www.jmscr.igmpublication.org
Impact Factor (SJIF): 6.379
Index Copernicus Value: 79.54
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossrefDOI: https://dx.doi.org/10.18535/jmscr/v6i10.71

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

The Relationship of Pregnant Women Knowledge on Iron Deficiency and The Role of Family in Boosting Compliance toward Consuming Ferrum Tablets

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Abstract
Background: *Increased energy and nutrients are needed for the growth and development of the fetus. If the levels of iron in the body of pregnant women are less, then there will be a condition called anemia.The purpose of this study is to determine the knowledge of pregnant women about iron deficiency anemia and family role with compliance in consuming iron tablet in the health center.*
Methods: *This study was quantitative research with cross-sectional study subjects to 40 (forty) mothers who have antenatal and get a Fe tablet in Tanjungpinang health center. The data analysis process uses univariate and bivariate analysis.Data analysis was carried out with the help of a computer using SPSS with a 95% confidence level (α = 0.05).*
Result: *The result of this study indicated no correlation between knowledge of pregnant women about iron deficiency with compliance of consuming iron tablets. However, there is a relationship between the family role in monitoring drinking iron tablet with the agreement of drinking iron tablet.*
Conclusion: *The pregnant women are expected to consume Fe tablets regularly for consuming the pills can prevent the suffering from anemia during pregnancy that may harm a fetus conceived.*
Keyword: *Pregnant Women, Iron Deficiency Anemia, Family Role, Iron Tablet.*

Introduction

The maternal mortality rate is one of the indicators challenging to achieve. This difficulty is felt not only in Indonesia but also in many developing countries in the world. Maternal mortality in Indonesia is still quite high compared to countries in Asia. The direct and indirect causes cause maternal deaths. The immediate cause of maternal death was complications of pregnancy, childbirth or the time of parturition, and any form of improper handling of these complications. While the causes of indirect maternal deaths resulting from the disease that existed before the expectant mother's pregnancy there is an influential, e.g., malaria, anemia, HIV/AIDS, and cardiovascular disease. Globally 80% of maternal deaths are categorized as on maternal death directly. The direct cause of the pattern is caused due to bleeding (Wuryanti, 2010).

Maternal mortality according to the definition of the World Health Organization (WHO) was death during pregnancy or the period of 42 days after the end of pregnancy, due to all causes associated with or burdened by pregnancy or handling, but not caused by accident or injury (Kemenkes RI,2014). The purpose of death in pregnant

women one is anemia that can cause bleeding in pregnancy (Riyanto et al., 2017).

According to WHO, 40% of maternal deaths in developing countries are associated with anemia in pregnancy. Most of the anemia in pregnancy is caused by iron deficiency and of acute bleeding even not uncommon both interacting (Milman, 2015). Anemia can worsen the condition of the woman during pregnancy, childbirth, childbirth and in the next period. The influence could lead to miscarriage, preterm birth (Widyawati et al., 2015).

Many factors influence the incidence of anemia, one of which was an essential knowledge on dietary of Fe tablets. Pregnant women who have a low level of expertise will behave less obediently in consuming iron tablets. Instead of pregnant women who know good iron, tend to use rational consideration and the more obedient to consume iron tablets (Wiradnyani et al., 2016).

Indonesia is one of the countries with the most significant number of pregnancy anemia sufferers. The program of granting Ferrum (Fe) tablets on any pregnant women visiting the health service was still hasn't been able to lower the number of sufferers of anemia of pregnancy significantly. Failure of the program is influenced by several factors including how to consume Fe tablets that comply, both regarding time or way of consumption (Koeryaman, 2017).

Anemia in pregnant women increases the frequency of complications in pregnancy and childbirth. Anemia in pregnancy impact vary from a very mild complaints until the onset of disorders of continuity of pregnancy (abort, partus immature or premature), vaginal disorders (inertia uteri, uterine atony, partus), impaired at the time of parturition (in involution of the uterus, sub durability against infections and a low breast milk production), and disorders of the fetus (abort, dysmaturity, microsomia, prenatal mortality, low birth weight, and others) (Wuryanti, 2010). The prevalence of anemia of pregnant women in Indonesia was 70%, where 40% of which is iron deficiency anemia. The high prevalence of anemia in pregnant women is an issue that faced the Government of Indonesia.

Pregnancy causes increased energy metabolism since it needs energy and other nutrients are increased during pregnancy. Increased energy and nutrients that are necessary for the growth and development of the fetus, the magnitude of the value-added content of organs, changes in the composition and metabolism of the body of the mother. So the lack of certain nutrients in need during pregnancy may cause the fetus to grow is not perfect.

One of the nutrients that are known to increase their needs during pregnancy is iron. Iron during pregnancy is used for the development of the fetus, placenta, expansion of red blood cells, and basal to the needs of the body. Iron required can be obtained from the diet and iron tablets. However, as is the consumption of nutrients in General, consumption of iron are often do not meet the needs of the body. If the level of iron in the shape of pregnant women less, then it will happen a situation called anemia. It is because the iron is microelement which is essential for the body. These substances are especially needed in hemopoiesis (formation of blood), i.e., in the synthesis of hemoglobin (Besuni & Indriasari, 2013).

Based on the description of the background above, researchers interested in conducting research related to the phenomenon of the issue against coverage distribution of iron tablets (Fe) number incidence of anemia.

Methods

This study was quantitative research, analytical, with cross-sectional study subjects all mothers who have antenatal and get a tablet Fe in Tanjungpinang health center based on data to consist of 40 respondents. This study was conducted in August 2016. Multivariate analysis was used to examine the effect of dependent variables on the independent variable.

The data collected then tabulated and analyzed by univariate was carried out descriptively from each

variable with the frequency distribution table and examined separately to assess whether there was a significant influence. Data analysis was performed with the help of a computer using SPSS with a 95% confidence level (α = 0, 05).

Results

The characteristic of the samples are described in the following table:

Table 1 Characteristics of Respondents

No	The characteristics	N=40	%
1	Age :		
	- < 20 years	3	7.5
	- 20 – 35 years	32	80
	- ≥ 36 years	5	12.5
2	Education level		
	- No school	1	2.5
	- Elementary school	16	40.0
	- Junior high school	15	37.5
	- Senior high school	7	17.5
	- College	1	2.5
3	Pregnancy of children		
	- 1	12	30
	- 2	15	37.5
	- 3	8	20
	- 4 – 6	5	12.5
4	Gestational Age :		
	- 1 - 3 Month	1	2.5
	- 3 – 6 Month	18	45.0
	- 6 – 9 Month	21	52.5
5	The rate of hemoglobin		
	- ≥ 11	26	65
	- < 11	14	35

The average age of respondents was 40 people between 20 – 35 years with a total of 32 people (80%). For the educational level of respondents, out of 40 respondents whose, most elementary level of education was as many as 16 people (40%). The majority of the respondent's pregnancy is for the second children where from 40 respondents, 17 (37.5%) mothers are pregnant. Observed from the mother's gestational age including the pregnancy are not at risk although there is still 5 (12.5%) of respondents are experiencing the pregnancy of 4^{th} – 6^{th}children. For the majority of the respondents of the gestational age at the age of 6 – 9 months as many as 21 people (52.5 %). Hemoglobin levels for a large part of the 26 respondents (65%) were with hemoglobin ≥ 11 and 14 respondents with hemoglobin≤ 11.

Table 2. The Compliance of Expectant Mothers in Consuming Iron Tablets

No	Characteristics	N= 40	%
1	Compliance of pregnant women consuming iron tablets		
	- obey	29	72.5
	- disobey	11	27.5
2	Disobey reason		
	- lazy	5	45.5
	- bored	6	54.5

The compliance of pregnant women in consuming iron tablets majority has already been dutifully as much as 29 (72.5%), but there are still 11 people (27.5%) of pregnant women who are not obedient in consuming iron tablets given by officer health by reason of 5 people (45.5%) being lazy and 6 people (54.5%) due to the bored eating the tablets.

Table 3 The Role of The Family in Monitoring drinking Iron Tablets Taken

No	Characteristics	N = 40	%
1	The family in monitoring iron tablets taken		
	- any	29	2.5
	- none	11	7.5
2	Who monitors drinking iron tablet		
	- own initiative	22	5
	- reminded by the husband, parents, in-laws	18	5

Expectant mothers in consuming iron tablets are still in large part because of the role of the family where 29 people (72.5%) need to be reminded by the family although there are still 11 (27.5%) respondents did not need to be monitored by others /family in taking the iron tablet.

Table 4 The Knowledge of Pregnant Women about Iron Deficiency

No	Characteristics	N = 40	%
1	Knowledge level		
	- good	37	92.5
	- less	3	7.5

From 40 respondents, mostly 37 persons (92.5%) have good levels of knowledge, but there is still 3 respondents (7.5%) whose the level of knowledge about iron deficiency is less.

Table 5 The Relationship of Knowledge and Monitoring to Compliance in Consuming Iron Tablets

Variables	Compliance to consume iron tablets				*p-value*
	disobey		obey		
	N	%	N	%	
Knowledge of pregnant women about iron deficiency					
- less	1	2.5	2	5	0.814
- good	10	25	27	67.5	
The role of the family in monitoring drinking iron Tablets					
- none	11	27.5	0	0	
- Any	0	0	29	72.5	0.00

The relationship between knowledge of pregnant women about iron deficiency with compliance of consuming iron tablets showed the value of p-value = 0. 814 more magnificent than the cut off value of α p-value of 0.05 indicates no relationship between knowledge of pregnant women with the compliance of consuming iron tablets. However, there is a connection between the role of the family in monitoring drinking iron tablets with compliance consuming iron tablets as indicated by the value of p which is = 0.00 below 0.05.

Discussion

A person's level of knowledge about iron deficiency does not influence the behavior in consuming iron tablets. This is also in line with a study conducted by Sri (2006) that expectant mothers who know anemia are good enough yet able to encourage pregnant women to consume Ferrum tablets to be more obedient. In contrast, similar studies conducted by Vongvichit et al. (2003) shows that there is a significant relationship between knowledge of pregnant women with compliance to the consumption of Ferrum tablets. Further, Martini & Octaviana (2017) explained that a high -level knowledge of compliance is better than those with low experience. Knowledge is one of the factors that stimulate the attainment of behavioral health. When pregnant women know and understand the anemia and how to prevent, it will have good health behaviors that they can escape from the various results or the risk of occurrence of anemia in pregnancy. Such health behavior is to decrease the incidence of anemia. According to Fuady (2013), the domain knowledge is essential for the formation of one's actions. Based on experience and research it turns out that the activities realized by the knowledge will be more orderly than the actions of the unconscious by knowledge. Knowledge of nutrition can prevent someone from food consumption. With a good level of knowledge, pregnant women can figure out food that could endanger pregnancy and can choose things that support the quality of pregnancy, including to take iron tablets distributed by clinics devoted to health during pregnancy (Indreswari et al., 2008).

From the statistical tests, the role of the family in monitoring drinking iron tablets, it retrieved the value of p = 0.00 smaller than the α value of 0.05 indicating a positive relationship with the compliance with the consumption of Ferrum tablets. Efforts being made with the role of the family is considered as an essential factor that exists around the expectant mother with empowering family members especially parents, in-laws or husbands to help pregnant mothers in taking iron tablets. The results of this research are consistent with research done by Neherta (2011) showing that there is a relationship between family support to compliance with the consumption of Ferrum tablets in pregnant women. The critical efforts done for pregnant women is an individual who does not stand alone,

but the one joined in a bond of marriage like husband and the closest person that will influence the mindset and behavior included in the treatment during pregnancy. The husband is the one who is closest to pregnant women, who can create a physical and emotional environment that supports the health and nutrition of pregnant women.

Low levels of compliance of pregnant women consuming iron tablets besides the knowledge factor are also influenced by other factors, i.e., feared to have a big baby, less awareness regarding the importance of iron tablets, threats the dangers of anemia for pregnant women and dizziness) incurred after taking iron tablets. Research results of Nasyidah (2011), stating that pregnant women who consume fewer iron tablets or in a week to consume a single pill have a risk of anemic 12 times compared with pregnant women who are consuming iron tablets per day. Pregnant women who do not drink iron tablet during pregnancy have babies born incidence risk with low birth weight 1.9 times compared with pregnant women who consume as much iron tablets 90 pills or more. This is to justify why drinking iron tablet is very critical for the pregnant women.

Conclusion

The mother is expected to consume Fe tablets regularly because by consuming the pills can increase the levels of hemoglobin to prevent suffering from anemia during pregnancy that may harm a fetus conceived concerning low birth weight, congenital infant disabilities, etc. Health care personnel should be able to give the motivation to expectant mothers regularly to take Ferrum tablet due to its paramount importance during pregnancy. Further, healthcare personnel can involve family members become advocates and supervisors Fe tablet regularly.

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