EARLY DETECTION OF ANEMIA IN PREGNANCY BY "HELILI" METHOD FOR STUNTING PREVENTION

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Abstract

Objective: Anemia in pregnancy is the cause of high maternal mortality during childbirth. Mothers with anemia suffer from blood deficiency that can cause various problems not only to the mother but also the baby. The health issue may also help children to develop stunting, which may result in the failure to develop inormally. Method: This study attempt to propose early detection of anemia in pregnancy by using "HELILI" method in order to prevent stunting. It employed observational analytics with cross-sectional survey design. Using total sampling technique, the research was conducted in the Rumbai Pesisir Public Health Center with a sample of 40 respondents. Results: The study found some interesting results. About 25% of pregnant women were found to have mild anemia. It was also found that 45% of the samples had waist and pelvic circumference (Waist and Hip ratio) below 80 cm and 54% of the pregnant women had a normal Body Time Index. Moreover, no less than 10% of pregnant women had LILA (Upper Arm Circumference) below 23.5. Lastly, 20% of the women averaged less than 145 cm in height.Conclusion: pregnant women suffering from anemia showed a low waist and hip ratio, which may result in a less normal upper arm circumference (LILA). The state of anemia in pregnant women also affects the absence of less than normal height. Conclusion: this study can be used as a reference to predict the absence of anemia in pregnancy, so anemia in pregnant women can be identified and followed up as quickly as possible. In addition, the incidence of stunting can be detected as early as possible.

Keywords: Anemia, HELILI, Pregnant Women, Stunting

Introduction

Maternal, infant and toddler pain and death rates are indicators of a nation's health status. The presentation of the highest Maternal Mortality Rate due to bleeding, can lead to anemia, infection and Chronic Energy Deficiency.

Anemia is one of the most common and widespread global health problems affecting 56 million women worldwide, and two-thirds of them are in Asia[1].

Maternal anemia is a serious concern because its impact on both mother and fetus contributes to maternal death and even prolonged baby and child pain[1]. Anemia in women of childbearing age, especially pregnant women, is a concern of the WHO (World Health Organization). So serious is this issue that WHO aims to reduce its figure by 50% by 2025.

The problem of stunting (failing to grow or dwarf) in Indonesia is still a shared concern. Basic Health Research conducted in 2013 recorded a national stunting prevalence of 37.2 percent, up from the figure found in 2010 (35.6%) and in 2007 (36.8%). According to data from Health Research in 2018, the incidence of stunting in Indonesia reached 30.8%.

In other words, about 8.9 million Indonesian children suffer from stunting, meaning that it impacts at least one in three children in Indonesia. The number is higher than that in other Southeast Asian countries such as

Myanmar (35%), Vietnam (23%), and Thailand (16%). Indonesia ranks fifth in the world for the number of children with stunting conditions. The problem of stunting (failing to grow or dwarf) in Indonesia is still a shared concern. Basic Health Research conducted in 2013 recorded a national stunting prevalence of 37.2 percent, up from the figure found in 2010 (35.6%) and 2007 (36.8%). According to data from Health Research in 2018, the incidence of stunting in Indonesia reached 30.8% [2].

In other words, about 8.9 million Indonesian children suffer from stunting, which means that for every three children, at least one is affected. The number is higher than that in other Southeast Asian countries such as Myanmar (35%), Vietnam (23%), and Thailand (16%). Indonesia ranks fifth in the world for the number of children with stunting conditions. The problem of stunting (failing to grow or dwarf) in Indonesia is still a shared concern. Basic Health Research conducted in 2013 recorded a national stunting prevalence of 37.2 percent, up from the figure found in 2010 (35.6%) and 2007 (36.8%).

That is, the maximum growth is suffered by about 8.9 million Indonesian children, or one in three Indonesian children. The prevalence of stunting in Indonesia is higher than in other countries in Southeast Asia, such as Myanmar (35%), Vietnam (23%), and Thailand (16%). Indonesia is ranked fifth in the world for the number of children with stunting conditions. More than a third of children under the age of five in Indonesia are above average

Method

The study employed observational analytics with cross-sectional survey design to determine the prevalence of pregnant women. A total of 40 first trimester pregnant women were admitted to the study in 2020. The research was conducted in the Rumbai Pesisir Public Health Center with sample of 40 respondents (total sampling technique)

Results

Table 2

Interpretation of Haemoglobin

	Frequency (n)	Percentage (%)
> 11 gr %	30	75
9-10 gr/dl	10	25

The results showed that the number of mothers detected to have mild anemia was 10 (25 %)

Table 2

Interpretation of waist to hip ratio

	Frequency (n)	Percentage (%)
< 80 cm	18	45
> 80 cm	22	55

The results showed that 18 mothers (45 %) were detected to have waist to hip ratio < 80 cm

Table 3.

Interpretation of Body Mass Index

Classification	Frequency (n)	Percentage (%)
Less	< 18.5	-
Normal	18.5-25.0	54
Overweight	25.1- 27	31
Obesity	>30	15

The results showed that 45 mothers (54 %) had the body mass index of normal mothers

Table 4

Interpretation of Upper Arm Circumference

Classification	Frequency (n)	Percentage (%)
Upper Arm Circumference ≥ 23,5	36	90
Upper Arm Circumference < 23,5	4	10

The study found that 4 mothers (10%) had the size of upper arm circumference below 23.5 cm

Table 5
Interpretation of Height

Clasification		Frequency (n)	Percentage (%)
Height	>146 cm	32	80%
Height	≤ 145 cm	8	20%

The results showed that only 8 mothers (20%) had height less than 145cm

Discussion

1. Haemoglobin
The study discovered that about 25% of the pregnant women have mild anemia. Major maternal complications directly related to anemia are not common in women with a hemoglobin level greater than 6 gr/dl 1[3,4]. Accordinga research there were 13 pregnant women (32.5%) at the Bahu Health Center, out of total sample, identified to have low level of Hemoglobin[5]. Hemoglobin levels of pregnant women are influenced by adherence to taking Sulfas Ferosis, age, parity. So, it is advisable for pregnant women to be more compliant in taking Sulfas Ferosis tablets and knowing a good age to conceive and the ideal number of births in order to prevent anemia[6].

2. Interpretation of waist to hip ratio
It is found that 45% of pregnant women had waist and pelvic circumference (Waist and Hip ratio) which is higher than 80 cm.

3. Body Mass Index
The results of the study suggested that the normal Body Time Index of pregnant women was 54%. Waist circumference predicts obesity-related adverse pregnancy outcomes as well as BMI

4. Upper Arm Circumference
The results showed that only about 10% of Pregnant women had Upper Arm Circumference below 23.5 The Upper Arm Circumference threshold in women of childbearing age who are not at risk of Chronic Energy Deficiency is 23.5 cm which means that the pregnant women with Upper Arm Circumference below 23.5 cm will be at risk of chronic lack of energy. Anemia suffered by the pregnant women suffering from anemia causes a lack of

blood supply in the placenta, which will affect the function of the placenta to the fetus. During pregnancy, mothers experience physiological changes that leads to imbalance. The amount of blood plasma and red blood cells can be seen in the form of decreased hemoglobin levels. This condition will affect oxygen to the uterus and interfere with intranutrient conditions, especially fetal growth, which will affect the fetus born with low birth weight.

5. Height
The results of the study suggested that about 20% of pregnant women had height less than 145 cm. A study explains[7] that maternal height has a significant impact on the neonatal size, i.e. short mothers (height of less than 145 cm), on average (146-155 cm) have 2.74 and 9.0 times greater risk for giving birth to have low birth weight babies than mothers with normal height. In accordance from the height of the pregnant woman of short stature (height of ≤ 145 cm), in the aid of childbirth performed sectio caesaria surgery as much as 41 (93.18%), and 2 (4.55%) maternity aid mothers on a pervaginam[8]

Conclusion
The pregnant women detected to suffer from anemia were found to have a low waist and hip ratio, which may result in a less normal upper arm circumference. Anemia in pregnant women also affects the absence of less than normal height. Results of this study can be used as a reference to predict the absence of anemia in pregnancy, so anemia in pregnant women can be identified and followed up as quickly as possible. In addition, the incidence of stunting can be identified as early as possible.

Acknowledgment

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