

## Distribution of blood-added tablets in adolescent girls in the COVID-19 pandemic



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### ABSTRACT

**Introduction:** The prevalence of anemia among adolescent girls is still quite high. Whereas anemia will have a negative impact on health and productivity. The government implements a program of providing blood-added tablets, one of which is through school institutions. However, during the Covid-19 pandemic, this condition becomes an obstacle for the implementation of the iron injection distribution through schools. This study aims to analyze the distribution of TTD in adolescent girls during the Covid-19 pandemic.

**Methods:** Descriptive study with a case study approach and is located in 6 districts/cities in East Java Province from September-November 2021. This study used purposive sampling by taking 6 respondents, namely 1 person from each district/city health office. Data collection was carried out using a questionnaire instrument.

**Results:** The results of the study show that 4 of the 6 regencies/cities in this study have special policies in the form of appeals and circulars so that the TTD program for adolescent girls can continue during the pandemic. However, 2 districts that did not issue specific policies continued to run the TTD program. The distribution of TTD is still carried out through schools and also directly to homes. The control of TTD consumption is not only carried out by teachers but is also assisted by parents and cadres. Adolescent girls who received TTD in the 1st and 2nd quarters have not yet reached their target. Data for adolescent girls who consume TTD is also difficult to obtain.

**Conclusion:** Four of the 6 districts/cities have nutrition education programs that are implemented with a special time allocation or combined with other lessons at school. So adolescent girls have a high awareness to obediently consume iron tablets even without the supervision of other parties.

**Keywords:** blood-added tablets, adolescent girls, covid-19.

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### INTRODUCTION

The 61st Nutrition Day in 2021 is commemorated with the theme "Healthy Adolescents Free of Anemia: Balanced Nutrition, Healthy Adolescents, Strong Indonesia". This theme is very relevant to the current condition of teenagers considering the high incidence of anemia. The 2018 Basic Health Research (Risdesdas) shows 3-4 out of 10 Indonesian teenagers suffer from anemia.<sup>1</sup>

Adolescent girls are an age group that is prone to anemia. One of the causes is the loss of a lot of blood during menstruation. Adolescent girls who suffer from anemia are at risk of developing anemia during pregnancy. This will have a negative impact on the growth and development of the fetus in the womb and have the potential to cause complications in pregnancy and childbirth, and even cause maternal and child death.<sup>1</sup>

WHO at the 65th *World Health Assembly* (WHA) provided recommendations for an action plan with a commitment to reduce 50% of the prevalence of anemia in women of childbearing age by 2025. The Indonesian government also followed up on these recommendations by intensifying prevention and control activities for anemia in adolescent girls and childbearing age. with the priority of giving blood-added tablets (TTD) through school institutions.<sup>1</sup>

The distribution of blood-added tablets in schools is an effective strategy because schools have a role in creating quality human resources and there is an intense interplay of influence so they can form a positive behavior. However, during the COVID-19 pandemic since early 2020, teaching and learning activities in schools were replaced with online learning. And

this is a separate obstacle in the effort to provide blood-added tablets. This condition prompted the government to stipulate that the provision of iron supplements to adolescent girls is one of the nutritional services that must continue to be carried out even in the conditions of the Covid-19 pandemic. In its implementation, the principle of preventing the transmission of Covid-19 must still be considered and adjusted to local government policies related to the status of the pandemic.<sup>2</sup>

Therefore the present study was conducted to analyze the distribution of blood-added tablets in adolescent girls in pandemics Covid-19, so it can be known the barriers to the distribution of supplementation blood-added tablets and immediately sought a solution to overcome obstacles.

## METHODS

### Study Design

This study is a descriptive study with a case study approach. The study is located in 6 districts/cities in East Java Province, namely Tulungagung Regency, Lumajang Regency, Bojonegoro Regency, Sidoarjo Regency, Bondowoso Regency and Surabaya City. This study was conducted in September-November 2021.

### Data Collection

This study uses purposive sampling by taking as many as 6 respondents, namely 1 person from each district/city health office. Respondents consisted of 5 staff in the field of nutrition and 1 Head of Health and Nutrition at the Health Office. Data collection was carried out using a questionnaire instrument. Filling out the questionnaire is done online through the Google Form.

### Data Analysis

The data obtained from the Google Form was then presented in the form of a table with a description, then the data was discussed further and the conclusions are drawn based on the results of the data obtained.

## RESULTS

East Java Province is located in the eastern part of Java Island which has a land area of 47,799.75 km<sup>2</sup>. East Java is located at 111°0' to 114°4' East Longitude (EL) and 7°12' to 8°48' South Latitude (SL) with the northern boundary: Java Sea, south: Indian Ocean, west: Central Java Province, and east: Bali strait. Until the end of 2020, East Java Province administratively consists of 29 regencies, 9 cities, 666 sub-districts and 8,501 villages/kelurahan. Almost half of East Java's population are Millennials and Gen-Z who were born in 1997-1996 or now their estimates range from 8-39

years. Gen Z who have an age range of 8-23 years are the group with the largest percentage, namely 24.80%.<sup>3</sup>

This study was conducted in 6 districts/cities in East Java Province, namely Tulungagung Regency, Lumajang Regency, Bojonegoro Regency, Sidoarjo Regency, Bondowoso Regency and Surabaya City (Table 1).

Respondents in this study were selected from employees in the local health office who are authorized to handle nutrition problems (Table 2). They then

answered questions related to policies and mechanisms for the distribution of iron tablets during the pandemic (Table 3), the target of adolescent girls (Table 4), distribution and supervision issues (Table 5) and nutrition education programs for students (Table 6).

## DISCUSSION

The implementation of work and school from home due to the Covid-19 pandemic has caused the government and society

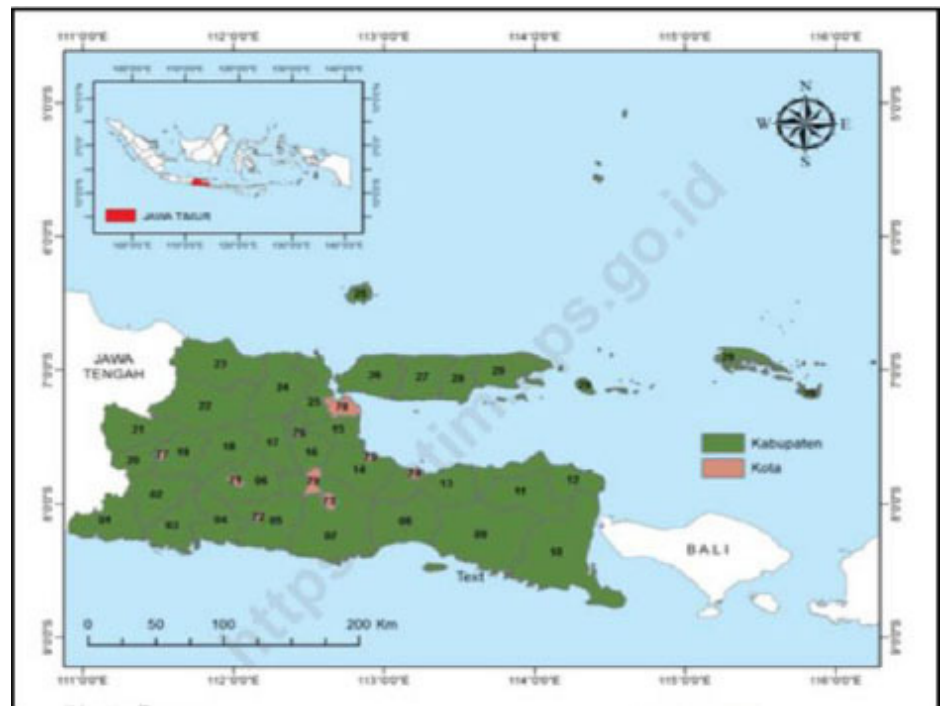


Figure 1. Map of East Java Province.<sup>3</sup>

Table 1. Profile of Regency/City.<sup>3</sup>

County/City	Central government	Density (people/km <sup>2</sup> )	Number of Health Centers
Tulungagung Regency	Tulungagung	1032	34
Lumajang Regency	Lumajang	625	25
Bojonegoro Regency	Bojonegoro	592	37
Sidoarjo Regency	Sidoarjo	3283	28
Bondowoso Regency	Bondowoso	509	25
City of Surabaya	Surabaya	8200	65

Table 2. Characteristics of Respondents.

Code	Initials	Position	Origin of Institution
R 1	YL	KGM Seksi Section Staff	Tulungagung District Health Office
R 2	SA	Nutrition Program Manager	Lumajang District Health Office
R 3	EE	KGM Seksi Section Staff	Bojonegoro District Health Office
R 4	MS	Head of Health and Nutrition	Sidoarjo District Health Office
R 5	LM	Nutrition Program Manager	Bondowoso District Health Office
R 6	LF	Nutrition Staff	Surabaya City Health Office

to make many adjustments. The health sector is no exception. One of the health programs that is intensively carried out is the alleviation of anemia with a target of reducing the prevalence of anemia by 50% in childbearing age women in 2025. The

TTD program is one of the priority efforts to prevent anemia in addition to nutrition education programs.<sup>4</sup>

In order to keep the TTD program running during the pandemic, some districts/cities have even issued special

policies. However, even though there are regencies/cities that do not issue specific policies, they are still trying to run the TTD program, as evidenced by the distribution of TTD to a number of adolescent girls targets, even though the target has

**Table 3. Policies and Mechanisms for Distribution of Iron Tablets during a Pandemic.**

	R1	R2	R3	R4	R5	R6
Adolescent girls' TTD distribution policy during the pandemic	There is	There is	There is not any	There is	There is not any	There is
Form of policy if any	Appeal	Circular letter	-	Circular letter	-	Circular letter
TTD distribution mechanism						
a. Through school	Yes	Yes	Yes	Yes	Yes	Yes
b. To the houses	Yes	No	Yes	Yes	No	Yes
Mechanism of monitoring the consumption of TTD through						
a. Teacher	Yes	No	No	No	Yes	No
b. Parent	Yes	Yes	Yes	Yes	No	Yes
c. Cadre	Yes	No	Yes	Yes	No	Yes

**Table 4. Distribution and Consumption of TTD in adolescent girls.**

	R1	R2	R3	R4	R5	R6
adolescent girls target (person)	81,680	48,699	18,401	90,464	25,671	58,201
adolescent girls who received TTD in						
a. 1st quarter	39,226	Data not available	11,284	21,620	4,965	0
b. 2nd quarter	37,326	available	6,935	24,595	5,059	13,666
adolescent girls who consume TTD regularly on						
a. 1st quarter	3,078	Data not available	Data not available	Data not available	Data not available	Data not available
b. 2nd quarter	840	available	available	available	available	available

**Table 5. Problems of Distribution and Supervision of TTD Consumption.**

Respondent	Problem
R1	Distribution in schools can only be done when students go to school to collect assignments and when the student's parents take the report card to school. The limited supervision in the consumption of TTD also causes the consumption of TTD to be less orderly
R2	The system of working and studying at home during the pandemic makes coordination and supervision difficult. Supervision of TTD consumption also cannot be carried out.
R3	The absence of face-to-face learning causes the provision of TTD in schools to be hampered. In practice, many rheumatologists forget to take iron tablets because they cannot be monitored.
R4	The distribution of TTD in schools cannot be done because of online learning. In addition, posyandu cadres have limitations in distributing iron tablets to targets in villages due to the pandemic factor. Supervision of TTD consumption was not able to run optimally.
R5	The distribution of TTD to the target was not carried out due to online teaching and learning activities. In the end, only a small proportion of rheumatism received and consumed TTD.
R6	In quarter 1 the TTD to the target was not implemented due to online teaching and learning activities. In addition, there is a delay in giving TTD to rheumatism who are confirmed positive for Covid-19.

**Table 6. Implementation of Nutrition Education Program.**

	R1	R2	R3	R4	R5	R6
Youth nutrition education program	There is not any	There is	There is	There is	There is not any	There is
The form of nutrition education implementation	-	Special time allocation	Combined with other lessons	Combined with other lessons	-	Special time allocation

not been achieved. The distribution of TTD through schools is still being carried out where the TTD is distributed when adolescent girls to schools collect assignments or when taking report cards by the student's parent. Distribution efforts to houses directly have also been carried out by 4 of the 6 districts/cities in this study. However, the number of adolescent girls who received TTD in the first and second quarters was still far from the target. Officers also experienced problems in supervising the consumption of the blood-added tablet.<sup>4-6</sup>

It is undeniable that during the pandemic period, many obstacles were encountered in the field related to the distribution mechanism and supervision of the consumption of blood-added tablet. The obstacles faced by the 6 districts/cities in this study are the same, namely that it is not possible to distribute iron supplements directly, which are usually facilitated by schools. Schools through teachers under normal conditions can monitor the consumption of iron tablets. However, online learning conditions ultimately limit the teacher's role. Because most of the remittances were at home, posyandu cadres and youth cadres were mobilized to carry out supervision. It's just that the restrictions on community mobility during the pandemic have caused cadres to not be able to optimally carry out supervision.<sup>7,8</sup>

A study shows that school closure policies have hindered the provision of. The study was conducted in 8 districts/cities in 4 provinces which were selected based on the data on the highest Covid-19 cases at the time the study was conducted. The four provinces are DKI Jakarta, West Java, East Java, and South Sulawesi. Seven districts/cities at the time of the study reported that they had not continued giving iron tablets and were still developing an innovative strategy for giving iron tablets to young girls. One district reported the use of short messages to remind teenagers to take iron tablets even though they did not know how to measure its effectiveness.<sup>9</sup>

The role of teachers in schools is very meaningful in the implementation of giving blood-added tablets so far. The existence of support from teachers at schools who remind students to take iron tablets and provide information about iron

supplements can provide a positive attitude which will manifest positive behavior in obediently consuming iron tablets as recommended. A study at SMP Negeri 4 Wates Kulon Progo showed that there was a significant relationship between UKS teacher support and compliance with blood supplement consumption.<sup>10</sup> The study in the working area of the Gilingan Health Center in Surakarta City also showed that there was a relationship between family support, peer support, UKS supervisor support, support from health workers, and access to information with the practice of consuming blood supplement tablets for adolescent girls.<sup>11</sup>

The implementation of nutrition education programs in an effort to support the prevention and alleviation of anemia needs to be intensified. This study shows that 4 out of 6 districts/cities already have nutrition education programs. Some are done with a special time allocation and some are combined with other lessons at school. The effectiveness of these two methods is not yet known. Further studies are interesting to do because nutrition education affects adolescent knowledge.<sup>12</sup> Not only on knowledge, nutrition education is also believed to influence behavior. A study was conducted on high school students in West Nusa Tenggara. Interventions in the form of nutrition education have been proven to have an effect on knowledge, attitudes, and consumption of iron supplements.<sup>7</sup> The importance of education by teachers in monitoring the consumption of blood-added tablets affects the success of the TTD program.<sup>6</sup> Nutrition education programs can involve many parties, ranging from health workers, teachers, peers, and families. The media used must be selected and made to attract the attention of adolescent girls so that nutrition education succeeds in forming positive behavior.

## CONCLUSION

Four of the 6 regencies/cities in this study have special policies in the form of appeals and circulars so that the TTD program for adolescents girls can continue during the pandemic. However, 2 districts that did not issue specific policies to continued run the TTD program. The distribution

of TTD is still carried out through schools and also directly to homes.

Supervision of TTD consumption is not only carried out by teachers but also assisted by parents and cadres. Adolescents girls who received TTD in the 1st and 2nd quarters have not yet reached their target. Data for adolescents girls who consume blood-added tablet is also difficult to obtain. Four and 6 districts/cities have nutrition education programs that are implemented with a special time allocation or combined with other lessons at school.

Suggestions for program improvement and optimizing the use of iron tablets are to maximize the distribution of iron supplements to villages or houses directly. In addition, nutrition education with various media and online methods can be carried out so as to create awareness and form positive behavior in adolescents girls. In the end, adolescents girls complied with taking TTD even without supervision from other parties.

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## CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

## AUTHOR CONTRIBUTION

All authors similarly contribute to the think about from the investigate concepts, information acquisitions, information investigation, factual investigations, changing the paper, until detailing the consider comes about through publication.

## ETHICAL CONSIDERATION

This research has passed the ethical test of the Health Research Ethics Commission of the Universitas Nahdlatul Ulama Surabaya with certificate number 1882/EC/KEPK/UNUSA/2021.

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