



Education on Understanding and Stunting Prevention Actions through Ayu Ting Ting's Snake and Ladder Game (Overcome Let's Stunting, It's Important) to Create a Superior Generation

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Abstract:

The "Overcome Yuk Stunting, That's Important" program is an initiative that aims to overcome the problem of stunting which is a serious threat to the health of the younger generation. The background to this program involves the fact that stunting can have long-term impacts on the physical and cognitive development of children, as well as society as a whole. The aim of this program is to increase awareness, knowledge and stunting prevention among students and the community. The method of implementing this program includes an interactive educational approach, with a focus on the creative game of giant snakes and ladders. The results achieved through this program are an increase in participants' awareness and knowledge regarding the importance of stunting prevention. Participants also implemented preventive measures in their daily lives, including a healthy diet and regular health visits. Overall, this program was successful in creating a healthier, smarter generation and reducing the prevalence of stunting in the future.

Keywords: Giant Snake and Ladder, Prevention, Stunting, Gold Generation

1. INTRODUCTION

Stunting is a short or very short condition based on age-appropriate length/height, as measured by less than -2 standard deviations (SD) from the WHO growth curve [1]. This condition occurs due to inadequate nutritional intake and/or recurrent/chronic infections, and is irreversible [2]. Stunting is generally measured in the number of events per first 1000 days of life (HPK) [3]. Toddler age (under five years) is an important period in the process of human growth and development, where at this time growth and development take place very quickly [4]. The child's growth and development process is supported by balanced nutrition. Toddlers are said to be malnourished with a body mass index (BMI) below 18.5 kg/m² [5].

Stunting that has occurred if not balanced with catch-up growth (growing chase) results in decreased growth [6]–[8]. The problem of stunting is a public health problem associated with an increased risk of illness, death and impairment in both motor and mental growth [9]. Stunting is formed by inadequate growth faltering and catch up growth which reflects the inability to achieve optimal growth, it reveals that the group of toddlers born with normal

weight can experience stunting if the fulfillment of further needs is not met properly [10], [11].

Stunting has an impact on children's cognitive, motor, and verbal development to be not optimal [12]. In the future, stunted children have a higher risk of obesity and other diseases [13]. In addition, children's learning capacity and performance as well as productivity and work capacity are also not optimal. The adverse effects of stunting also have an impact on reproductive health [14]. Many experts and researchers have conducted an analysis of this stunting problem. Khayati et. al., [15] In their research they concluded that this condition has an effect on decreasing children's achievement in academics, as well as increasing susceptibility to diseases even though they are not communicable, and also increasing the risk of degenerative diseases. Next, Sumardilah and Rahmadi [16] it also indicates that the impact of this condition may increase the risk of obesity.

Stunting has negative consequences for children. Short-term adverse effects that may arise due to stunting include disturbances in brain development, decreased intelligence levels, impaired physical growth, and disruption of the body's metabolism [17]. In addition, in the long run, stunting will have an impact on cognitive decline, decreased learning achievement, low immunity, risk of obesity, and increased susceptibility to non-communicable diseases and degenerative diseases such as diabetes, heart and blood vessel disease, cancer, stroke, and conditions that cause disability [18]. Other impacts include decreased productivity in adulthood [19]. Stunting also has the potential to reduce intellectual potential and impair growth [20].

Many efforts can be made by families to meet the nutritional needs of children. Kamaruzaman et. al., [21] explained that diversification from haruan has great potential in handling nutritional deficiencies in children. Young kelakai as a local potential plant is also very beneficial and rich in iron, vitamin C, even protein and beta carotene and folic acid [22]. Not only can it be used as a daily vegetable snack but can be made a preparation of taro syrup as a family nutrition booster. In addition, Temulawak (*Curcuma xanthorrhiza* Roxb.) is an indigenous Indonesian medicinal plant that based on research can be useful as raw material for traditional medicine to cure various types of diseases, including as anticholesterol, anti-inflammatory, antianemia, antioxidant, antimicrobial, even to increase the appetite of children who lack nutrition [23].

Lack of knowledge about balanced nutrition can cause children's nutrition to be less fulfilled. According to Rahmanindar et al., [24] ISIPIRINGKU counseling is very important as an effort to prevent stunting in children. Overcoming stunting is not enough only in terms of nutritional adequacy, but it is necessary to promote a culture of clean and healthy lifestyle in the community [25]. In addition, Setyowati et al., [26] Also suggest nutrition-conscious behavior for each family through efforts to improve personal and environmental hygiene behaviors, especially washing hands with soap properly to maintain hygiene.

One way to reduce stunting is by providing education and health education to the community [27]. The education provided is in the form of Clean and Healthy Living Behavior Education (PHBS). PHBS is a step that must be taken to achieve optimal health aspects for all. Health does not happen automatically, but efforts should always be made to transition from poor health to a healthy life and create a healthy environment. This effort must begin by instilling a healthy lifestyle in the community that must be pioneered and cultured to do it yourself [28].

In order for education to be conveyed properly, an interesting way of providing education is needed. Various types of games such as puzzles, snakes and ladders, nutrition cards, flashcards, quartets, quintets, monopoly, puppets, VEM, and guess the picture have been used in children's nutrition education efforts. All studies show that the use of these games is effective in conveying educational messages about health to children. Until now,

health education efforts that actively develop various types of games as learning tools are still lacking. Providing information to children is a very important step in improving their understanding of health issues, especially when it comes to stunting. One effective way to convey this information is through the use of educational media such as snakes and ladders games. The Snakes and Ladders game has proven effective for educating children's health at school [29] and as a medium of education on the prevention of health problems to the public [30]. Therefore, the snake and ladder game was chosen as a means of education in this community service activity.

In this context, community service activities have been held at the "Hulu Langat" guidance studio in Selangor, Malaysia, which aims to provide education about stunting. This activity is titled "AYU TING TING (Atasi Yuk stanTING, itu penTING)" and aims to increase knowledge not only to the participating children, but also to the teachers involved in the education of such children.

We chose this place of community service in Hulu Langat, Selangor Malaysia because of the need for early prevention of stunting incidents in children, especially in SB Hulu Langat, through increasing children's knowledge related to stunting and prevention methods through improving PHBS culture in schools and the environment. So it is concluded that there are various things we need to do, namely:

1. Increased children's understanding of stunting
2. Increased children's understanding of the importance of healthy food and ISIPRINGKU
3. Improvement of Clean and Healthy Living Behavior (PHBS)

So we designed Ayu Ting Ting to be applied in education with an inclusive and sustainable approach. We understand that stunting prevention efforts must be holistic, involving all levels of society, especially students and their families. Therefore, the program is designed to be more than just a campaign, but to be an integrated part of the learning environment and students' daily lives. Our educative approach has two main dimensions. First, we present information and knowledge about stunting in an interesting and easy to understand way, such as through a game of giant snakes and ladders. This allows messages about stunting to be quickly permeated and remembered by students. Second, we emphasize the real implementation of such knowledge through concrete action steps in everyday life, both at school and at home. We also understand the importance of support from all parties concerned, including families and communities. Therefore, this program not only focuses on students, but also involves parents, teachers, and community leaders. Thus, this program seeks to create an environment that supports and encourages behavior change towards a healthy lifestyle that prevents stunting. Through this inclusive approach, we hope that the "Overcome Let's Stunting, That's Important" program will have a significant long-term impact in reducing stunting rates in SB Hulu Langat. We believe that education and collective action will bring about sustainable positive change, fostering the growth of a healthier and smarter generation for a better future.

The purpose of educating children about stunting prevention through campaigns "Ayu Ting-Ting" (Atasi Yuk stunTING, itu penTING) is to provide an earlier and ongoing understanding of the importance of healthy growth and a good lifestyle from an early age. By using creative approaches such as snakes and ladders games in the campaign "Ayu Ting-Ting," It is hoped that children will gain valuable knowledge about stunting prevention, which will help them grow and develop healthier, and influence their attitudes and behaviors regarding health in the future.

2. METHOD

The method of implementing this community service is to conduct an educational competition by playing a snakes and ladders game with the theme of knowledge about

stunting to SB Hulu Langat students. The location of the service is SB Hulu Langat, Lot 429 A, Kampung Sungai Semungkis, Batu 14 1/4 Hulu Langat S.D.E. In this snake and ladder game, groups of children can participate to improve their understanding of stunting. Each group consists of 5 members, with one member being a representative to play in each group. The steps in the snakes and ladders game method used in this activity are, 1) Before the start of the activity, the students are given an explanation of the purpose and purpose of this program. 2) To assess students' understanding of stunting before the activity begins, a pre-test is carried out as a first step. 3) The process of playing snakes and ladders involves all SB Hulu Langat students who roll dice to determine the number of steps to be taken. A total of 35 students were participants in this service activity.

Upon arriving at the appropriate plot, participants read the contents of the picture aloud for others to hear. If the position matches the stairs, the students will go up to the corresponding plot. The stairs symbolize positivity. The snake image, on the other hand, requires participants to descend to the plot below it, representing a negative aspect. During this stage, participants have the opportunity to ask questions or discuss topics in the plot, for example about stunting prevention measures that can be taken from adolescence. 4) After the game is over, there is a discussion involving material related to the snake and ladder game as well as other issues related to the theme of the day. The students also provided education on stimulating the development of children at risk of stunting. 5) The next step is the implementation of a post test to assess the increase in students' knowledge about stunting after participating in this series of activities. The design of snakes and ladders used is presented in figure 1.



Figure 1. Giant Snakes and Ladders Design Ayu Ting Ting

3. RESULTS

a. Event Description

This activity plays a major role in stunting prevention education known as "Ayu Ting-Ting" (Atasi Yuk stunTING, itu penTING), with the aim of providing understanding to students of Sanggar Bimbingan Hulu Langat about the importance of preventing stunting. The show presents a distinctive approach, combining elements of

education and entertainment through the use of giant snakes and ladders. In this game, all aspects of stunting prevention and its causes are presented, creating an interactive and engaging learning experience for students. With frequency distribution presented in table 1 and table 2.

Table 1. Frequency Distribution of Respondents by Gender

No.	Gender	Frequency	Presentase
1.	Male	25	71,43%
2.	Female	10	28,57%

Table 2. Frequency Distribution of Respondents by Gender and Education Level

No.	Education Level	Frequency	Presentase
1.	Kindergarten	5	14,29%
2.	Elementary Students	30	85,71%

Step One: Group Formation and Questions about a Healthy Lifestyle. The activity began with the first step involving students in a group of five people, guided by a tentor who is a student of KKN and Mahsa University. Students are invited to answer questions related to a healthy lifestyle. Each correct answer, according to the applied behavior, is rewarded with points. The group member with the highest points gets the chance to participate in a game of giant snakes and ladders against other groups.



Figure 2. Pretest Activities for Elementary Students



Figure 3. Pretest Activities for Elementary Students



Figure 4. Pretest Activities for Elementary Students



Figure 5. Pretest Activities for Kindergarten

Step Two: Giant Snakes and Ladders Game with Stunting Prevention Message
 Participants who accumulate the highest points have the opportunity to play the giant snakes and ladders game. A representative from each group will play, making there are six participants in total. The order of play is determined by the dice, and the participant with the highest throw goes first. Each box on the giant snakes and ladders contains informative stunting prevention messages. As participants progressed to a specific box, they read information about concrete steps in preventing stunting and its contributing factors. They are recommended to apply these measures in everyday life.



Figure 6. Snakes and Ladders Game Simulation



Figure 7. Message Delivery

Final Step: Delivering the Message and Awarding The participant who reaches the end of the snake and ladder first is considered the winner. In addition to rewards, they

have understood the importance of stunting prevention measures and implemented healthy behaviors in their lives. Through this approach, children are invited to understand that good health and nutrition are the keys to a bright future.



Figure 8. Giant Snakes and Ladders Game Winner Prize Awarding



Figure 9. Photo with Ayu TingTing participants

b. Results Achieved

With full spirit and unwavering dedication, the "Overcome Let's Stunting, It's Important" Program has achieved remarkable milestones in the fight against stunting problems. A series of remarkable positive results were achieved from this program, making a profound impact on the communities involved. Through a burning educative spirit, this program succeeded in stirring up a wave of awareness that spread among students and educators. By initiating an innovative giant snakes and ladders game, educational messages about the urgency of preventing stunting managed to penetrate the minds and hearts of each participant. Program participants, both students and other participants, experienced significant improvements in their understanding of the root causes of stunting, its harmful effects, and concrete actions that can be taken to prevent it.

Through the interactive methods adopted, the information becomes easier to digest and remember. This program does not just dwell on theory, but encourages participants to apply stunting prevention measures in their daily lives. From adopting a balanced diet, exclusively breastfeeding babies, to diligently attending regular health visits, these actions have real implications in tackling stunting. The program is not only a pioneer in preventing stunting, but also inspiring as a model of an educative approach that can be adopted in addressing other public health challenges. The creative method of playing giant snakes and ladders can be an effective option in other educational campaigns. Through active participation, the program generates valuable data and information on behavior change and student understanding related to stunting. This information will

guide you in evaluating program effectiveness and designing sustainable health developments. With all its results and achievements, Ayu Ting Ting's Program "Overcome Let's Stunting, It's Important" makes a valuable contribution in increasing awareness, knowledge, and action in preventing stunting. An important step towards a generation that is healthier, smarter, and with the hope to reduce the prevalence of stunting in the future.

Another researcher who took a similar approach to the use of snakes and ladders game is Zulfita et al., [31]. However, the approach used has significant differences. In the study, the snakes and ladders game was intended specifically for mothers or adults, and the media used was a source of information from the Ministry of Health that focused on maternal health priorities. Zulfita et al. have carried out efforts to convey information about stunting through snakes and ladders games to groups of mothers who have children under five. The results of this approach show progress in accordance with the goals that have been set. Therefore, an evaluation step is carried out to check its effectiveness.

Mullianingsih Research [32] it also resulted in an encouraging increase in knowledge by using interventions in the form of snakes and ladders, although the intended targets were different from the activities we carried out. In their research, Mulianingsih et al. proved that by directing the snakes and ladders game intervention to mothers, there was a significant difference in the average value of knowledge before (pre-test) and after (post-test) the snake and ladder game intervention was carried out.

The results of the study recorded an increase in the average value of knowledge of pregnant women after participating in the snake and ladder game by 26%. From these findings, the authors concluded that the snakes and ladders game approach was very effective in increasing pregnant women's knowledge about stunting. This effectiveness is attributed to the delivery of educational messages through games that have elements of fun and interactivity.

The results of this service also underline that the snake and ladder game can be an effective tool to increase knowledge in the context of stunting education. Although the target of Mulianingsih et al.'s research is mothers, these findings demonstrate the relevance of the snakes and ladders approach in various educational contexts, including campaigns "Ayu TingTing" which we run.

Mulianingsih et al. utilize health education tools that have been created by the Ministry of Health of the Republic of Indonesia as a step to prevent stunting in children. Meanwhile, the game "Ayu TingTing" is the result of an internal design that has received Intellectual Property Rights protection with registration number EC00202353068.

In the context of this service activity, the snake and ladder game "Ayu TingTing" is the result of innovation that has been developed by Mrs. Herda Ariyani, a lecturer from the University of Muhammadiyah Banjarmasin. This innovation has undergone a testing process to ensure its validity and effectiveness before being applied in the activity. The game is designed as an educational prop that can be used by various age groups, ranging from children to adults, and comes with various facilities.

A set of snakes and ladders games "Ayu TingTing" It consists of several essential

components, such as dice, pawns (game markers), board games, game rules, and question cards. With this composition, the game has been designed in such a way as to provide an engaging and effective learning experience. Players will be invited to interact with the familiar mechanics of the snakes and ladders game, while also facing the challenges contained in the question cards.

This innovation reflects efforts to create an interactive and entertaining learning approach, as well as provide relevant educational content. Through previous validity and effectiveness testing, the innovation of the snakes and ladders game "Ayu TingTing" It has been tested and processed so that it is able to convey messages about stunting in a more interesting and meaningful way for various ages.

The majority of students during the pre-test admitted that they were still snacking carelessly, for example snacks on mobile motorbike carts, snacks with MSG. There are still 4 children who do not like to drink milk and do not like vegetables, some also never wash their hands using soap before eating and after defecating and urinating. In addition, there are some children still littering, namely in rivers and public streets. There are still students who never brush their teeth every day because they don't know how to brush their teeth and the importance of dental hygiene. There are some children who are not diligent in cutting their nails and rarely exercise. Only 1 person out of 35 has ever weighed and measured height.

Table 3. PreTest and Post Test Results Knowledge Related to Stunting and Child Stunting Prevention Hulu Langat Guidance Center

Respondents	Score Pre Test	Score Post Test
1	9	10
2	7	10
3	8	10
4	8	10
5	7	10
6	8	10
7	9	10
8	9	10
9	8	10
10	9	10
11	7	9
12	5	9
13	8	10
14	7	9
15	7	9
16	9	10
17	9	10
18	8	10
19	10	10
20	10	10
21	10	10

22	4	10
23	7	10
24	9	10
25	9	10
26	5	9
27	7	9
28	8	10
29	8	10
30	7	10
31	8	10
32	6	10
33	4	8
34	4	8
35	8	10

Note:

Number of value rises : 32

Number of values down : 0

Number of fixed values : 3

Almost 100%, namely 32 students (91.4%) students, experienced a significant increase in knowledge related to stunting and child stunting prevention after education using Ayutingting giant snakes and ladders. Only 3 children out of 35 people (8.5%) have a fixed score, namely a perfect score of 10 on their pre and post tests.

According to research conducted by [33] who used an educational approach using snakes and ladders game designed by the Ministry of Health of the Republic of Indonesia, concluded that the approach of providing education about stunting through snakes and ladders games was very successful in increasing knowledge, especially among adolescents.

This is in line with the results of Ayutingting service activities, where Ayutingting teaching aids are very effective in increasing children's knowledge from kindergarten to elementary school at SB Hulu Langat Selangor.

c. Implementation Evaluation

In order for the activity of delivering information about stunting through the snake and ladder game for SB Hulu Langat Students to make progress and achieve goals, an evaluation of the implementation of the "Ayu Ting-Ting (Overcome Let's Stunting, It's Important)" program can be carried out using pre-test and post-test questionnaires.

d. Impact on Society

The "Overcome Let's Stunting, It's Important" Program activities at SB Hulu Langat have several positive impacts that can be taken, including:

1. Awareness Raising: This program can raise public awareness, especially students and educators in SB Hulu Langat, about the problem of stunting and the adverse impacts associated with it. This awareness is the first step in overcoming the problem of stunting.

2. **Increased Knowledge:** Through snakes and ladders games and educational approaches, students and educators can gain better knowledge about the causes of stunting, prevention measures, and the negative impacts it can cause.
3. **Introduction to Concrete Solutions:** This program provides students and educators with an understanding of concrete solutions that can be applied in everyday life to prevent stunting. This can help change behaviors and habits that support a child's healthy growth and development.
4. **Interesting Education:** The approach of using giant snakes and ladders games makes education about stunting more interesting and interactive. This can increase students' interest in learning and understanding serious topics such as stunting.
5. **Cognitive Enhancement:** Through engaging play and education, students can develop cognitive abilities such as critical thinking, problem solving, and analysis, which can be beneficial in various aspects of their lives.
6. **Motivation for Real Action:** This program can motivate students to take concrete action in preventing stunting. They can implement the knowledge and understanding gained from this program into their daily lifestyles.
7. **Active Participation:** This program encourages students' active participation in learning and interacting with learning materials. This creates a learning environment that focuses on participation and interaction.
8. **Data Collection and Evaluation:** This activity can collect data on the effectiveness of education in changing behavior and increasing students' and educators' understanding of stunting. It can be used for future evaluation and improvement.
9. **Creating a Better Future:** With increasing awareness, knowledge, and actions to prevent stunting through this program, it is hoped that the future of the younger generation can be brighter and healthier.

Thus, the "Overcome Let's Stunting, It's Important" Program in SB Hulu Langat has a broad and important positive impact in efforts to prevent and overcome stunting problems in the community.

e. Constraints and Challenges

Certainly, the implementation of this program will not run perfectly, because of course it will be faced by various obstacles and challenges in the process. Here are some of the obstacles and challenges faced:

1. The first challenge is to create initial awareness among students about the urgency of stunting and its adverse effects. Some students may still lack information about stunting, so the initial effort to educate and change mindsets is crucial.
2. Changing student behavior takes time and sustained effort. Adopt new measures, such as a more balanced diet and proper and proper hand washing.
3. Income levels and access to good nutrition can be barriers. Some students may find it difficult to meet nutritional needs due to economic limitations, so a prudent approach is needed to overcome these obstacles.
4. Not all students have easy access to health facilities or health information. Long distances or limited means of transportation can hinder participation in stunting prevention programs.

5. Some behaviors that contribute to stunting may be closely related to certain cultures and traditions. Changing or adapting these patterns can be challenging, as it involves elements of student identity.
6. Accurately measuring the impact of a program requires a good evaluation system. This challenge involves consistent data collection and proper analysis in order for programs to be directed more effectively.

In the face of these obstacles and challenges, it is important to design creative and adaptive strategies, involving various parties including children, parents, schools, and the community as a whole.

4. CONCLUSIONS

The "Overcome Let's Stunting, That's Important" program is not just a campaign, but a meaningful movement that successfully addresses the challenges of stunting prevention. With an innovative educational approach, this program increases awareness, knowledge, and action against stunting in the younger generation. With the giant snakes and ladders game, the crucial message about stunting is connected to the reality of everyday participants. Participants, including students and communities, understand the causes, impacts, and concrete actions to prevent stunting. This program teaches the importance of a creative educative approach in dealing with health problems. "Overcome Let's Stunting, It's Important" proves that joint efforts and the right approach can overcome stunting. With increased awareness and concrete actions, the chances of future generations growing up healthy, smart, and stunting-free are even greater.

5. ACKNOWLEDGEMENT

We would like to thank the Manager of SB Hulu Langat who has given us the opportunity to carry out community service activities in that place. In addition, thanks were also given to all children and the SB Hulu Langat teacher council, lecturers and students from various collaborating universities, namely MAHSA University Malaysia, Universitas Muhammadiyah Banjarmasin, Universitas Muhammadiyah Ponorogo, Universitas Muhamadiyah Jakarta, Universitas Muhamamdiyah Gorontalo.

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