

Stunting Prevention Education for Adolescents at Al Falak High School, Bogor City

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Abstract: *Stunting* is a condition where growth disorders occur in children which is characterized by a child's lack of height compared to children his age. Several factors cause *stunting*, especially in the city of Bogor, including lack of nutritional intake in the first 1000 days of life (HPK), early marriage (39 percent), teenagers suffering from anemia (3.52 percent), pregnant women with anemia (11.8 percent), and the Covid-19 pandemic factor that occurred during the last two years. Anemia in adolescent girls (rheumatism) has an impact on health and performance at school and can be at risk of anemia when they become pregnant mothers, causing suboptimal growth and development of the fetus, potentially causing complications in pregnancy and childbirth, as well as maternal and child death. The Blood Supplement Tablet (TTD) supplementation program for young women started in 2014 and is one of the efforts to reduce *stunting*. *Stunting* has an impact on children's growth and development both physically and cognitively, including affecting the growth and development of toddlers, less than optimal motor skills in children, and affecting learning abilities, thus affecting children's IQ. The intervention activities of the UNPAK Community Service (PKM) team on the problem of *stunting* were carried out on students in grades 11 and 12 of Al Falak High School, Bogor City by providing education about preventing *stunting* through nutritious food, anemia, blood supplements tablets (BST) containing iron (Fe) and distribute health information media regarding *stunting*. It is hoped that this PKM activity will be able to increase knowledge and awareness of teenagers and expectant mothers regarding *stunting*.

Keywords: anemia, teenagers, stunting, blood supplement tablets

1. INTRODUCTION

Stunting (the occurrence of short toddlers) is a condition when toddlers have less length or height compared to their age (Nendyo *et al.*, 2023). The incidence of stunting in toddlers is a nutritional problem that is being faced both nationally and globally. The impact of *stunting* in toddlers is very diverse and can affect the growth and development of sufferers, including disrupting the child's height and weight growth so that children tend to be shorter and their weight tends to be far below the average for children of their age, the child's growth and development is not optimal so that causes children to be late walking or their motor skills are less than optimal. *Stunting* can also affect a child's learning ability which affects IQ. So it

can be seen that *stunting* has an impact on children's growth and development both physically and cognitively (Alifariki *et al.*, 2020).

Stunting describes chronic nutritional problems that are influenced by the health and nutritional conditions of the expectant mother, the fetal period, and the infancy/toddler period. The most effective nutritional intervention efforts to avoid *stunting* are during the First 1,000 Days of Life (HPK), namely pregnant women, breastfeeding mothers, and children aged 0 – 23 months (Fentiana *et al.*, 2021; Pangestu *et al.*, 2023).

Iron deficiency anemia (IDA) is the most common nutrient deficiency problem in children throughout the world, especially in developing countries, including Indonesia. This disease is caused by a lack of iron in the sufferer's body. It is estimated that 30% of the world's population suffers from iron deficiency anemia, most of them in developing countries (Özdemir, 2015). The most important function of iron is in the development of the nervous system which is needed in the processes of neurotransmitters, dendritogenesis and nerve metabolism. Iron deficiency greatly affects a baby's cognitive function, behavior and growth. Iron is also a source of energy for muscles, thus affecting physical endurance and ability to work, especially in teenagers (Fitriany & Saputri, 2018). If iron deficiency occurs during pregnancy, it will increase the risk of perinatal and infant mortality. The most worrying effect is the effect on infants and teenagers, namely decreased intellectual function, as well as impaired motor function which can appear before anemia forms (Julaecha, 2020).

Anemia is a condition of the body when the level of hemoglobin (Hb) in red blood cells is lower than the standard it should be. Rematri is said to be anemia if Hb < 12 gr/dl. Hemoglobin functions to bind oxygen and deliver oxygen to all body tissue cells, including muscles and the brain to carry out its functions. A person suffering from anemia is usually characterized by lethargy, tiredness, exhaustion, weakness and weakness (Oehadian, 2012). Anemia in adolescent girls (rematri) will have an impact on health, decreasing performance at school and later when pregnant women can cause suboptimal growth and development of the fetus. Anemia also has the potential to cause complications in pregnancy and childbirth as well as maternal and child death. The Blood Supplement Tablet (BST) supplementation program for young women began in 2014 and is currently one of the specific interventions in efforts to reduce stunting. The administration of blood supplement tablets is carried out referring to the Guidelines for Providing Blood Addition Tablets for Rematri and WUS (Wanita Usia Subur) (Kemenkes RI, 2020; Nugraha, 2022; Lodia Tuturop *et al.*, 2023)

2. METHOD

The method of implementing community service (PKM) activity is carried out by providing education related to *stunting* to students in grades 11 and 12 at Al Falak High School, Bogor City (Figure 1). Before the activity, a meeting is first held to determine the strategy for implementing the activity, then conduct a

site survey and then prepare the facilities and infrastructure. Participants in this activity were students in grades 11 and 12 at Al Falak High School, Bogor City. The implementation stage of PKM activity is divided into 3, namely, giving pre-test questions, which are carried out to determine students' basic knowledge about *stunting*, followed by providing education about *stunting* which is related to anemia, providing blood supplements tablets (BST) containing iron (Fe)) and distribute health information media regarding *stunting*. It is hoped that this PKM activity will be able to increase knowledge and awareness of teenagers and expectant mothers regarding *stunting*. During the activity, students participating in the activity were given door prizes for those who managed to answer correctly the questions asked by the presenter. After completing education about *stunting* and how to prevent it, the knowledge of Al Falak High School students in Bogor City was tested again through post test questions.



Figure 1. The principal is giving a speech (left); While the activity is taking place (right), the PKM Team (bottom)

3. RESULT AND DISCUSSION

The PKM activity which was held on October 10 2023 was attended by 37 Al Falak High School students in Bogor City. The number of questions given during the pretest and posttest was 9. There is a significant average difference between the number of correct answers per question during the Post-Test compared to the Pre-Test, where the post-Test has an average of 3,997 ~ 18,003 more correct answers per question compared to the average correct answers per question in the pretest (table 1).

The increase in students' knowledge can be seen from the difference in the average value of correct answers pretest and post-test. The average pretest score was 22,556 while the average post-test correct answer score was 33,556, with an average increase in correct answers of 89.67% (table 2). In the pre-test results of 37 participants, 34 people answered the most correct answers and 9 people answered the least correct answers. Meanwhile, in the post test results, there were 2 questions that were answered correctly by all participants, and at least 29 people answered correctly. From these results it can be concluded that there has been an increase in teenagers' knowledge, especially female students at Al Falak High School, Bogor City, about stunting and how to prevent it because the post test score was higher than the pretest. By carrying out educational activities about stunting, it is hoped that teenagers, especially female students at Al Falak High School, Bogor City, will become more concerned about their health, by consuming nutritious food and taking blood supplements tablets (BST) if necessary.

Table 1. Frequency Table

		Pre-Test	Post-Test
N	Valid	9	9
	Missing	0	0
Mean		22.56	33.56
Median		22.00	33.00
Mode		13	32 ^a
Std. Deviation		9.289	2.833
Variance		86.278	8.028
Range		25	8
Minimum		9	29
Maximum		34	37
Percentiles	25	13.00	31.50
	50	22.00	33.00
	75	31.50	36.50

Table 2. Increase Percentage

Correct Answers		Increase Percentage
Pretest	Post test	(%)
13	36	176.92
13	32	146.15
34	37	8.82
32	35	9.38
31	33	6.45
22	32	45.45
21	37	76.19
9	31	244.44
28	29	3.57

Average increase in correct answers == 89,67%

4. CONCLUSION

Providing education to teenagers about stunting can increase teenagers' understanding of the importance of preventing stunting from an early age. Consuming nutritious food and blood supplements tablets (BST) if necessary is one of the efforts to reduce the incidence of stunting in toddlers. Female students as future mothers are expected to have knowledge about stunting and efforts to prevent it. Both students and girls who receive education in this community service activity can become stunting prevention agents who can pass on their knowledge to their peers and their families.

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