address in the future. Public health campaigns and continuous education campaigns are essential to change public perceptions around child development and the importance of early intervention.

Family Medicinal Plants (TOGA): Revitalizing Traditional Knowledge

The TOGA (Tanaman Obat Keluarga) program was another critical aspect of the KKN IMA health intervention. By educating students about medicinal plants and encouraging them to grow these plants in their school gardens, the program aimed to preserve and revive traditional knowledge of herbal medicine while promoting environmental sustainability. TOGA offers an affordable and accessible means of addressing minor health issues like headaches, digestive problems, and coughs. Additionally, the use of medicinal plants can empower local communities to take charge of their health in a sustainable way. One of the benefits of the TOGA program was its ability to integrate environmental education with health education. By teaching students how to plant and use medicinal plants, the program contributed to both health awareness and environmental consciousness. The planting of ginger, turmeric, shallots, galangal, and kencur was not only educational but also aligned with broader sustainability goals, as these plants can be grown in local gardens, providing both health benefits and promoting biodiversity.

However, the implementation of TOGA programs also faced several challenges. While students were receptive to the idea of growing medicinal plants, there were logistical issues related to maintaining the plants over time. For instance, school gardens require continuous care, which can be difficult if the program is not integrated into the school's curriculum or supported by school authorities. Additionally, the knowledge about the effective use of medicinal plants may not be widespread among all members of the community. This poses a barrier to the widespread adoption of TOGA as a viable health solution. Further education on how to properly use and prepare these plants is essential to ensure the program's success. To improve the sustainability of the TOGA program, it would be beneficial to integrate it into the



local healthcare system and local government initiatives. As some research (Pusat Penanggulangan Krisis Kesehatan, 2015) suggests, local governments and communities can increase the effectiveness of herbal medicine programs by providing more comprehensive training to health workers and community members on the medicinal uses of these plants.

Routine Health Programs: Strengthening Community Health Systems

The implementation of Posyandu and Posbindu programs was an essential part of the KKN IMA health initiative. These routine health programs focused on improving the health monitoring of children, pregnant women, and the elderly. Posyandu, which provides regular health check-ups, growth monitoring, and immunizations, is an established strategy in rural communities to prevent and address health issues in young children. Similarly, Posbindu targets the elderly population by focusing on the early detection and management of non-communicable diseases (NCDs) like diabetes, hypertension, and cholesterol. The Posyandu and Posbindu programs were well-received by the community and effectively promoted health awareness and early disease detection. However, the sustainability of these programs requires the continued involvement of trained health cadres and health professionals from the local Puskesmas. Ongoing community participation is essential to ensure that these programs continue to provide support and health monitoring services on a regular basis. Monitoring adherence to these routine health services is crucial, as it can influence the overall effectiveness of the programs in preventing diseases.

The Posbindu program, in particular, addresses a critical need in rural areas where NCDs are often underdiagnosed and undertreated. As seen in other research (Sulaeman et al., 2012), strengthening routine health systems can lead to long-term improvements in the health of the population, especially among the elderly, who are at a higher risk of NCDs. However, challenges remain in ensuring regular participation, especially among the elderly, who may face barriers to accessing healthcare, such as mobility issues or lack of awareness of the program's benefits. The KKN IMA program in Dusun Sukadana has demonstrated the effectiveness of community-based health interventions in improving public health. Through a comprehensive approach that combines education, health services, and community empowerment, the program addressed pressing health issues such as hygiene, nutrition, medicinal plant use, and the prevention of non-communicable diseases. However, several challenges remain, including the need for sustained participation, cultural adaptation, and long-term support from both local authorities and community members. Moving forward, the integration of these programs into routine health services, local governance structures, and school curricula will be essential for their sustainability. The positive impacts observed in Dusun Sukadana can serve as a model for other rural communities, but their success will depend on ongoing efforts to build community ownership, raise awareness, and provide continuous education and support.

CONCLUSION

The KKN IMA program in Dusun Sukadana, Desa Bantardawa successfully contributed to improving the community's health through the implementation of a variety of health



interventions. These initiatives, including PHBS education, stunting prevention, TOGA education, and routine health programs such as Posyandu and Posbindu, not only raised awareness among community members but also provided tangible benefits in terms of disease prevention and health promotion. By engaging with the local community, especially through educational activities targeted at school children and mothers, the program made strides in creating healthier behaviors and improving the general health infrastructure in the region. Furthermore, the integration of these initiatives into daily routines, such as deworming treatments and medicinal plant cultivation, emphasized the importance of sustainable health practices that can be easily maintained in the long term.

However, despite the program's successes, several challenges persist. The slow pace of behavioral change and the need for continuous engagement to reinforce the importance of PHBS practices and stunting prevention highlight the complexity of shifting long-established habits. Additionally, the TOGA program, while beneficial, requires more comprehensive training for both students and the community to ensure effective use of medicinal plants. Similarly, while routine health programs like Posyandu and Posbindu showed promise in terms of disease prevention and health monitoring, maintaining consistent participation, especially among vulnerable groups like the elderly, remains a challenge. These programs need to be further integrated into the community's health system to ensure their sustainability and long-term effectiveness.

Looking ahead, the KKN IMA program has laid a solid foundation for further health improvements in the region. To ensure the continuation and expansion of these efforts, it is essential to involve local authorities, healthcare workers, and community leaders in the long-term monitoring and support of the programs. Sustainability will depend on a coordinated effort to integrate these health initiatives into the broader public health framework, with continuous education, support, and adaptation to the evolving needs of the community. By doing so, Dusun Sukadana can become a model of community-led health empowerment, serving as an example for other rural areas in Indonesia and beyond.

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