

Conference Paper

Compliance with IFA & Vitamin C Tablet Consumption among Pregnant Women in Mekargalih, Sumedang, Indonesia, in 2014

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Abstract

Based on Demographic and Health Survey (SDKI) 2012 in Indonesia, maternal mortality rate reached 359 per 100.000 births. In Indonesia, maternal mortality rate is caused by anaemia, it reached 37.1% in pregnant women. Government programs to give iron folic acid(IFA) tablets for pregnant women have not increased their awareness, as only 33,3% of them consume IFA \geq 90 tablets during their pregnancy (RISKESDAS, 2013). This study was aimed to investigate compliance of IFA and Vitamin C tablets consumption among pregnant woman based on gravidity in Mekargalih Village, Sumedang. This study is a descriptive quantitative methods using cross-sectional design. Total sample is 50 pregnant women who were selected based on inclusion criteria and using univariate analysis. Result showed that 52% of pregnant women complied IFA tablets, while 22% of them complied vitamin C. In the meantime, their compliance in taking IFA tablets based on gravidity were 50% in primigravida and 53 % in multigravida pregnancy, compliance in taking Vitamin C tablets based on gravidity were 25% in primigravida and 21% in multigravida pregnancy. Based on the result, it can be concluded that half of the pregnant women complied in taking IFA, only a small number taking Vitamin C tablets. As health-care professionals, we should be able to give interventions in the form of communication, information, and education for the pregnant women, as well as involving their family members in terms of monitoring their IFA tablets and Vitamin C consumption

Keywords: Pregnant woman, Compliance, IFA, Vitamin C tablets

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1. INTRODUCTION

Health development is part of national development. The low-health indicators in Indonesia is marked by the high Maternal Mortality Rate (MMR). Among Asian countries, Indonesia has the highest rates of MMR as many as 359 per 100,000 live births [10]. This figure is significantly higher than that in the Demographic and Health Survey from 2007, which reported only 228 deaths per 100,000 live births. This illustration of the health status in Indonesia still needs to be improved [2, 9].

According to the WHO, 40% of the maternal deaths in developing countries are associated with anaemia during pregnancy, and the majority of these cases are caused by iron deficiency and acute haemorrhage. At the moment, iron-deficiency anaemia in pregnant women has become a major health issue in Indonesia due to the 37.1% prevalence of haemoglobin levels less than 11.0 g/dL. The main cause of anaemia is a deficiency of iron (Fe), which is required for the synthesis of haemoglobin. During pregnancy, the need for iron is three times higher than normal, both for foetal growth and for pregnant women themselves. Approximately 50% of maternal deaths in developing countries were caused by iron-deficiency anaemia (Kemenkes 2013).

Indonesia is a developing country, and only a few pregnant women there can meet their iron needs from the food consumed each day during pregnancy. This is because the main source of iron that is easily absorbed by the body is derived from animal proteins such as fish and meat, which are relatively expensive and not fully accessible for the public. To overcome this problem, the Ministry of Health (MOH) implemented a program to grant iron tablets to pregnant women. Efforts in preventing and combating anaemia include diet supplementation with iron tablets and improved nutrition. Although this program of iron supplementation for pregnant women has been executed since 1970, only 33.3% of pregnant women took at least 90 IFA tablets during pregnancy [9, 15, 16].

The most common reason expressed by pregnant women who did not finish the IFA course was the side effects. Yet, iron supplementation is very important, even for women who have a good nutritional status. Iron absorption is affected by the availability of vitamin C in the mother's body, so the consumption of fruits containing vitamin C is important for the absorption of iron [4, 9, 15]. In a study from 2004, the dominant factor determining Hb levels in 20–35-year-old women was the consumption of vitamin C (Departemen Kesehatan Republik Indonesia, 2001). The vitamin C need is higher in pregnant women than in non-pregnant women; a pregnant woman needs 85 mg of vitamin C per day. One of the Indonesian government's actions to prevent

and overcome iron-deficiency anaemia in pregnant women is the supplementation of IFA and vitamin C tablets on a regular basis for a certain period, with the aim of rapidly increasing their haemoglobin levels [1, 4, 12].

2. METHODS

This study used descriptive quantitative methods with a cross-sectional design to investigate pregnant women's compliance in consuming IFA and vitamin C as promoters of IFA in Mekargalih Village, Jatinangor, Sumedang, in 2014. The population in this study was limited to pregnant women living in Mekargalih Village, Sumedang. The exclusion criteria were pregnant women for whom the age of gestation was less than 16 weeks and those who forgot about the amount of IFA and vitamin C consumed. The data collected were primary data from a questionnaire that consisted of dichotomous and multiple-choice responses to closed questions and free responses to open questions. The data analysis was performed using a univariate analysis, which is commonly used for descriptive analyses, to investigate the pregnant women's compliance with IFA and Vitamin C consumption as an IFAs promoter in Mekargalih Village, Sumedang. The scale used was the Guttman Scale, with a score of 1 for a related answer and a score of 0 for an unrelated answer. In the next step, the given score was calculated with a mean formula. The data were categorized as 'comply' if the total score \geq mean and 'not comply' if the total score $<$ mean. The data analysis was performed using Microsoft Excel and interpreted using computer software.

3. RESULTS

Based on the characteristic data of the respondents, most of the pregnant women (45, or 90%) were in the age range of 21–35 years, about half of the respondents (23, or 46%) were high-school graduates, 35 (70%) of the pregnant women did not work, and 38 (76%) of the pregnant women belong to the multigravida category.

Based on the results of this study, it was shown that half of pregnant women as many as 26 respondents (52%) complied in taking the tablet IFA. A small number of pregnant woman as many as 11 respondents (22%) complied in taking Vitamin C Tablets. Almost all pregnant women or as many as 48 respondents (96%) have been informed about IFA consumption by midwives. Almost all pregnant women or as many as 49 women (98%) have been informed about Vitamin C tablet consumption by midwives. Based on the gestational age, it was found that half of the primigravida

women as many as 6 respondents (50%) complied in taking IFA tablets. Half of the multigravida women as many as 20 respondents (53%) complied in taking IFA tablets. A small number of primigravida women as many as 3 respondents (25%) complied in taking vitamin C tablets. A small percentage of the multigravida women as many as 8 respondents (21%) complied in taking vitamin C tablets.

TABLE 1: Frequency Distribution of Compliance with IFA Consumption in Mekargalih, Sumedang.

Compliance with taking Fe tablets	n	%
Comply	26	52
Not comply	24	48
Total	50	100

TABLE 2: Frequency Distribution of Compliance with Vitamin C tablets in Mekargalih, Sumedang.

Compliance with Vitamin C tablet consumption	n	%
Comply	11	22
Not comply	39	78
Total	50	100

4. DISCUSSIONS

Based on the research conducted on 50 pregnant women in Mekargalih Village, Sumedang, it was found that 26 pregnant respondents (52%) were categorized as 'comply' in the consumption of IFA tablets. IFA is given on a regular basis for a certain period of time in order to increase the haemoglobin levels rapidly [6]. In this study, the compliance with taking the IFA tablets could be measured when the respondents entered 16 weeks of gestation; this criterion was based on the guideline about giving IFA and Iron syrup for health professionals. According to the WHO, IFA supplements can be given to pregnant women in early pregnancy [12]. Other problems, such as the incorrect way of taking IFA, should be considered, because some pregnant women still drink tea or milk and not water or orange juice as directed; a drink containing vitamin C, such as orange juice, will help the absorption of iron in the body. This is also true for iron when it is taken together with vitamin C tablets [11]. Most respondents who were categorized as 'not comply' took the IFA tablet 2 hours after a meal, whereas when a mother consumes food such as meat or fish and takes IFA along with vitamin C, it will stimulate the production of gastric acid and can increase the absorption of iron [17]. Iron absorption can be maximized when IFA is taken with boiled water. In addition, IFA

tablets should be taken at night after eating and before bedtime to reduce the effects of nausea.

TABLE 3: Frequency Distribution of Compliance with IFA & vitamin C tablet consumption in Mekargalih, Sumedang, based on gravidity.

Gravidity	Compliance with IFA tablets				Compliance with Vitamin C tablets			
	Comply		Not comply		Comply		Not comply	
	n	%	n	%	n	%	n	%
Primigravida (n = 12)	6	50	6	50	3	25	9	75
Multigravida (n = 38)	20	53	18	47	8	21	30	79

IFA are better taken along with vitamin C tablets to increase the absorption of iron [17]. Some factors that affect patients' adherence are education, socioeconomic status, interaction between health-care professionals and patients, and age [7, 13]. The level of education is one of the factors that affects the compliance of pregnant women with taking IFA tablets. Research has shown that half of the pregnant respondents in Mekargalih Village (23, or 46%) were high-school graduates, and almost all the pregnant women (45, or 90%) were in the age range of 21–35 years old. This is supported by previous research conducted by Puspasari (2008) in Sokaraja, Banyumas, about the factors that affect the compliance of pregnant women consuming IFA tablets, which revealed that knowledge, education, and the role of health professionals are factors that affect the compliance of pregnant women consuming IFA tablets [3].

According to Table 2, it was seen that 11 respondents (22%) complied with taking vitamin C tablets. The compliance with consuming vitamin C can be measured by the amount of vitamin C tablets taken and the time or way of consuming the vitamin C tablets to be consumed together with the IFA, to prevent anaemia in pregnant women [15]. The study showed that few pregnant women did not take IFA at the same time as the vitamin C tablet. In some respondents who did not comply, it was because they did not receive the vitamin C tablets from health professional when they were doing antenatal care (ANC), and they received vitamin C tablets from midwives. Based on the characteristic data of the respondents, it was seen that half the pregnant women (23, or 46%) were high school graduates, and most of the pregnant women (35, or 70%) did not work. This was supported by previous research by Mardhatillah (2009) regarding the relationship between pregnant women's knowledge about deficiency anaemia and compliance in taking IFA. Therefore, it is necessary to educate pregnant women about iron-deficiency anaemia during pregnancy [14].

Based on Table 3, the results showed that half the primigravida women as many as 6 respondents (50%) complied with consuming IFA, half the multigravida as many as 20

respondents (53%) complied with consuming IFA, a small portion of the primigravida respondents (25%) complied with consuming vitamin C tablets, and a small percentage of the multigravida respondent (21%) complied with consuming vitamin C tablets. When given information about IFA and vitamin C, pregnant women will understand that the consumption of IFA and vitamin C are very important for improving the nutritional status of pregnant women [14].

In terms of health promotion, especially promotion with regard to anaemia in pregnant women and how to take IFA tablets, it is important to spread information on IFA consumption through social channels, to promote the consumption of food that contains important sources of iron, and to promote the importance of vitamin C tablets to increase the absorption of iron in the body [6].

5. CONCLUSION

The conclusions of this study are that the compliance of pregnant women with taking iron folic acid (IFA) in the 'comply' category was 52%, and the compliance of pregnant women with taking vitamin C tablets in the 'comply' category was 22%. Meanwhile, the adherence based on amount of pregnancy (gravidity) was 25% of the primigravida and 21% of the multigravida pregnancy. Therefore, it is recommended for health-care professionals we should be able to give interventions in the form of communication, information, and education for the pregnant women, as well as involving their family members in terms of monitoring their IFA tablets and Vitamin C consumption.

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