

# HEALTH EMPOWERMENT MODEL OF STUDENTS OF AL-HIDAYAH PAMENANG ISLAMIC BOARDING SCHOOL IN AN EFFORTS TO PREVENT STUNTING IN PAGELARAN DISTRICT, PRINGSEWU REGENCY

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**ABSTRACT**, *Stunting in Lampung reached 15.2%, while in Pringsewu it was 16.2% (SSGI 2022), exceeding the national target and WHO standard of 14%. The highest cases were found in PekonPamenang, with the main factors including low parental awareness of health, diet, and hygiene. Al-Hidayah Islamic Boarding School, which initially focused on internal prevention, has now transformed to empower the community through a stunting prevention model. This study aims to analyse the application and development of an empowerment model based on Islamic boarding schools, with four main focuses: objective conditions of Islamic boarding schools, development of conceptual models, implementation of models, and effectiveness of interventions. The Research and Development (R&D) method was used to produce a valid and reliable model through systematic stages, with a one-group pretest-posttest design. Data analysis combines descriptive, qualitative and quantitative approaches. The results of the study show that Islamic boarding schools face the challenge of high stunting prevalence. The model developed is based on advocacy, social support, and empowerment, integrating religious values with health practices. Implementation is carried out through the establishment of school health units, collaboration with health centres, and intensive counselling. This model is effective in improving parenting practices (76%), access to health services (63%), understanding of balanced nutrition (57%), and sanitation awareness (64%). This study offers a model of Islamic boarding school-based empowerment that can be replicated nationally. By utilising the strategic role of Islamic boarding schools as centres of education and empowerment, this model not only increases public awareness but also becomes a sustainable solution in reducing stunting rates in Indonesia.*

**Keywords:** Community empowerment, health promotion, stunting.

## 1. INTRODUCTION

*Stunting* is a condition of chronic malnutrition accompanied by complications of illness. The term stunting in Indonesia is also known as short stature (dwarfism). This condition not only fails in physical growth so that it becomes short but also fails in cognitive and mental development [1]. This condition is a serious concern because stunting can hinder the achievement of the Sustainable Development Goals (SDGs), especially in 1). The first goal is to end hunger, achieve better food and nutrition security, and promote sustainable agriculture. Ending all forms of malnutrition in children, including stunting, and achieving the average height target for children under five years of age 3). Ensuring healthy lives and promoting well-being for all at all 4). Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all [2]. Indonesia itself is still struggling with a fairly high prevalence of stunting. The 2022 Indonesian Nutritional Status Survey (SSGI) showed that 15.2% of toddlers in Indonesia experienced stunting. This figure is still far above the national target to reduce stunting prevalence to 14% by 2024. Preventing stunting requires comprehensive and sustainable efforts from various parties, from the government and non-profit organisations to the community. Efforts to prevent stunting must begin early, namely during pregnancy and the first 1,000 days of a child's life. According to Black and Victora, stunting is the basis for 45% of all deaths of children under 5 years of age. (3) With this phenomenon, stunting has now been identified as a major global health priority [4]. The Ambitious World Health Assembly, which is part of WHO, as quoted by Bosi, targets reducing stunting by 40% between 2010 and 2025 [5]. In Asia, according to De Onis, which is the continent with the shortest number of children globally (around 100 million), there has been impressive progress, with a decrease in the proportion of short children from 49% to 28% between 1990

and 2010. Meanwhile, in Africa, the prevalence of stunting remains stagnant at around 40%, and, due to population growth, the absolute number of stunted children is increasing [6]. In the Southeast Asia region, the prevalence of stunting in Indonesia is the second highest, after Cambodia. Indonesia is ranked fifth among countries with the highest burden of stunting in toddlers [7]. UNICEF data also shows that Indonesia is one of the developing countries with a high prevalence of stunting; out of 88 countries in the world, Indonesia is in the top five cases of stunting [8]. Basic Health (Riskesmas) in 2018 showed a decrease in the prevalence of stunting at the national level of 6.4% over 5 years, namely from 37.2% (2013) to 30.8% (2018). Hall said of the 24.5 million children under 5 years of age in Indonesia, around 9.2 million (37%) experience stunting [9]. The Indonesian government itself in early 2021 targeted the stunting rate to drop to 14% in 2024 [10]. According to Hall, areas with large rural populations exceeding the national average in cases of stunting are West Kalimantan (39.7%), Central Kalimantan (39.6%), and South Sumatra (38.9%), including Lampung [11]. Likewise, in Lampung Province, the prevalence of stunting has decreased from 42.6% (2013) to 27.3% (2018), but this figure is still above 20% of the maximum limit set by WHO, which shows that there are still nutritional and public health problems in Lampung Province [12]. Based on the results of the Lampung Province Nutritional Status Monitoring (PSG) in 2017-2022, the prevalence of stunting in toddlers aged 0 to 59 months in Pringsewu Regency increased from 17.76% (2019) to 19.0% (2021). The results of the Lampung Province Riskesdas in 2018 showed that the prevalence of stunting in Pringsewu Regency was 20.19%, the 2nd lowest district/city out of 15 districts/cities in Lampung Province, decreasing in 5 years from the results of the 2013 Riskesdas, which was 36.99%. Meanwhile, the latest data in 2022, Pringsewu Regency

experienced a decline again at 16.2%. [13]

In 2021, the Indonesian Toddler Nutrition Status Survey (SSGBI) found that the prevalence of stunting in toddlers aged 0 to 59 months in Pringsewu Regency decreased again to 19.0%. The indicator used as a measure of a nation's success in building human resources is the Human Development Index (HDI). Based on the HDI, Indonesia's human resource development has not shown encouraging results. From the 2010 UNDP report, Indonesia's HDI was ranked 108th out of 169 countries, and after 10 years from the 2020 UNDP report, Indonesia's HDI was still ranked 107th out of 189 countries. One of the factors that influenced Indonesia's low HDI was the low nutritional and health status of the community [14].

*Stunting* is still a major health issue in Indonesia, especially in Pekon/Desa Pamenang with the highest stunting rate. The existence of stunting cases in the Islamic boarding school environment has also become an object of empowerment in the social health sector by the local Islamic boarding school. Because health concern is not only the responsibility of government agencies such as the health service, which must create a healthy Indonesia, especially avoiding the dangers of stunting. Other institutions, both state and private, both individuals and organisations, all have the same rights and obligations in realising it, including in this case the Al-Hidayah Islamic Boarding School in Pagelaran District. In August 2017, the central government issued a National Action Plan (RAN) for handling stunting which emphasises convergence activities at the national, regional and village levels, with priority activities for specific nutrition interventions and sensitive nutrition in 1,000 HPK (First Day of Birth to reaching the age of 6 years). RAN for handling stunting carries 5 pillars, the achievement of the 3rd pillar as a form of convergence across sectors. Implementation of the National Action Plan outlined in the Regional Action Plan (RAD) in the convergence of accelerating stunting prevention can be carried out with a health promotion model consisting of advocacy, social support and community empowerment. The health promotion model is a framework used to design, implement, and evaluate health programmes aimed at improving public health. Health promotion is any form of combination of health education and interventions related to economics, politics and organisations that are formed to facilitate changes in behaviour and the environment that are appropriate for health [15].

In line with the government's target in reducing stunting rates and preventing it, Islamic boarding schools also have a very large role in the historical journey of the struggle to produce and educate the nation and state's resources. Islamic boarding schools, better known as Islamic boarding schools, are recognised as the oldest model of Islamic educational institutions in Indonesia, which began to develop since the time of the preachers in Java, Walisongo, around the 15th century. The position of Islamic boarding schools since long ago has not only been as religious institutions and educational institutions (religious education) but also as social institutions (local community organisations) that have a strong influence on society. Islamic boarding schools have been proven to have contributed greatly to improving the welfare of society through various activities carried out. This

fact shows that the existence of Islamic boarding schools has a very strategic position in national development. Moreover, with the number of Islamic boarding schools in Indonesia currently based on EMIS Data or Education Management Information System, there are 27,732 Islamic boarding schools with 3,666,467 students, while based on the Ministry of Religion's Islamic Boarding School Database in 2019, there are 27,722 Islamic boarding schools in Indonesia with 4,173,027 students.

In today's modern and digital era, Islamic boarding schools are still very popular among parents and children as an option for pursuing education. With many Islamic boarding schools that are adaptive to the progress of the times and trying to answer the challenges of the future by becoming modern Islamic boarding schools that combine general and religious knowledge, even now parents in metropolitan cities are also interested in entrusting their children to study at Islamic boarding schools. By seeing this potential, this becomes important and a serious concern for efforts to prevent and control various diseases that may arise among students at Islamic boarding schools so that they have an impact on improving optimal and highest health for residents at Islamic boarding schools. Which ultimately has great leverage to create a quality and resilient next generation of the nation as an asset for national development human resources. In addition to creating a superior generation and quality human resources, Islamic boarding schools can also function as educational institutions and mentors in terms of public health. The application of the Health Promotion Model is a term that is currently widely used in public health and has received policy support from the government in implementing its activities [16]. Health promotion is an effort to improve community capabilities through learning from, by, for and with the community so that they can help themselves and develop activities that are community-based, by local socio-culture and supported by public policies that are health-orientated [17]. Based on the Regulation of the Minister of Health of the Republic of Indonesia No. 2269/Menkes/PER/XI/2011 concerning the Guidelines for PHBS Development, PHBS is a set of behaviours practised based on awareness as a result of learning, which a person, family, group or community can help themselves (independently) in the health sector and play an active role in realising public health, including from preventing stunting. Al-Hidayah Islamic Boarding School, which is in the object of the gap, has moved to become an agent of social change based on Islamic educational institutions. The existence of Islamic boarding schools was born from community initiatives and made it a cultural institution that has certain characteristics. [8] If in the past its orientation was only for education to spread Islamic preaching, currently Islamic boarding schools are required to be able to provide solutions to problems in an increasingly heterogeneous society. These problems are in the form of problems in terms of economy, society, politics, culture, and the sustainability of society as a whole, including health in society.

In this study, the place that will be used as the object of research is the Al-Hidayah Islamic Boarding School, Pekon Pamenang, Pringsewu Regency. Al-Hidayah Islamic Boarding School itself is a modern Islamic boarding school

with the AhlussunnahWalJamaah method that combines general and diniyah curricula, Arabic language and Tahfizul Qur'an with a global perspective. In practice, Al-Hidayah Islamic Boarding School also plays an active role in campaigning for a healthy and clean life. Healthy and clean living behaviour is a reflection of behaviour from preventing the dangers of stunting. Of course, socialisation and guidance to the community, both internally and externally, are carried out very intensively because this is also part of the implementation of da'wah.

Based on the results of field observations, the Al-Hidayah Islamic boarding school initially still adhered to a closed system. The definition of closed in this case is too concentrated on the function of religious education and learning with a scale of interaction between Kyai and students only. Meanwhile, Islamic boarding schools grow amid their communities that not only need educational services but are also expected to be institutions that can move the lives of the community. This statement is in line with the opinion Pangeran S. Naga. P said that the function or role of Islamic boarding schools is formulated in several concepts. First, Islamic boarding schools are educational institutions, and second, Islamic boarding schools are social institutions. As educational institutions, Islamic boarding schools carry out the education process with the main goal of producing intellectual scholars. Furthermore, as social institutions, Islamic boarding schools try to become institutions that provide benefits to their communities. As social institutions, Islamic boarding schools strive to become institutions that empower communities through religious activities, economic activities and other social activities, including in the health sector. In its journey, the Al-Hidayah Islamic boarding school did not solely grow based on the old pattern that only focused on educational functions. Currently, the Al-Hidayah Islamic Boarding School has grown to adapt to the latest developments. The leadership of the Islamic boarding school is very aware of this: the Islamic boarding school must also carry out other functions, namely social community or mingling with the community in the surrounding environment. The social concern shown by this Islamic boarding school is to answer the problem of stunting cases in PekonPamenang as an area with the highest percentage of stunting rates. The factors causing stunting in this Islamic boarding school environment are known to be due to the lack of awareness of clean and healthy living. Technical causes related to the lack of understanding and awareness of stunting are also due to parents who are reluctant to check their children or their pregnancy at the health centre and integrated health post due to busy work and others. Researchers also found cases with other conditions, namely due to the large number of residents who moved or came from outside the area, who settled and had the status of students or guardians of students. When screening or health screening was carried out, several children were found to be stunted. According to one of the administrators of the Islamic boarding school, the high number of stunting figures indicates that there is a problem.

In the community concerned that has been going on for quite a long time, creating an environment that has an impact on increasing the number of Stunting. This condition certainly

hurts the environment concerned, including the habit of people disposing of liquid waste or household waste that is not by the indications of a healthy lifestyle continuously and the lack of public knowledge about the importance of having a private MCK in the house with direct waste disposal in a septic tank so that people are accustomed to using public toilets [19]. One of the village midwives also added information about the cause of stunting in the Pamenang area, namely that stunting is not only due to the environment but can also be due to eating patterns and parenting patterns given; eating patterns or nutritional intake will affect the growth and development of children. The nutritional intake given by the family to the child is good; then the child's growth and development will also be satisfactory and vice versa [20]. Referring to the situation and conditions of the problem In PekonPamenang, Al-Hidayah Islamic Boarding School, which initially only focused on the internal empowerment of the institution, has now expanded its role to the social realm outside the Islamic boarding school. Realising the importance of contributing to solving health problems, especially the prevalence of stunting, the head of the Islamic boarding school, through an interview, said that the Al-Hidayah Islamic Boarding School has been actively involved in the health care movement with various strategic steps. These steps include forming a School Health Unit (UKS) in the Islamic boarding school environment, establishing collaborative cooperation with the Health Centre, village midwives, and the Pringsewu Health Office, and holding counselling and training on stunting. This effort reflects the implementation and development of a health promotion model based on advocacy, social support, and empowerment, which aims to empower communities to create awareness and collective action in preventing stunting, but because the model created by the Al-Hidayah Islamic Boarding School is just based on first impressions, researchers want to do a more in-depth study on how the health promotion model is used and developed, as well as how well it works for the four main types of prevention. This study will use a pre-experimental approach to measure the effectiveness of the model before and after the implementation of the health promotion model in the community so that more comprehensive and measurable results can be obtained. Stunting is a complex and multidimensional public health problem, especially in developing countries like Indonesia. This condition occurs due to chronic nutritional deficiencies that impact physical growth, cognitive development, and the quality of life of children in the future. In the context of stunting prevention, a community-based approach is an essential strategy, especially through religious educational institutions such as Islamic boarding schools. Al-HidayahPamenang Islamic Boarding School in Pagelaran District, Pringsewu Regency, has implemented a health empowerment model that is orientated towards preventing stunting. This study aims to analyse the health empowerment model implemented and evaluate its effectiveness in reducing the incidence of stunting in the Islamic boarding school environment and its surrounding communities.

## 2. LITERATURE REVIEW

Stunting is a manifestation of linear growth failure due to prolonged lack of nutritional intake and repeated exposure to infectious diseases, especially in the first 1,000 days of life. Several studies have shown that stunting determinants are not only limited to individual nutritional factors, but also involve socio-economic aspects, sanitation, access to health services, and cultural factors.

### 3. MODEL DEVELOPMENT CONCEPT

This R&D research designs a health empowerment model at the Al-Hidayah Pamenang Islamic Boarding School to prevent stunting through systematic stages in the development and evaluation of interventions. This model aims to produce practical and effective solutions that are tailored to the needs and characteristics of the Islamic boarding school and the community of Pagelaran District, Pringsewu Regency. This approach allows for sustainable Islamic boarding school-based interventions, involving students, caregivers, and related stakeholders to increase awareness, knowledge, and health practices in preventing stunting.

### 4. RELEVANCE OF DEVELOPMENT MODELS

Through the various development models above, this study chose to use a model that refers to the 4D model (define, design, develop, disseminate). The 4D model developed by Thiagarajan, Semmel, and Semmel is one of the instructional design models that is often used in educational development research. This model consists of four main stages: Define, Design, Develop, and Disseminate [21].

### 5. DEVELOPED MODEL CONCEPT

As a reference in this research, there are several concepts used with their operational definitions as follows:

A model is a pattern or form that is used as a reference for implementation [22]. Mills argues that a model is an accurate representation of an actual process that allows a person or group of people to try to act based on the model [23]. According to Kemp in Rusman, a learning model is a learning activity that must be carried out by teachers and students so that learning objectives can be achieved effectively and efficiently [24].

A model is a representation of an object, thing, or idea in a simplified form of a natural condition or phenomenon. The purpose of a model is to determine the information that is considered important to collect, so there is no unique model. A system can have various models, depending on the viewpoint and interests of the modeller.

To empower the community, it can be seen from three sides, namely; [25] Community empowerment includes three main aspects. First, creating a climate that supports the development of potential and protection of community rights, by fostering awareness of the power they have. Second, strengthening community potential through the provision of resources, access to opportunities, and instilling modern cultural values to increase community participation and roles in development. Third, empowerment also means protection for weak groups so that they are not further marginalized, by preventing inequality and exploitation, and encouraging independence and sustainability in improving welfare.

Stunting

*Stunting* is a condition of failure to thrive in children caused by chronic malnutrition, so that children have shorter heights and slower development than the standard for their age. In

Indonesia, stunting is still a serious public health problem because it has an impact not only on children's physical growth but also on brain development and cognitive abilities. These impacts are ongoing and can reduce the quality of human resources in the future [26],

On the other hand, parenting also greatly influences the nutritional status of children. Research shows a strong relationship between maternal knowledge of nutrition and proper feeding management with the risk of stunting. Good knowledge of parenting, including exclusive breastfeeding and quality complementary foods, is considered an important step in preventing stunting [27].

The next factor is poor sanitation and hygiene. In many areas in Indonesia, the lack of proper sanitation facilities and inadequate hygiene behavior can worsen the nutritional status of children. This is because inferior sanitation conditions have the potential to increase the prevalence of infections, which hinder the absorption of nutrients in the body, leading to stunting.

Socio-economic aspects play an important role in preventing stunting, where poverty limits access to nutrition, health services, and a healthy environment. Therefore, interventions should include improving the family economy. In addition, maternal education has a significant influence, as higher levels of education are associated with better nutritional knowledge, parenting practices, and health decisions, which contribute to stunting prevention.

### Islamic boarding school

Goals are very important in achieving something desired, without a clear goal, the wheels of an institution's journey will not run well, including in Islamic boarding schools. Ironically, Islamic boarding schools as educational institutions do not have a clear formulation of goals, both in institutional, curricular and general and specific instructional levels. The goals they have are only in the imagination [28]. So far, there has never been a written formulation regarding the goals of Islamic boarding school education [29]. As a result, several authors formulate these goals only based on estimates (assumptions) and/or interviews.

According to Ziemiek, as quoted by Qomar, the aim of Islamic boarding schools is "to form personality, strengthen morals and equip them with knowledge" [30]. Meanwhile, Arifin stated that there are 2 aims of Islamic boarding schools, namely:

- 1) General objective: To guide students to become human beings with Islamic personalities, with religious knowledge they are able to become Islamic missionaries in the surrounding community through their knowledge and practice.
- 2) Specific objectives: To prepare students to become learned people in religious knowledge taught by the kiai concerned and to practice it in society [31].

Meanwhile, viewed from its function, Islamic boarding schools do not only function as places for religious learning, but also have an important role in preaching and social activities in the community. The following is a description of the function of Islamic boarding schools in terms of education, preaching, and social[32].

- 1) Function of Education

Islamic boarding schools act as centers for Islamic religious learning that instill the values of faith, noble morals, and religious insight.

2) Function of Da'wah

3) Islamic boarding schools are centers for the spread of Islamic preaching. Kyai, ustaz, and students are often actively involved in giving religious lectures, pengajian, and other Islamic activities in the community.

**Social Function**

Islamic boarding schools also act as centers for community empowerment. Many Islamic boarding schools are involved in literacy programs, skills training, and sharia-based economic management such as Islamic boarding school cooperatives.

With these various functions, Islamic boarding schools become an important pillar in building Islamic civilization in Indonesia. As an institution that stands amid society, Islamic boarding schools continue to adapt to the development of the times without abandoning their Islamic identity.

**6. RESEARCH METHODS**

This research uses the Research and Development (R&D) method, which aims to produce certain products or models that are effective and relevant to the needs of the community[33]. This study uses a pre-experimental research type. The design used is a one group pretest-posttest design. One group pretest-posttest design is a pre-experimental design that contains a pre-test (test before being given treatment) and a post-test (test after being given treatment) in one group. This design can be described as follows [34].

Pretest	Treatment	Posttest
O1	X	O2

Information:

O1 = initial test (pretest) before treatment is given

X = treatment of the experimental group

O2 = final test (posttest) after treatment is given

The analysis technique used combines descriptive qualitative analysis and quantitative analysis.[35]This research was conducted at the Al-Hidayah Islamic Boarding School, which is located atJl. Islamic Boarding School, Pamenang Village, Pagelaran District, Pringsewu, Indonesia, Lampung. This research was conducted for more than 1 year between June 2022 and December 2023.

**7. RESULTS AND DISCUSSION**

**Model Development Results**

Al-HidayahPamenang Islamic Boarding School is under the auspices of the At-Turats Al-Atsary Foundation, which was established on January 28, 2011. This foundation has a management structure consisting of founders, mentors, administrators, and supervisors. This Islamic boarding school was established on May 13, 2004, and is currently led by Ust. Purwanto, S.Pd.I. Al-Hidayah Islamic Boarding School has a vision of producing a rabbani generation based on the Al-Qur'an and As-Sunnah. Its mission includes developing teaching staff, innovating learning methods, and providing facilities that support education. The main goal is to produce graduates with a strong understanding of Islam as well as general knowledge and technology. With an area of ±4 hectares, this Islamic boarding school has various facilities, including a mosque, dormitory, classrooms, laboratories, library, and other facilities. The Islamic boarding school

provides education from kindergarten to integrated Islamic high school, as well as a tahfizh Al-Qur'an program. The number of students in 2023 reached 1,080 people. The curriculum of the pesantren includes the study of books in the fields of monotheism, fiqh, hadith, morals, interpretation, and the Qur'an. In addition to education, the pesantren is also active in preaching and social activities, including the development of religious study groups in various regions and social programs such as the Foster Parent Program, assistance to the poor, and social services. With a well-organized organizational structure, the pesantren continues to strive to improve the quality of education and the welfare of its students.

**Model Eligibility**

The validation stage of the health empowerment model at the Al-HidayahPamenang Islamic Boarding School was carried out after the model development stage was completed. This validation aims to assess and refine the model based on input from experts before conducting an effectiveness test in the field. This process ensures that the developed model can be optimally implemented according to the needs of the Islamic boarding school and the community.

This study uses a Research and Development (R&D) approach with a model consisting of four main stages: define, design, develop, and disseminate. The health empowerment model whose feasibility was tested focuses on health promotion through three main components: advocacy, social support, and community empowerment. This model is designed to address the factors causing stunting as identified by the National Team for the Acceleration of Poverty Reduction (TNP2K), namely:

- 1) Parenting practices and knowledge about health and nutrition before, during, and after pregnancy.
- 2) Availability of adequate health services.
- 3) Balanced nutritional diet.
- 4) Access to clean water and adequate sanitation.

The validation results from experts became the basis for revising the model before field trials were conducted. This feasibility test process includes operational adjustments to the implementation of the model to ensure its effectiveness in increasing health awareness and practices in the Islamic boarding school environment. Thus, the validated model can be implemented optimally before being tested for its impact on stunting prevention in the community.

**Define stage**

Preparation of various things needed in this study was carried out through a preliminary study that included preparation of formal procedures, preparation of research instruments, and provision of necessary equipment. One of the main results was the preparation of a draft assessment instrument model that had gone through a revision process and feasibility test. The model developed focuses on three main aspects, namely advocacy in creating a conducive environment for stunting prevention, community empowerment to be more active in prevention efforts, and protection and defense of community rights through a social support model. In its implementation, Islamic boarding schools play an important role by providing a supportive environment, involving the community in a participatory manner, providing education, and connecting the community with other institutions. This model also

strengthens the role of the community with a persuasive approach, support for local initiatives, and appreciation of short-term success in preventing stunting. In addition, Islamic boarding schools provide legal, social, and policy protection that supports the rights and obligations of the community in preventing stunting. To measure the effectiveness of this model, a questionnaire was prepared based on the factors causing stunting according to the National Team for the Acceleration of Poverty Reduction (TNP2K), which includes health and nutrition knowledge, health services, balanced diets, and environmental cleanliness. The questionnaire consists of 45 statements that measure changes in community knowledge, response to health services, balanced nutritional diets, and environmental and sanitation conditions.

The results of this in-depth survey are data on the real conditions of the health empowerment model of the Al-Hidayah Islamic Boarding School in PekonPamenang, Pagelaran District, Pringsewu Regency, which has developed an advocacy-based health empowerment model to prevent stunting. This study revealed that the Islamic boarding school realized the importance of health after seeing the conditions of the surrounding community and the increasing population due to the transfer of guardians of students. Through collaboration with the local Health Center, the Islamic boarding school established a health post that serves both the general public and the internal boarding school. In addition, a School Health Unit (UKS) was formed to monitor the health of students. Village midwives act as mentors and facilitators in providing education to the community and Islamic boarding school managers regarding health, including preventing stunting through healthy eating patterns, environmental cleanliness, and early detection.

Islamic boarding schools also implement a social support model by involving various parties in health programs. Awareness of the importance of the role of community leaders encourages Islamic boarding schools to be more active in health and hygiene education, both for students and residents. In addition to providing health services, Islamic boarding schools instill a culture of healthy living through cooperation and become examples for the community in protecting the environment. The empowerment strategies implemented include training for teachers and village officials so that they can deliver health education more widely. The main objective of this program, apart from being part of preaching, is also to ensure the sustainability of health empowerment with full support from the community and local government.

## 7. DESIGN (DESIGNING MODEL)

This stage is carried out based on the results of field research that identifies the potential of Islamic Boarding Schools and the need for the development of a health empowerment model in preventing stunting. As a result, a model was designed consisting of two main forms of implementation: a model framework and an empowerment module.

### Develop (Model Development)

The development stage is carried out through validation and product trials. Validation is carried out by asking for

assessments and input from experts through FGD and consultation. The input obtained includes two main aspects:

- 1) Improvements to general research content, including background, theory, methodology, and presentation of results.
- 2) Step-by-step model development with periodic revisions based on findings and input received.

### Dissemination (Spread)

The final stage of development involves testing the validity and reliability of the model through literature studies, field data collection, initial prototype design, discussions with experts, and final model formulation. The validity of the model was tested using SPSS version 16, where the calculation results showed that all statement items had Rcount values greater than Rtable (0.514), so they were declared valid. Thus, the model can be further analyzed and is ready for implementation in the field.

### Model Effectiveness

To measure the effectiveness of the Islamic Boarding School health empowerment model in preventing stunting, researchers used a quantitative approach based on the results of data processing from the validator assessment sheet. Data were obtained through community response questionnaires and pretest and posttest results to assess the impact of the developed model.

This study used a pretest-posttest design involving 52 participants consisting of general health service administrators at Islamic boarding schools and the surrounding community who were active in health empowerment activities. The sample consisted of families with children in the age range of the stunting program who were involved in health services such as village midwives or integrated health posts.

The aspects measured in the questionnaire include the factors causing stunting according to the National Team for the Acceleration of Poverty Reduction (TNP2K), namely: (1) Understanding of parental behavior in preventing stunting, (2) Access to health services, (3) Eating patterns with balanced nutrition, and (4) Environmental cleanliness and sanitation.

Before analyzing the effectiveness of the model, the researcher conducted a data homogeneity test to ensure the equality of variance between the pretest and posttest groups. This homogeneity test was conducted using the F test formula to assess whether the two groups had equal variance, so that the analysis results were more valid and could be used to measure the impact of the intervention more accurately. To measure the homogeneity of variance of the two data groups, the F test formula was used as follows:

$$F = \frac{\text{Varian terbesar}}{\text{Varian terkecil}}$$

The significance level used is  $\alpha = 0.05$ . Homogeneity test with the criteria used to conclude if the calculated F is greater than the F in table then it has a homogeneous variant. However, if the calculated F is greater than the F in table, then the variant is not homogeneous.

**Test of Homogeneity of Variances**

		Levene Statistic	df1	df2	Sig.
homogenitas	Based on Mean	.662	6	33	.680
	Based on Median	.425	6	33	.857
	Based on Median and with adjusted df	.425	6	21.878	.855
	Based on trimmed mean	.613	6	33	.718

**Picture1 Homogeneity of Variance Calculation Value**

The image above shows the results of the homogeneity of variance test using the Levene's Test method. The homogeneity of variance test aims to determine whether two or more data samples have the same variance.

The following is a description of the parts of the homogeneous test version of Levene's Test above:

- Title: Test of Homogeneity of Variances
- Table:
- Levene: This column shows the value of Levene's Test statistic.
- df1: This column shows the first degree of freedom (df).
- df2: This column shows the second degree of freedom (df).
- Sig.: This column shows the significance value (p-value).
- Methods: The table shows the test results based on four methods, namely:
  - *Based on Mean*: Based on average.
  - *Based on Median*: Based on the median.
  - *Based on Median and adjusteddf*: Based on median with adjusted degrees of freedom.
  - *Based on trimmed mean*: Based on truncated mean.

The test results show that the p-value in each method is greater than 0.05, so the null hypothesis is not rejected. This means that the variance between samples is not significantly different. Based on the homogeneity of variance test with the Levene's Test method, it can be concluded that the assumption of homogeneity of variance is met.

To strengthen the assumption of homogeneity of variance, other statistical reinforcement methods such as Welch's ANOVA or Kruskal-Wallis can be used. The results of the homogeneity test with the ANOVA method are presented in Paired Samples Test

Pair 1	Pretest - Posttest	Paired Differences		95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean	Std. Error	Lower	Upper			
		Std. Deviation	Mean					
	30.019	2.165	.300	-30.622	-29.417	-100.001	51	.000

the following figure:

**ANOVA**

homogenitas					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2927.161	18	162.620	.596	.877
Within Groups	8998.762	33	272.690		
Total	11925.923	51			

**Picture2 Anova Value of Homogeneity Test**

In the ANOVA test results above, there are the following hypotheses:

- **H0**: Variance between groups is the same (homogeneous)
- **Ha**: Variance between groups is different (heterogeneous)

**Table1 Interpretation of ANOVA Table**

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Inter Group	2927.161	18	162.620	0.596	0.877
In Group	8998.762	33	272.690		
Total	11925.923	51			

- **F Value**: The F value is 0.596. This value is smaller than the F table value at a significance level of 0.05 with degrees of freedom (df) between groups (18) and df within groups (33).

- **p-value**: The p-value is 0.877. This value is greater than the significance level of 0.05.

The results of the ANOVA test show that there is insufficient evidence to reject the null hypothesis (H0), so that the variance between groups can be concluded as homogeneous. Assuming that the homogeneity of variance is met, the results of the ANOVA test can be interpreted validly. Additional information regarding the sum of squares, degrees of freedom, and mean square support the conclusion that the variance between groups is the same. Thus, the analysis can be continued to the model effectiveness test to evaluate statistical significance in explaining variability.

**1) Level of Understanding of Parental Behavior in Preventing Stunting through the Application of Health Promotion Models**

Below, the researcher will present parametric data in the form of statistical tests to determine the significance value of the influence of the health promotion empowerment model on changes in knowledge by comparing participant objects before the health empowerment model occurred with after empowerment from Islamic boarding schools with details of the T-test statistics below:

**Table2 Descriptive Statistical Test**

**Paired Samples Statistics**

Pair 1		Mean	N	Std. Deviation	Std. Error Mean
		Pretest	37.81	52	1.669
	Posttest	67.83	52	2.149	.298

**Table3 T-Test Results**

Based on the output table of the Statistical test results and T-Test above, the sig value = 0.000 is obtained, which means it is smaller than alpha 0.05. Thus, H0 is rejected and Ha is accepted. This means that there is a difference in knowledge before empowerment and after empowerment on the understanding of Parental Behavior in Preventing Stunting. Thus, the empowerment carried out by the Al-Hikmah Islamic Boarding School through the health promotion model has a significant influence.

2) Statement of Level of Understanding of Health Services Through the Application of Health Promotion Models

Below, the researcher will present parametric data in the form of statistical tests to determine the significance value of the influence of the health promotion empowerment model on changes in knowledge by comparing participant objects before health occurred with after empowerment from Islamic boarding schools with the details of the T-test statistics below:

**Table4**Descriptive Statistical Test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	26.60	52	2.629	.365
	Posttest	44.06	52	.639	.089

Table5: T-Test

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	T	df	Sig. (2-tailed)	
				Lower	Upper			
Pair	Pretest	2,563	.355	-18,175	-16,748	-	51	.000
1	Posttest	17,462					49,136	

Based on the output table of the T-test results above, the sig value = 0.000 is obtained, which means it is smaller than alpha 0.05. Thus, H0 is rejected and Ha is accepted. This means that there is a difference in knowledge before empowerment is carried out and after empowerment is carried out through a health promotion model on understanding health services in preventing stunting. Thus, the empowerment carried out by the Al-Hikmah Islamic Boarding School through a health promotion model has a significant influence.

3) Statement of Level of Understanding of Balanced Nutritional Diet Patterns through the application of health promotion models

Below, the researcher will present parametric data in the form of statistical tests to determine the significance value of the influence of the health promotion empowerment model on changes in knowledge by comparing participant objects before the health empowerment model occurred with after empowerment from Islamic boarding schools with details of the T-test statistics below. This :

**Table6**Descriptive Statistical Test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	35.81	52	2.482	.344
	Posttest	62.90	52	1.241	.172

Table7: T-Test

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	T	df	Sig. (2-tailed)	
				Lower	Upper			
Pair	Pretest	3,528	.489	-20,694	-18,729	-	51	.000
1	Posttest	19,712					40,293	

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair	Pretest	-27,096	2,802	.389	-27,876	-26,316	-69,724	51	.000
1	Posttest								

Based on the output table of the T-test results above, the sig value = 0.000 is obtained, which means it is smaller than alpha 0.05. Thus, H0 is rejected and Ha is accepted. This means that there is a difference in knowledge before empowerment and after empowerment through a health promotion model on understanding balanced nutritional diet patterns in efforts to prevent stunting. Thus, the empowerment carried out by the Al-Hikmah Islamic Boarding School through a health promotion model has a significant influence.

4) About Environmental Cleanliness and Sanitation through the implementation of Health promotion models

Below, the researcher will present parametric data in the form of statistical tests to determine the significance value of the influence of the health promotion empowerment model on changes in knowledge by comparing participant objects before the health empowerment model occurred with after empowerment from Islamic boarding schools with details of the T-test statistics below. This :

Table8

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	25.63	52	2.650	.367
	Posttest	45.35	52	1.803	.250

Table9: T Test

Paired Samples Test								
Paired Differences								
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	T	df	Sig. (2-tailed)	
				Lower	Upper			
Pair	Pretest	3,528	.489	-20,694	-18,729	-	51	.000
1	Posttest	19,712					40,293	

Based on the output table of the T-test results above, the sig value = 0.000 is obtained, which means it is smaller than alpha 0.05. Thus, H0 is rejected and Ha is accepted. This means that there is a difference in knowledge before empowerment and after empowerment through a health promotion model on understanding environmental cleanliness and sanitation in efforts to prevent stunting. Thus, the empowerment carried out by the Al-Hikmah Islamic Boarding School through the health promotion model has a significant influence.

The results of the analysis showed an increase in community knowledge regarding environmental cleanliness and sanitation in preventing stunting after the intervention. The highest increase occurred in statement 3 (42% to 97%), while the lowest increase was in statement 10 (83% to 85%). The average N-Gain Score value of 63.27 indicates a moderate change category, while the N-Gain Percentage of 64% indicates the effectiveness of the empowerment model in



increasing community awareness of environmental cleanliness and sanitation.

## 8. DISCUSSION

### Al-Hidayah Islamic Boarding School Health Empowerment Model in Preventing Stunting

#### 1. Objective Conditions of Research

Stunting remains a major health issue in Indonesia, including in PekonPamenang, which has the highest stunting rate. Al-Hidayah Islamic Boarding School plays a role as an agent of social change through a health promotion model that emphasises Clean and Healthy Living Behaviour (PHBS). The implementation of PHBS in Islamic boarding schools aims to increase awareness and practice of healthy living for students, ustadz/ustadzah, and the surrounding community. This is in line with Law No. 36 of 2009 and Permenkes No. 2269/Menkes/PER/XI/2011 concerning PHBS as an independent effort to improve public health and prevent stunting.

#### 2. Conceptual Model Development

The health promotion model developed focuses on the integration of religious values and pesantren-based health practices. The three main components of this model are:

- 1) Advocacy: Strengthening the role of Islamic boarding schools in health policy through advocacy training and development of faith-based materials.
- 2) Social Support: Building partnerships between Islamic boarding schools, community health centers, and health services, as well as peer support systems for families at risk of stunting.
- 3) Community Empowerment: Developing Islamic boarding school-based health curriculum and family mentoring programs.

Implementation of this model increases community understanding of four main aspects of stunting prevention: parental behaviour towards health, utilisation of health services, balanced nutritional diet, and environmental hygiene and sanitation practices. Implementation of the ModelThe trial and implementation of the model at Al-Hidayah Islamic Boarding School showed significant success in stunting prevention efforts. The implementation of three main pillars—advocacy, social support, and empowerment—proved that community-based health promotion is effective in addressing stunting prevalence and strengthening Islamic boarding schools as agents of change in the field of public health.

- 1) Implementation 1) of advocacy model in developing Islamic Boarding School Health Empowerment Model through Health Promotion. Al-HidayahPamenang Islamic Boarding School applies an advocacy model in health empowerment by recognising the problems of the surrounding community, such as stunting and limited access to health services. The implementation of this model involves social advocacy to obtain support for facilities, policies, and resources, such as the establishment of integrated health posts which were initially less popular with the community. However, with increasing needs, the Islamic boarding school collaborates with the health centre through an MOU

to provide health services for students and the surrounding community. This advocacy process also includes educating the community about the importance of disease prevention through integrated health posts (posyandu) and health clinics (UKS). Initially, integrated health posts (posyandu) did not receive a positive response because the community did not yet understand its benefits as a preventive measure. However, with ongoing education, the community began to utilize this health service. Through an advocacy approach, Islamic boarding schools have succeeded in creating a healthy environment and increasing health awareness in their communities.

- 2) Implementation 1) Development of a Social Support Model for Health Empowerment of Islamic Boarding Schools through Health Promotion The effectiveness of health promotion increases with social support from formal elements (health workers, government) and informal ones (religious leaders, traditional leaders). Al-Hidayah Islamic Boarding School implements a social support model through collaboration with village midwives for health socialisation, especially stunting. The involvement of community leaders as health facilitators allows promotional messages to be more easily accepted by the community.
- 3) The Islamic boarding school also organizes training and seminars for community leaders and village officials to improve their understanding of nutrition, hygiene, and stunting prevention. The main goal of this model is to gain community support for health programs. Through a social support approach, the Islamic boarding school builds an atmosphere that supports community health and prevents the emergence of new stunting cases.
  - a. Implementation and a. Development of the Empowerment Model for Islamic Boarding School Health Empowerment through Health Promotion. Al-Hidayah Islamic Boarding School applies an empowerment model to improve community knowledge and skills in maintaining health. Activities carried out include health education, entrepreneurship training, and environmental cleanliness and sanitation campaigns as an effort to prevent stunting. By involving village midwives, Islamic boarding schools provide ongoing education on nutrition, balanced diets, and hygiene. Socialisation is carried out through integrated health posts, the distribution of brochures, and the use of technology. Consistency of education is key to building public understanding of health. This empowerment is comprehensive by involving community leaders, improving the family economy, and providing education and ongoing health support. Through the empowerment approach, Islamic boarding schools not only function as religious education institutions but also as centres for

community empowerment in creating a healthy and prosperous environment.

#### b. Model Effectiveness

This study measures the effectiveness of advocacy, social support, and empowerment models on the factors causing stunting based on TNP2K indicators.

- 1) Understanding of Parental Behavior in Stunting Prevention (76%)The highest increase occurred in this aspect. Interventions include education on the importance of exclusive breastfeeding for 6 months, provision of complementary feeding according to nutritional needs, and early stimulation for children's physical, mental, and emotional development. These results indicate that parents increasingly understand and apply parenting patterns that support stunting prevention.
- 2) Access and Utilization of Health Services (63%)The program has succeeded in increasing public awareness of the importance of health facilities such as integrated health posts and community health centers. Education is focused on the benefits of immunization, routine check-ups for pregnant women and children, and early detection of the risk of malnutrition. Collaboration between Islamic boarding schools and health service units also expands access for the community, especially in areas with limited health infrastructure.
- 3) Balanced Nutritional Diet (57%) education provided includes information on sources of nutritious food, processing methods that maintain nutritional value, and avoiding processed foods that are low in nutrients. Despite increasing understanding, economic limitations and access to nutritious food are still major obstacles that require cross-sector intervention.
- 4) Environmental Cleanliness and Sanitation (64%)Public awareness has increased in implementing clean and healthy living behaviors (PHBS), such as washing hands with soap, disposing of garbage in its place, and maintaining environmental cleanliness. In addition, good sanitation practices, such as the use of healthy toilets and clean water management, help reduce the risk of infectious diseases that can trigger stunting.

#### Theoretical and Empirical Findings

- a. Stunting prevention is not only the responsibility of health workers, but must involve all elements of society, including religious leaders and Islamic organizations. Religious instructors also need to gain a deeper understanding of stunting to provide optimal education.
- b. The success of health empowerment in Islamic boarding schools depends on the exemplary behavior of figures and teachers. Health training for students and Islamic boarding school staff plays an important role in creating a health-based preaching model that can be adopted by the community.
- c. Economic factors are one of the main causes of stunting, because people with high unemployment rates have difficulty meeting the balanced nutritional needs of their children.
- d. The existence of health service centers in Islamic boarding school environments greatly helps the community in obtaining health information and services, including preventing stunting.

- e. The level of education of parents, especially mothers, greatly influences their understanding of stunting. Higher education contributes to better parenting and optimal nutritional fulfilment for children.
- f. Careful planning in stunting advocacy is very important to ensure that various parties, including the community and policymakers, are involved in holistic and sustainable prevention efforts.
- g. Parenting patterns and nutritional intake have an important role in preventing stunting, although in some cases it was found that other factors such as nutrient absorption also affect the condition of stunted children.
- h. Health education needs to start from adolescence or before marriage so that prospective parents have a good understanding of nutrition, reproductive health, and economic preparation in optimally raising children.
- i. After empowerment was carried out in the Islamic boarding school environment, community awareness of clean and healthy living behavior increased significantly, which shows that community-based health education is effective in preventing stunting.
- j. A healthy and halal diet in Islam is an important part of preventing malnutrition, where families are responsible for ensuring that children receive sufficient nutritional intake from the womb to growth.

#### 9. CONCLUSIONS

The health empowerment model implemented at the Al-HidayahPamenang Islamic Boarding School has shown effectiveness in increasing nutritional and health awareness among students and the surrounding community. The implementation of a community-based approach in the Islamic boarding school environment has contributed significantly to preventing stunting. In the future, broader support from policymakers, the health sector, and educational institutions is needed to replicate this model in other Islamic boarding schools to create a broader impact in efforts to improve national nutritional status. This study reveals important findings related to the objective conditions of stunting in PekonPamenang, Pagelaran District, Pringsewu Regency. The problem of stunting is still a crucial health issue with a fairly high prevalence. Through the implementation and empowerment of a health promotion model based on Islamic boarding schools, this study opens up opportunities for further development. Al-Hidayah Islamic Boarding School has expanded its role by forming a School Health Unit, collaborating with health centres, and holding health counselling. The results of the study indicate that an advocacy-based approach, social support, and empowerment are effective strategies for overcoming stunting. Therefore, this study produces indicators to measure the effectiveness of the health promotion model in providing measurable and sustainable solutions. The conceptual model developed refers to Islamic boarding school-based health empowerment, which shows the need for comprehensive intervention in dealing with stunting. The research area has the lowest prevalence of stunting in Lampung Province but still faces challenges in the form of minimal public knowledge and sporadic involvement of government institutions. The model developed focuses on the integration of religious values with

public health practices. Through a pre-experimental approach, this study found an increase in public understanding of four main aspects of stunting prevention, namely parental behaviour towards child health, utilisation of health services, balanced nutritious diet, and environmental cleanliness and sanitation. The trial of the developed health promotion model showed positive results in strengthening stakeholder collaboration and increasing public awareness. The advocacy model succeeded in strengthening the relationship between Islamic boarding schools and various parties; the social support model increased public awareness through empowerment, while the empowerment model played a role in training and mentoring to improve skills and behaviour in preventing stunting. These three models have proven to be able to change public understanding and behaviour, thereby contributing to reducing the risk of stunting in the region. The effectiveness of the applied model can be seen from the significant increase in various aspects, such as parenting practices, which increased by 76%; access to health services by 63%; understanding of a balanced nutritious diet by 57%; and environmental cleanliness and sanitation by 64%. These results indicate that a health promotion strategy based on Islamic boarding schools can be implemented widely to address stunting problems nationally. This study offers an innovative approach that is in line with the concept of Islamic Community Development, utilising Islamic boarding schools as centres of education and empowerment so that it not only increases public awareness but also becomes a sustainable solution in achieving the national target of reducing stunting.

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