

Health Officer Support For Regulation of Iron Tablets Consumption During Pregnancy

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Abstract.

The obedience in consuming iron tablets had a good effect for the pregnant women. It is because iron tablets were able to increase the nutritional intake for the fetus, prevent anemia (iron deficiency), prevent bleeding during childbirth, and reduce the death risk. The supports of the health workers were expected to improve the The obedience of the pregnant women in consuming the iron tablets. The objective of this research was to find out the effect of the supports of the health workers and the obedience of the pregnant women in consuming the iron tablets at Sewon II Public Health Center, Bantul Regency, Yogyakarta Province. The method used in this study was through the descriptive correlation using a cross-sectional approach. The sampling technique used in this study was through the total sampling. The number of the respondents of this study was 80 respondents. The data analysis technique used in this study was the Kendall tau. The result of this data analysis showed that the p-value of $0.000 < 0.05$. It meant that there was a significant correlation between the two variables of this study. Moreover, the significant correlation between the support of the health workers and the obedience of the pregnant women in consuming the iron tablets is in the moderate level (0.549). Therefore, it was concluded that the health workers were expected to improve the information supports, the appreciation supports, the instrument supports, and the emotional supports so that the pregnant women were able to consume the iron tablets.

Keywords: Iron Tablets, Pregnant Women, Health Workers

1.INTRODUCTION

Iron (Fe) tablets are the mineral tablets needed by the body for the formation of red blood cells or hemoglobin. Iron (Fe) is naturally found in food. Iron (Fe) tablets are needed by pregnant women so that they must consume at least 60 Fe tablets during their pregnancy [1]. According to the Regulation of the Minister of Health of the Republic of Indonesia No. 88 of 2014 on the Standard of Blood Supplements for Childbearing Age Women and Pregnant Women based on articles 1-5, the blood supplements are the tablets given to childbearing age women and pregnant women. The tablets are given for the childbearing age women every 1 (one) time a week and 1 (one)

time a day during menstruation period. Furthermore, the tablets are also given for the pregnant women at least 90 tablets every day during their pregnancy period [2] .

Consuming 90 iron (Fe) tablets has a good effect for pregnant women because the iron (Fe) tablets are able to increase nutritional intake for the fetus, prevent anemia (iron deficiency), prevent bleeding during childbirth, and reduce the deathrisk². The pregnant women will have a risk of having anemia on condition that the pregnant women do not comply taking the iron (Fe) tablets during pregnancy. The anemia causes the pregnant women to feel tired and weak because their heart will increasingly pump the blood so that it affects a shock [3]. Anemia is able to cause newborn babies to have low birthweight because they have a lack of iron supplements that are actually used as food supply for the fetus [4] .

The iron (Fe) tablet distribution among the pregnant women in Bantul Regency in 2017 showed that 95.45% of Fe1 tablet distribution was given for the pregnant women and 86.48% of Fe table distribution was given for the pregnant women. This iron (Fe) distribution had reached the target by above 85%. However, this iron (Fe) distribution was not in accordance with the level of obedience of the pregnant women who were consuming the tablets during the pregnancy. It was because 16.32% of the pregnant women still suffered from anemia in Bantul Regency in 2017. The Pusponogoro'sstudy and *Anemia World Maps* at the same time showed that 51% of pregnant women suffered from anemia causing 300 deaths per day[1] .

The maternal mortality showed a high figure. There were around 295,000 women died during and after pregnancy in 2017. The result of the Perinatal Maternal Audit concluded that the maternal death in 2017 was caused by bleeding incidence by 17% (2 cases) and followed by the other causes e.g., Severe Pre-Eclampsia (PEB), Sepsis, Hyperthyroidism, Shock, Paripartum, and Lung Infection by 11% (1 case) [5] . Bleeding was the cause often found in pregnant women during the childbirth period. This was because the pregnant women suffered from anemia (lack of blood), lack of red blood cell production, or red blood cell destruction that was faster than normal condition. Moreover, this was also caused by the absence of consuming iron supplements, vitamin C, vitamin B12, and folic acid [6].

The obedience in consuming the iron tablets was very important for the pregnant women so that they were able to prevent the anemia or iron deficiency and reduce the undesirable effects on the pregnant women and the fetus. There were several factors that were able to increase the pregnant women's obedience in consuming iron tablets e.g., the support of health workers, family, self-motivation, self-knowledge, self-attitudes, antenatal-care visits, and side effects of iron tablets [7, 8, 9] . A result of the study conducted by [10] showed that the role of a good support of the health workers were able to affect the obedience of the pregnant women in consuming iron (Fe) tablets as they were compared to that of a bad support of the health workers. It was because 76% of the health workers showed a good support but 39% of the health

workers showed a bad support. This response was obtained from 115 respondents. Moreover, the result of chi square was also showed that the value of $p = 0.005$, while the hypothesis of this study was $p < 0.05$ so that H_0 was rejected. It means that there was a correlation between the role of the health workers and the obedience of the pregnant women in consuming iron (Fe) tablets.

The preliminary study was conducted at Sewon II Public Health Center, Bantul Regency. The interview was implemented with 10 pregnant women regarding the obedience in consuming the iron tablets. The result of this study showed that there were 7 pregnant women who were less obedient in consuming iron tablets because of the strong odor of the iron tablets so that it caused nausea. Meanwhile, there were 4 pregnant women who were obedient in consuming the iron tablets because they often received information and appreciation from the health workers so that the pregnant women believed in the importance of taking the iron tablets. The role of the health workers on the obedience of pregnant women in consuming the iron tablets needed to be explored further. Therefore, the objective of this study was to find out the correlation between the support of the health workers and the obedience of the pregnant women in consuming the iron tablets regularly at the Sewon II Public Health Center, Bantul Regency, Yogyakarta Province, Indonesia.

II. METHOD

A type of this study was the quantitative research through the descriptive correlation research design using a cross-sectional approach. The population of this study was 80 pregnant women. The criteria of the population were the inclusion criteria and the exclusion criteria. The inclusion criteria of this study were: (1) the pregnant women who had received the iron (Fe) tablets, (2) the pregnant women with the second and third trimester of pregnancy age, (3) the pregnant women who had pregnancy checks at the Sewon II Public Health Center, Bantul Regency, Yogyakarta, Indonesia, (4) the pregnant women who received supports from their family or husband, (5) the pregnant women who had knowledge of the importance of consuming iron tablets during their pregnancy, and (6) the pregnant women who had more than 2 antenatal care visits. The exclusion criteria of this study were: (1) the pregnant women who did not want to be the respondents of this study and (2) the pregnant women who were in an emergency situation and needed medical aids. The number of sample of this study was 80 pregnant women. The determination of this sample size was through the total sampling technique. This study was conducted in July - December 2019.

The type of the data of this study was the primary data. The data collecting technique used in this study was by giving a questionnaire to the pregnant women. The item of a questionnaire was (1) the support of the health workers using the ordinal data scale and (2) the obedience of the pregnant women in consuming the iron tablets with an ordinal data scale. The questionnaire used in this study was in the form of a

modified adoption questionnaire. It meant that the researcher carried out the validity and reliability test at first. The result of the validity test was:(1) the support of the health workers with a total of 14 valid questions by r count 0.454-0.943 which meant that r count was greater than r table (0.444) and (2) the obedience of the pregnant women in consuming the iron tablets with the number of 12 valid questions by r count 0.466-0.861 which meant that the result of r count was greater than r table (0.444). The result of the reliability test of the support of the health worker showed that a Cronbach Alpha value was $0.862 > 0.60$ so that the support of the health worker was reliable. The results of the reliability test of the obedience of the pregnant women in consuming the iron tablets showed that the Cronbach Alpha value was $0.857 > 0.60$ so that obedience of the pregnant women in consuming the iron tablets was reliable. The data analysis technique is through the univariate analysis, bivariate analysis – using the Kendall Tau correlation statistical test and the coefficient correlation.

III. RESULT AND DISCUSSION

The result of this study conducted from July to December 2019 at Sewon II Public Health Center, Bantul Regency, Yogyakarta, Indonesia was as follows:

1. Characteristics of Respondents

Table 1.1 Characteristics of Respondents at Health of Mother and Child Unit

No.	Characteristics	Frequency	Percentage (%)
1	Respondent Age		
	17 years - 25 years	12	15,0%
	26 years - 35 years	58	72,5%
	36 years - 45 years	10	12,5%
	total	80	100,0%
2	Gestational Age		
	2 nd trimester	30	37,5%
	3 rd trimester	50	62,5%
	Total	80	100,0%
3	Parity		
	Nulipara	4	5,0%
	Primipara	20	25,0%
	Multiparous	56	70,0%
	Total	80	100,0%
4	Educational Level		
	Primary School	12	15,0%
	Junior High School	14	17,5%
	Senior High School / Vocational	42	52,5%
	School	12	15,0%
	University	80	100,0%
	Total		

Source: Primary Data, 2020

The total of the respondents of this study were 80 pregnant women. The majority of the respondents were around 26 years - 35 years of age by 48 respondents (72.5%). The minority of the respondents were around 36-45 years of age by 10 respondents (12.5%). The total of the highest respondents seen on the gestational age was in the third trimester of pregnancy by 50 respondents (62.5%). The total of the highest respondents seen the parity was 56 multiparous respondents (70.0%). Finally, the total of the highest respondents seen on the educational level was 42 respondents who were in the high school education (52.5%).

2. Univariate Analysis

a. Health Officer Support for Pregnant Women

Table 1.2 Supports of Health Workers for Pregnant Women

No	Support of Health Officer	Frequency (f)	Percentage (%)
1	Less Support	16	20,0%
2	Enough Support	6	7,5%
3	Good Support	58	72,5%
	Total	80	100,0%

Source: Primary Data, 2020

According to the table 1.2., the highest support was seen on the health workers who showed a good support category. It was obtained from 58 respondents (72.5%).

b. Obedience of Pregnant Women in Consuming Iron Tablets

Table 1.3 Obedience of Pregnant Women in Consuming Iron Tablets

No	Obedience in Consuming Iron Tablets	Frequency (f)	Percentage (%)
1	Disobey	14	17,5%
2	Sufficiently Obey	10	12,5%
3	Obey	56	70,0%
	Total	80	100,0%

Source: Primary Data, 2020

According to table 4.3., it was found that 56 respondents (70%) obeyed in consuming the iron tablets.

3. Bivariate Analysis

Table 1.4 Supports of Health Workers with Compliance Taking Iron Tablets in Pregnant Women

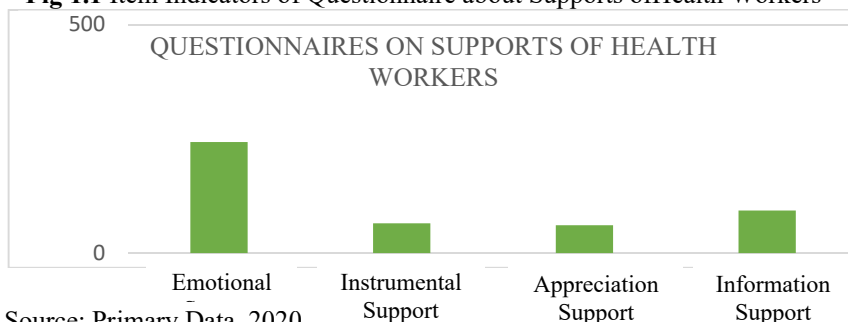
Health Officer Support	Obedience in Consuming Iron Tablets								P Value	Correlation coefficient
	Disobey		Sufficiently Obey		Obey		Total			
	F	%	F	%	F	%	F	%		
Less Support	8	10,0%	4	5,0%	4	5,0%	1	20,0%	0,000	0,549
Enough Support	2	2,5%	2	2,5%	2	2,5%	6	7,5%		
Good Support	4	5,0%	4	5,0%	5	62,5%	0	0%		
Total	1		1	12,5%			8	100,0%		
	4	17,5%	0	0%	5	70,0%	6	80%		

Source: Primary Data, 2020

According to table 1.4, it showed that the total of the highest respondents who received the support of the health workers and obeyed in consuming the iron tablets were 50 respondents (62.5%). These respondents received a good support of the health workers. The total of the lowest respondents who received the support of the health workers and disobey in consuming the iron tablets was 2 respondents (2.5%). These respondents received an enough support of the health workers. The data analysis technique used in this study was through the Kendall tau. This technique was used to find a correlation and to test the research hypothesis between two or more variables. The result of this data analysis showed that the p-value of 0.000 < 0.05. It meant that there was a significant correlation between the two research variables and the coefficient correlation between the support of the health workers and the obedience of the pregnant women in consuming the iron tablets by 0.549. Therefore, it was concluded that the significant correlation between the support of the health workers and the obedience of the pregnant women in consuming the iron tablets is in the moderate level.

According to table 1.4., the researcher described the item indicators of each of the research questionnaires as follows:

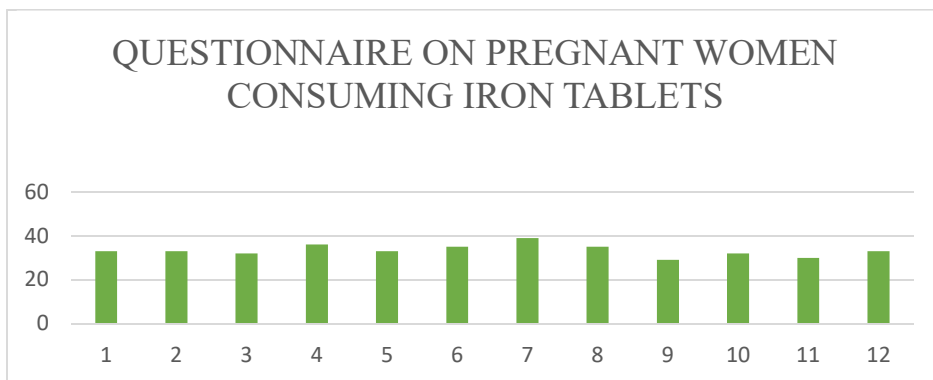
Fig 1.1 Item Indicators of Questionnaire about Supports of Health Workers



Source: Primary Data, 2020

Figure 1.1 shows that there are four question indicators in the questionnaire about the support of the health workers e.g., the emotional support, the instrumental support, the appreciation support, and the information support. The emotional support is the highest support obtained by the pregnant women by 243 answers. The appreciation support is the lowest support obtained by the pregnant women by 61 answers. The instrumental support was obtained by the pregnant women by 65 answers. The information support was obtained by the pregnant women by 93 answers.

Fig 1.2 Item Indicators of Questionnaire about Pregnant Women Consuming Iron Tablets



Source: Primary Data, 2020

Figure 1.2 showed 12 items of the question on the obedience of the pregnant women in consuming the iron tablets at the Sewon II Public Health Center, Bantul Regency. The item of the questions that received the highest answer was in question number 7 which consisted of 39 correct answers. The questions that received the lowest answers were in question number 9 which consisted of 29 correct answers.

According to table 4.2., the frequency distribution of the support of the health workers to the pregnant women at the Sewon II Public Health Center, Bantul Regency showed 48 respondents (72.5%) received a good support and 6 respondents (7.5%) received a sufficient support from the health workers. Moreover, there were 16 respondents who received a less support from the health workers. The criteria of this less support was in the form of the emotional support and information support. The emotional support provided by the health workers was in the form of listening to the complaints of the pregnant women and asking for the pregnant women to obey consuming the iron tablets. The information support provided by the health workers to pregnant women is in the form of providing information about the advantages of the iron tablets during the pregnancy. The result of this study was able to be used by the health workers in order to increase the emotional support and information support to the pregnant women so that the pregnant women received the good support of the health workers.

The result of this study was in accordance with the study conducted by [11] . The result of study implemented by Setyobudihono, et.al (2016) showed that 31 respondents (52.5%) received a good support of the health workers and 28 respondents (47.5%) received a less support of the health workers. The total of the respondents of this study was 59 respondents. Therefore, it was concluded that the treatment to the pregnant women was in the form of a good support so that the mutual goals between the health workers and the pregnant women were created. Moreover, the good support of the health workers to the pregnant women was also able to increase the obedience of the pregnant women in consuming the tablet.

Another study showed that the motivation of the health workers was a factor that was able to affect the behavior of the pregnant women. Moreover, it was also useful for the pregnant women to apprehend that the healthy behavior (consuming iron tablets) was important for them by which the health workers informed them enthusiastically and gave the positive appreciation to the pregnant women who had obeyed in consuming the iron tablets. The health workers played a role in providing knowledge about the pregnancy to the pregnant women, especially the advantages of consuming the iron tablets during the pregnancy so that the role of the health workers affected the obedience of the pregnant women in consuming the iron tablets [12].

According to table 4.3 on the frequency distribution of obedience of the pregnant women in consuming the iron tablets, it showed that 14 respondents (17.5%) did not obey in consuming the iron tablets during the pregnancy period, 10 respondents (12.5%) were quite obedient in consuming the iron tablets during the pregnancy period, and 56 respondents obeyed in consuming the iron tablets during the pregnancy (70.0%). The result of this study showed that 7 respondents did not obey in consuming the iron tablets because the iron tablets had bad taste, strong odor, and caused nausea, and wanted to vomit every time. In addition, respondents did not consume fruits or high-fiber foods after consuming iron tablets. Consuming fruits or foods high in fiber helped reduce side effects after consuming iron tablets. The result of this study was considered by health workers who willingly provided information about consuming the iron tablets properly so that the pregnant women were able to reduce side effects after consuming iron tablets and to increase the obedience in consuming these iron tablets.

The result of this study was in line with the study conducted by [13]. The result of this study implemented by Handari, et.al showed 62 respondents (68.9%) who obeyed in consuming iron tablets and 28 respondents (31.1%) who did not obey in consuming iron tablets. The total of the respondents of this study was 90 respondents.

The obedience of the pregnant women in consuming the iron tablets during the pregnancy period is the same as the obedience of pregnant women to follow the recommendations of the health workers in consuming the iron tablets. The obedience of the pregnant women in consuming the iron tablets was measured by the number of

the iron tablets consumed by the pregnant women based on the recommendations of the health workers and the properness of consuming the iron tablets. The effect of the iron deficiency among the pregnant women during the pregnancy period was experiencing the anemia so that the pregnant women are advised to consume the iron tablets during the pregnancy period according to the recommendations of the health workers. The advantages of the iron tablets for the pregnant women were preventing the anemia / iron deficiency, increasing the nutritional intake in the fetus, preventing the bleeding during during childbirth, reducing the risk of death due to bleeding during the childbirth [14]. Therefore, the obedience of the pregnant women in consuming the iron tablets during the pregnancy period was needed to prevent the anemia / iron deficiency.

According to table 4.4., the total of the highest respondents who received the good support of the health workers and did the obedience of the pregnant workers in consuming the iron tablets were 50 respondents (62.5%). Meanwhile, the total of lowest respondents who received enough support of the health workers and did not obey in consuming the iron tablets was that 2 respondents (2.5%).

This was because of the parity of the pregnant women. The pregnant women who had a high parity or who had had previous pregnancy experiences tended to disobey the advice given by the health workers during the pregnancy period [15].

According to the analysis of Kendall Tau, p-value of 0.000 was < 0.05 . It meant that there was a significant correlation between the the support of the health workers and the obedience of the pregnant women in consuming the iron tablets at Sewon II Public Health Center, Bantul Regency. The result of this study was in line with the study conducted by [7]. Their study involved 30 respondents. The results of the chi square test of this study showed that p-value of 0.0012 was $< \text{value } \alpha 0.05$. It meant that that there was an effect of the support of the health workers on the obedience of the pregnant women in consuming the iron tablets.

The result of this study was supported by the study conducted by [6]. This study involved 115 respondents. The result of the chi-square test of this study showed that p-value of 0.005 was < 0.05 . It showed that there was a correlation between the role of the health workers and the obedience of the pregnant women in consuming the iron tablets. The result of this study was not in accordance with the study conducted by [15]. The study conducted by Putri involved 36 respondents. The result of the chi-square statistical test of this study showed that p-value of 1.00 was > 0.05 . It showed that there was no significant correlation between the role of the health workers and the obedience of the pregnant women in consuming iron tablets.

IV. CONCLUSION

The conclusion of this study is that the good support of the health workers, particularly the information support, the instrumental support, the appreciation support, and the emotional support, has a good correlation with the obedience of the

pregnant women in consuming the iron tablets properly and regularly. The result of this study is used as a basis for the health workers to increase the support for the pregnant women, especially in the form of the information support, the instrumental support, the appreciation support, and the emotional support, so that it is able to motivate and change the behavior of the pregnant women to obey in consuming 90 iron tablets during the pregnancy period.

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