

The Relationship Between Educational Background and Perception of Pregnant Women and Motivation to Consume Iron (Fe) Tablet in Sedayu, Bantul, Indonesia

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ABSTRACT

Backgrounds: World Health Organization (WHO) says 40% of maternal deaths in developing countries are caused by pregnancy anemia. The main cause is caused by iron deficiency and acute bleeding. Anemia is the biggest public health problem in the world, especially for women of childbearing age.

Objectives: The purpose of this study was to determine the relationship between education level and perceptions of pregnant women with the motivation to consume iron tablets in Sedayu, Bantul Regency.

Methods: This type of research is a quantitative study with a cross-sectional design. The population was 154 respondents with a sample of 85 pregnant women who had fulfilled the inclusion and exclusion criteria. Bivariate data analysis using Kendall's Tau test.

Results: The results of this study there is a relationship between education and perceptions of pregnant women by consuming iron tablets with $p < 0.05$. **Conclusion:** Education level and perception of pregnant women are related to motivation in consuming iron tablets.

Keywords: *Educational background, Perception of Pregnant Women, Motivation, Consume Iron*

INTRODUCTION

World Health Organization (WHO) states that 40% of maternal deaths in developing countries are caused by anemia during pregnancy. The main cause is caused by iron deficiency and acute bleeding. Anemia is the biggest public health problem in the world, especially for women of childbearing age (1). The prevalence of anemia in Indonesia in pregnant women has increased from about 37.1% in 2013 to 48.9% in 2018 (2). The prevalence of pregnant women with anemia in Special Region of Yogyakarta in 2017 decreased to 14.32% from 14.85% in 2015 and 16.09% in 2016 (3).

The increasing need for iron intake during pregnancy puts pregnant women at high risk of developing iron deficiency, a major cause of anemia (McLean *et al.* 2007). Pregnant women with anemia are less likely to have *good pregnancy outcomes* than those without anemia. The *iron-folic acid supplementation* (IFAS) program for pregnant women is the main program in controlling anemia in pregnant women in many countries, where the need for iron supplementation is not possible to be obtained from daily food (4). Maternal iron intake during pregnancy must be increased because, during pregnancy, the body of pregnant women can increase blood volume, so that, iron (Fe) intake is more important to meet the needs of the mother and fetus by supplying food and oxygen through the placenta. Pregnant women who have given iron intake to the fetus through the placenta will give useful intake to the fetus for growth and development needs, including for brain development, as well as reserves stored in the liver until the baby is 6 months old (2).

There have been many efforts made in Indonesia to control the incidence of iron deficiency anemia in pregnant women under WHO by providing iron (Fe) tablets. Providing Iron Tablets to pregnant women is done by midwives or healthcare personnel at the time of the first ANC visit or K1. A person's compliance with a standard or regulation is influenced by individual's knowledge and educational background. The higher the knowledge and educational background, the higher the level of compliance of a person to the applicable regulations/standards (5). The efforts to prevent and control iron deficiency anemia through iron supplementation are prioritized for pregnant women, because the prevalence of anemia is quite high (6). Iron is needed by pregnant women to prevent anemia and maintain fetal growth optimally. The Ministry of Health recommends that pregnant women to consume at least 90 iron pills/tablets

during their pregnancy. To overcome the problem of anemia in Indonesia, the government has launched an equitable distribution of Fe tablets (7).

The low compliance of pregnant women consuming iron tablets and the wrong perception is a factor causing the failure of iron tablet supplementation programs in Indonesia. The main reason for non-compliance of pregnant women in consuming iron tablets is due to they forget to consume the tablet. This factor, based on several studies, reached >47%. The presence of other people such as husband, family or media that can remind pregnant women to consume iron tablets according to instructions, the presence or absence of counseling related to iron tablet consumption during pregnancy (8).

MATERIALS AND METHOD

This study used quantitative-descriptive method with *cross-sectional* design. This study was conducted in Sedayu I and II Community Health Center (Puskesmas) of Bantul Regency. The population was 154 respondents with a sample of 85 pregnant women who met the inclusion and exclusion criteria. The independent variables in this study were the educational background and the perception of pregnant women on anemia, while the dependent variable in this study was motivation to consume iron (Fe) tablet. The data were analyzed using bivariate analysis using *Kendall's Tau* test.

RESULTS AND DISCUSSION

Table 1. Distribution of frequency of education, perception, motivation of pregnant women in Sedayu II Community Health Center

Variable	Category	N	%
Education	High	5	5.9
	Secondary	52	61.2
	Primary	28	32.9
Perception	Good	70	82.4
	Poor	15	17.6
Motivation	High	69	81.2
	Low	16	18.8

Based on **Table 1**, mostly, the pregnant women have a secondary education level, consisted of 52 people (61.2%). Most of the pregnant women have good perception on anemia, consisted of 70 people

(82.4%) and have high motivation to consume iron (Fe) tablets, consisted of 69 people (81.2%).

Table 2. The relationship between perception of pregnant women on anemia and motivation to consume Fe tablet in Sedayu I and II Community Health Center

Education	Motivation to Consume Fe Tablet					
	High		Low		Total	
	N	%	N	%	N	%
High	5	100	0	0	5	100
Secondary	49	94.2	3	5.8	52	100
Primary	15	53.6	13	46.4	28	100
Total	69	81.2	16	18.8	85	100

P = 0.000

Table 2 shows that there were 49 pregnant women (94.2%) with secondary education and high motivation. The higher the education, the higher the motivation of pregnant women to consume iron tablets. Education will have an effect on pregnant women in choosing, evaluating and deciding something that is good for their health and pregnancy. Seeing and hearing will produce knowledge. Knowledge is obtained from the learning process that can form certain beliefs, so that someone behaves based on his/her beliefs. Knowledge is related to motivation, so that, high motivation will have an effect on the compliance of pregnant women in consuming iron tablets because knowledge is a very important domain for shaping behavior. Behavior will last if it is based on knowledge. Knowledge obtained through sensing on health information during pregnancy will have an effect on the behavior of pregnant women in maintaining their health (9). The high level of education will have an effect on a person to have high knowledge and to get information easily about health during pregnancy and its benefits, so that pregnant women are more quickly motivated to improve health during pregnancy (10).

The level of knowledge of pregnant women on iron tablets has an effect on their behavior to be complied in consuming iron tablets. Pregnant women who have a fairly good knowledge on anemia may encourage them to be more obedient to consume iron tablets during pregnancy. Knowledge can also be obtained from direct experience or the experience of others (11).

Table 3. The relationship between perception of pregnant women on anemia and motivation to consume Fe tablet in Sedayu I and II Community Health Center

Perception	Motivation to Consume Fe Tablet					
	High		Low		Total	
	N	%	N	%	N	%
Good	68	97.1	2	2.9	70	100
Poor	1	6.7	14	93.3	15	100
Total	69	81.2	16	18.8	85	100

P = 0.000

Table 3 shows that 68 pregnant women (97.1%) have good perception with high motivation. The better the perception, the higher the motivation of pregnant women in consuming iron tablets.

The perception of pregnant women in consuming Fe tablets is influenced by various factors including their knowledge on Fe tablets, the benefits perceived after taking the tablets, advice from health workers, and encouragement from family members. To improve the perception of pregnant women in consuming Fe tablets, it is hoped that there is information provided about the importance of Fe tablets during pregnancy so that they know the benefits and goals of taking the tablets. It is expected to encourage pregnant women to take Fe tablets regularly (12). According to literature review, the perception of pregnant women on their health status during pregnancy also plays a role in increasing motivation. If they do not think that anemia is a dangerous health problem, it will reduce their motivation (13).

Motivation can have an effect on someone's behavior to carry out certain activities. Motivating pregnant women about anemia is a desire that arises from within pregnant women, so that it can encourage pregnant women to consume Fe tablets. Motivation is seen as a mental impulse that moves and directs human behavior, including learning behavior and also as a direction in behaving (14). Motivation of pregnant women will also have an effect on the low compliance in taking Fe tablets for some reasons, such as, do not feel sick, ignore the symptoms or signs and the effects caused, being negligent during pregnancy or having low motivation to take the Fe tablets every day for a long time and getting the side effects (15).

Encouragement plays a very important role in determining the behavior of pregnant women to be compliance in consuming Fe tablets. Providing correct information and interesting experiences about Fe tablets will provide positive perception. The

noncompliance of pregnant women in consuming Fe tablet and wrong perceptions are factors that cause the failure of iron (Fe) tablet supplementation program in Indonesia. The main reason for the noncompliance of pregnant women in taking Fe tablet is forgetfulness factor. The presence of other people such as husband, family or media that can remind pregnant women to consume Fe tablet according to instructions and provision of counseling related to Fe tablet consumption during pregnancy are also the factors to increase the motivation of pregnant women in consuming Fe tablet (16).

CONCLUSIONS AND RECOMENDATION

Based on the results of this study, it can be concluded that there was a relationship between the educational background and perception of pregnant women and the motivation of pregnant women in consuming iron (Fe) tablets in Bantul Regency. It is recommended to provide health education about the prevention of anemia during pregnancy adjusted to the educational background of respondents and provide appropriate and suitable information to increase motivation in consuming iron (Fe) tablets.

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