

## Increasing the Level of Knowledge about Stunting and the First 1000 Days of Life in Jember Regency, East Java, Indonesia

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### Abstract

Stunting is a developmental disorder experienced by children due to poor nutrition, recurrent infections, and inadequate psychosocial stimulation. In Jember Regency, the number of stunting cases increased from 2018 to 2019. In addition, restrictions on activities during the COVID-19 pandemic, such as nutrition services at Integrated Healthcare Center, can hamper access to consumption and nutrition and child health services. Therefore, education about stunting is urgently needed to implement appropriate parenting patterns in the midst of limited activities during the COVID-19 pandemic. The Jember community service program was carried out online in the form of a webinar activity that was attended by 30 participants. This study is a quantitative analytic research using a one-group pretest-posttest design. Data that have been analyzed are presented descriptively. There is a significant effect on the pretest and posttest scores in the webinar. It means an increase in participants' understanding after online education is carried out. It is hoped that the people of Jember Regency can apply knowledge about the importance of the first 1000 days of life to prevent stunting.

**Keywords:** Stunting; Jember; Webinar; Service Program; Education

### 1. Introduction

Malnutrition in pregnant women can induce stunted linear growth of the fetus in the womb. However, it can cause low birth weight. In addition, suboptimal feeding coupled with infectious disease infections can also inhibit growth in children [1]. Stunting is a developmental disorder experienced by children due to poor nutrition, recurrent infections, and inadequate psychosocial stimulation. Children were defined as stunted if their height for age was more than two standard deviations below the median WHO Child Growth Standards [2].

The prevalence of stunting in children under five in Indonesia is still high. Meanwhile, in Jember Regency, the number of stunting cases reached 17,344 in 2018 and increased to 19,870 in 2019 [3]. The COVID-19 pandemic in Indonesia has led to neglected stunting risk factors [4]. In addition, restrictions on activities during the COVID-19 pandemic, such as nutrition services at Integrated Healthcare Center, can hamper access to consumption and nutrition and child health services [5].

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Stunting often occurs in the first 1000 days of life, when the linear growth of children is most sensitive to nutritional deficiencies and environmental stresses [6]. Research conducted on children of The Wechsler Preschool Primary Scales of Intelligence (WPPSI) showed that the appearance of early stunting symptoms in children aged five years was associated with poorer cognitive development in other groups of children his age [7].

Three critical factors that influence the long-term increase in children's height are increased material welfare, improved education of women, and improved sanitation. It is essential to understand the etiology of poor linear growth and stunting to prevent stunting that can cause other diseases [8]. Therefore, education about stunting is urgently needed to implement appropriate parenting patterns in the mids of limited activities during the COVID-19 pandemic. This community service program aims to educate the people of Jember about optimizing the first 1000 days of life to prevent stunting.

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## 2. Material and methods

The Jember community service program was carried out online through a webinar entitled "Optimizing the First 1000 Days of Life as an Effort to Prevent Stunting in Children" with the speaker, Mrs. Lailatul Muniroh S.KM., M.Kes. The webinar activity was held on Saturday, August 7, 2021, through a media zoom meeting and was attended by 30 participants.

This study is a quantitative analytic research using a one-group pretest-posttest design. Pretest and posttest questionnaires that used the same questions were given to measure participants' understanding before and after the webinar. The normality test used the Kolmogorov-Smirnov Test, then the significance of the differences in participants' understanding was measured using a paired t-test. Data that have been analyzed are presented descriptively.

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## 3. Results

Table 1 shows that most respondents are women, amounting to 26 (86.67%) while men are 4 (13.83%). The age of the respondents was dominated by 21 years old with a total of 15 (50%). Most of the respondents were domiciled in Patrang and Summersari sub-districts, with a total of 8 (53%). The most marital status of the respondents is single, with a total of 26 (86.67%).

**Table 1** Characteristics of Respondents

Variable	Frequency	Percentage (%)
Sex	30	100
Male	4	13.83
Female	26	86.67
Age	30	100
20	2	6.67
21	15	50
22	8	26.67
23	2	6.67
24	1	3.33
25	1	3.33
54	1	3.33
District in Jember Regency	30	100
Arjasa	2	6.67
Jatiroto	1	3.33
Kaliwates	5	16.67
Kencong	1	3.33
Patrang	8	26.67
Puger	1	3.33

Silo	1	3.33
Sumbersari	8	26.67
Tanggul	1	3.33
Umbulsari	2	6.67
Marital Status	30	100
Single	26	86.67
Married	4	10.00

**Table 2** Differences in knowledge levels before and after the webinar

	Frequency	Minimum	Maximum	Mean	Std. Deviation	P value
Pretest	30	4.0	10.0	6.6	1.5	0.001
Posttest	30	3.0	10.0	7.8	1.7	

Based on the Kolmogorov Smirnov normality test results, it is discovered that the significance value is  $0.20 > 0.05$ , hence it can be concluded that the residual value is normally distributed. Then the Paired Sample T-test was used to assess the significance. It showed a significance value (2-tailed)  $0.001 < 0.05$ , meaning a significant effect on the participants' test results before and after the webinar.

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#### 4. Discussion

The Jember community service program was conducted online through a zoom meeting and attended by 30 participants, with the majority being female. Most of the participants were in the young adult age range (20 years – 29 years) and came from 10 sub-districts in Jember Regency. It shows that young people from various regions in Jember Regency are eager to learn about stunting prevention and the importance of the first 1000 days of life. It did not escape the news that Jember Regency was one of the districts in the spotlight because, in 2019, the stunting rate increased [3]. In addition, the highest marital status of participants in the webinar entitled "Optimizing the First 1000 Days of Life as an Effort to Prevent Stunting in Children" is single. It shows that Jember's public awareness regarding stunting prevention and the first 1000 days of life is high and essential to learn before entering marriage status.

Before the start of the webinar, the average pretest score of participants was 6.6. After being educated, the average posttest score of the participants became 7.8. After the normality test and Paired Sample T-test were carried out, the scores indicated a significant effect on the results of the webinar activity. It is in line with a study of 20 parents in Ulusadar Hamlet, West Seram Regency, which showed differences in mean and influence regarding knowledge and efforts to prevent stunting before and after education [9]. Therefore, education needs to increase one's understanding even though it is done online.

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#### 5. Conclusion

There is a significant effect on the pretest and posttest scores in the webinar "Optimizing the First 1000 Days of Life as an Effort to Prevent Stunting in Children". It means an increase in participants' understanding after online education is carried out. It is hoped that the people of Jember Regency can apply knowledge about the importance of the first 1000 days of life to prevent stunting.

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#### Compliance with ethical standards

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*Disclosure of conflict of interest*

The authors declare that there is no conflict of interest would influence the discovery of this study.

*Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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