JKM (Jurnal Kebidanan Malahayati),Vol 10, No. 3. Maret 2024,
ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 287-292

THE EFFECT OF THE MEDICATION AND FOOD MONITORING PROGRAM (MFMP) ON ANEMIA IN PREGNANT WOMEN

Nuroni[1], Yuli Yantina[2], Nurul Isnaini[3], Devi Kurniasari[4]

[1,2,3,4] Health Sciences Faculty, Midwifery Study Program, Malahayati University
Corespondensi Auter : yuliyantina@malahayati.ac.id

ABSTRAK PENGARUH PROGRAM PEMANTAUAN PENGOBATAN DAN MAKANAN (MFMP) TENTANG ANEMIA PADA IBU HAMIL

Latar Belakang: Anemia dianggap sebagai faktor risiko dan dapat mengakibatkan komplikasi yang mengancam kehidupan ibu dan janin . Program Pemantau Minum Obat Dan Makanan merupakan program yang bertanggung jawab dalam mengawasi ibu hamil dalam mengkonsumsi obat serta makanan yang diperbolehkan.

Tujuan: Mengetahui pengaruh Program Pemantau Minum Obat Dan Makanan terhadap anemia pada ibu hamil di Puskesmas Pinang Jaya Tahun 2023.

Metode: Desain yang digunakan dalam penelitian ini adalah pre-eksperimental. Populasi pada penelitian ini adalah semua ibu hamil di Puskesmas Pinang Jaya Tahun 2023. Variabel independen adalah Program Pemantau Minum Obat Dan Makanan dan variabel dependen adalah kadar Hb Pengumpulan data menggunakan lembar observasi. Analisis data menggunakan uji T Independen.

Hasil: skor pengetahuan sebelum (tidak PMOM) yaitu 10.175, dan standar deviasi .5475. Sedangkan rerata pengetahuan sesudah (tidak PMOM) yaitu 10.204, dan standar deviasi .5507 dari 56 responden . Sedangkan rerata skor pengetahuan sebelum (PMOM) yaitu 10.114, dan standar deviasi .7006 .Sedangkan rerata pengetahuan sesudah (PMOM) yaitu 10.514, dan standar deviasi .6047 dari 56 responden.

Kesimpulan: Ada pengaruh PMOM terhadap anemia pada ibu hamil.

Saran: Bagi Puskesmas Pinang Jaya diharapkan dapat memberikan informasi yang berguna bagi pihak puskesmas dalam membuat kebijakan yang berkaitan dengan pencegahan anemia pada ibu hamil.

Kata kunci : PMOM, Anemia, Ibu Hamil

ABSTRACT

Background: Anemia is considered a risk factor and can lead to complications that threaten the life of the mother and fetus. The Medication and Food Monitoring Program (MFMP) is a program that is responsible for supervising pregnant women in consuming permitted drugs and food.

Objective: To determine the effect of the Medication and Food Monitoring Program on anemia in pregnant women at the Pinang Jaya Health Center in 2023.

Methods: The design used in this study was pre-experimental. The population in this study were all pregnant women at the Pinang Jaya Health Center in 2023. The independent variable was the Medication and Food Monitoring Program and the dependent variable was Hb levels. Data collection used an observation sheet. Data analysis used the Independent T test.

Results: Knowledge score (not MFMP) is 10.175, and standard deviation is 0.5475. While the average knowledge after (not MFMP) is 10.204, and the standard deviation is 0.5507 from 56 respondents. Meanwhile, the mean score of prior knowledge (MFMP) was 10.114, and the standard deviation was 0.7006. Meanwhile, the average post knowledge (MFMP) was 10.514, and the standard deviation was 0.6047 from 56 respondents.

Conclusion: There is an effect of MFMP on anemia in pregnant women.

Suggestion: It is hoped that the Pinang Jaya Community Health Center can provide useful information for the community health center in making policies related to the prevention of anemia in pregnant women.

Keywords: MFMP, Anemia, Pregnant Women

INTRODUCTION

The Maternal Mortality Rate (MMR) is an indicator of the success of maternal health efforts. MMR is the ratio of maternal deaths during pregnancy, childbirth, and childbirth caused by pregnancy or their management but not due to other

causes such as accidents or falls in every 100,000 live births. Apart from being used to assess the success of maternal health programmes, MMR is also able to assess the health status of the community because of its sensitivity to health services, both in terms of accessibility and quality (Health Office of Bandar Lampung City, 2021). The MMR is a problem that is still a priority in the health sector, especially for mothers and children and that is a measure of the success of the government's intervention efforts in maternal health. According to World Health Organization (WHO) data, in 2017, as many as 295,000 women died during or after pregnancy and childbirth. Most of these deaths (94%) occur in areas with low resources (WHO, UNICEF & UNFPA, 2019). Indonesia's MMR ranks high compared to ASEAN countries, namely 305 per 100,000 live births. Based on the Sustainable Development Goals (SDGs), the MMR target is 70 per 100,000 live births in 2030 (SDGs, 2017; WHO, 2022).

The Ministry of Health of the Republic of Indonesia stated in 2020 that the causes of maternal death include bleeding (28.29%), hypertension in pregnancy (23.86%), and maternal death due to disorders of the circulatory system (4.94%) (The Ministry of Health of the Republic of Indonesia, 2021). According to research by Londok, Lengkong, and Suparman (2013), the most common bleeding in pregnancy is antepartum bleeding (placenta previa and placental abruption) and postpartum bleeding (uterine atony, retained placenta, and lower genital tract lacerations). Antepartum and postpartum bleeding is often found in anaemic women and is caused by anaemic women who cannot tolerate blood loss (Rukiyah & Yulianti, 2019). The risk of postpartum haemorrhage increases in pregnant women who experience severe anaemia (Manuaba, 2013).

WHO defines anaemia in pregnancy as a haemoglobin level < 11.0 g/dL. Anaemia is one of the most common complications of pregnancy. Anaemia is considered a risk factor and can result in complications that threaten the lives of the mother and fetus (Li *et al*., 2018). Anaemia is estimated to contribute to more than 115,000 maternal deaths and 591,000 perinatal deaths globally per year (McLean *et al*., 2009). Based on WHO data, 40% of pregnant women worldwide experience anaemia. 4 out of 10 ASEAN countries are in the severe category with a prevalence of 40%, including Cambodia (51.5%), Laos (47%), Myanmar (47.8%) and Indonesia (44.2%) (WHO, 2021). The percentage of anaemia in pregnant women in Indonesia has continued to increase from 2015 to 2019, from 42.1% to 44.2% (WHO, 2021).

Based on the Health Data Research (2018), the prevalence of anaemia in pregnant women was categorised according to age; the number of anaemic pregnant women aged 15–24 years was 84.6%, aged 25–34 years was 33.7%, aged 35–44 years was 33.6%, and 45–54 years of age was 24% (Central Bureau of Statistics, 2020). Based on the health profile of the city of Bandar Lampung, in 2021 it was recorded that 92.8% of pregnant women received 90 Fe tablets (Health Office of Bandar Lampung City, 2021). Even though the government has implemented a programme to control anaemia in pregnant women by giving 90 Fe tablets during pregnancy, the incidence of anaemia in pregnant women is still high, namely 44.2% (Central Bureau of Statistics, 2020; WHO, 2021).

The incidence of anaemia can be caused by several factors, including age, parity, frequency of antenatal care (ANC) visits, economic status, education level, and adherence to consumption of Fe tablets (Tampubolon, Lasamahu, & Panuntun, 2021; Yanti, Sulistianingsih, & Keisnawati, 2015). Research by Dewi and Mardiana (2021) at the Nusawungu II Cilacap Community Health Centre stated that 72.6% of pregnant women have low economic status, that affects the diet of pregnant women, which consequently puts them at risk of anaemia because the nutritional needs of pregnant women cannot be met properly.

The results of Nova & Irawati's research (2021) stated that there was a relationship between consumption of Fe tablets and the incidence of anaemia in pregnant women (p-value of 0.001), there were 41 respondents who consumed Fe tablets and were not anaemic, there were 5 respondents (61%), while respondents who consumed Fe tablets (14 respondents, 34%) had Fe tablets and experienced anaemia, and 2 respondents (5%) did not consume and experienced anaemia. The researchers also mentioned that knowledge among pregnant women regarding the benefits of Fe tablets was also one of the factors that influenced adherence to Fe tablet consumption. Research by Nurmasari & Sumarmi (2019) stated that there is a relationship between ANC visits and the incidence of anaemia in pregnant women. Pregnant women who do not regularly take ANC and do not adhere to taking Fe tablets experience anaemia, while pregnant women who do not regularly take ANC but are adherent to consuming Fe tablets experience anaemia. In pregnant women who regularly perform ANC and adhere to consuming Fe tablets, 73.33% do not experience anaemia, while in pregnant women who regularly perform ANC but do not adhere to consuming Fe tablets, 20% experience anaemia. During the ANC visit, pregnant women will get an

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

early anaemia examination, get proper nutritional counselling, and get complete iron and folic acid supplements, as well as adequate health education, so that the risk factors for anaemia can be suppressed (Melku, Addis, Alem, & Enawgaw, 2014).

Research by Tampubolon *et al*. (2021) concerning the factors for the occurrence of anaemia in pregnant women in Amahai District, Central Maluku Regency, showed that social and cultural factors are a factor in the occurrence of anaemia in pregnant women, with a percentage of 68%. The research results of Tampubolon *et al*. (2021) stated that most pregnant women said they were afraid of consuming foods that were too bitter, fishy, or salty, such as fish and eggs. Ekwere *et al*. (2015), explained that the practice of food restrictions during pregnancy was carried out by 97.5% of the 121 research respondents. Respondents experienced malnutrition during pregnancy, which was influenced by custom (50.8%) and religious beliefs (28%) regarding food restrictions during pregnancy. Foods restricted during pregnancy include foods rich in carbohydrates (27.3%) and protein (14.9%).

One of the key factors that influence the success of preventing anaemia is patient compliance with consuming drugs and food (Pambudi, 2013). Medication and Food Monitoring Program is a person who is responsible for supervising pregnant women in consuming drugs and food that is allowed. In this case, special attention is needed for health workers to motivate and supervise patients while they are undergoing treatment (Manuhara, 2012).

One study compared the effectiveness of intravenous and oral iron therapy for iron deficiency anaemia in pregnancy. An unblinded randomised clinical trial was conducted on 21 patients with 14–36 weeks' gestation with iron deficiency anaemia. After block randomization, the first group received 3x300 mg ferrous sulphate therapy for 30 days, and the second group received no treatment.

Based on data Lampung Provincial Health Office (2019), the prevalence of anaemia reached 23.9% of the 6,230 mothers. The pre-survey was carried out at the Pinang Jaya Community Health Centre in Bandar Lampung City, where the highest anaemia pregnant women were found. Based on the results of laboratory checks and characteristics during physical examination, 28 pregnant women experienced anaemia, and 6 mothers admitted that they did not adhere to taking Fe tablets.

Therefore, based on the background above, the researcher is interested in conducting research with the title Effectiveness of the Medication and Food Supervisory Programme (P-MOM) on Preventing Anaemia in Pregnant Women at the Pinang Jaya Health Centre in 2023. It is known that the Effect of the P-Mom Programme (Medication Monitoring and Food) Against Anaemia in Pregnant Women at the PinangJaya Health Centre in 2023.

The purpose of this study is to determine the effect of the Medication and Food Monitoring Program (MFMP) on anemia in pregnant women at Pinang Jaya Community Health Center in 2023.

RESEARCH METHODS

This type of research is pre-experimental with an intact-group comparison research design. This research was conducted at the Pinang Jaya Community Health Centre in Bandar Lampung. This research was conducted in February–July 2023. The population in this study was all pregnant women who experienced anaemia as recorded in the MTBS data for May 2023 at the Pinang Jaya Community Health Centre in Bandar Lampung, with as many as 56 respondents. There were 56 samples of pregnant women who experienced mild anaemia in April–May 2023 (28 experiments and 28 controls). The sampling technique used purposive sampling. The statistical test used independent sample T-test.

RESEARCH RESULTS

Univariate analysis

The majority of MFMP respondents with second trimester were 15 respondents (26.7%), third trimester were 13 respondents (23.3%), with ages 25–35 there were 24 respondents (42.9%), ages >35 were 4 respondents (7.1%), primipara 17 respondents (30.4%), and multipara 10 respondents (17.8%). At MFMP, the knowledge mean score before intervention was 10.114 (SE 0,1035; SD 0.7006). While the knowledge mean score after intervention was 10.514 (SE 0.1324, SD 0.6047) from 56 respondents. At non-MFMP, the knowledge mean score before intervention was 10.175 (SE 0.1035, SD 0.5475). While the knowledge mean score after intervention was 10.204 (SE 0,1041, SD 0,5507). At not MFMP, a gestational age of second trimester as many as 17 respondents (30.3%), third trimester as many as 11 respondents (19.7%), ages <25 as many as 3 respondents (5.4%), aged 25-35 as many as 18 respondents (32.1%), aged >35 as many as 7 respondents (12.5%), primipara 15 respondents (26.8%), and multipara 9 respondents (16.1%).

Table 1

Variable	Frequency (f)		Percentage (%)	
	Intervention	Control	Intervention	Control
Gestational age				
First trimester	0	0	0	0
Second trimester	15	17	26,7	30,3
Third trimester	13	11	23,3	19,7
Age (year)				
<25	0	3	0	5,4
25-35	24	18	42,9	32,1
>35	4	7	7,1	12,5
Parity				
Nullipara	1	4	1,8	7,1
Primipara	17	15	30,4	26,8
Multipara	10	9	17,8	16,1

Bivariate analysis

Table 2

Variable	N	Mean	Standard Deviation	p-value
Pre (No-MFMP)	28	10,175	0,5475	0,001
Post (No-MFMP)	28	10,204	0,5507	
Pre (MFMP)	28	10,114	0,7006	
Post (MFMP)	28	10,514	0,6047	

There were differences in Hb levels before and after being given MFMP between the non-MFMP group and the MFMP group. The mean score of prior knowledge (not MFMP) was 10.175 (SD 0.5475). While the average knowledge after (not MFMP) was 10.204 (SD 0.5507). Meanwhile, the average score of prior knowledge (MFMP) was 10.114 (SD 0.7006). Meanwhile, the average post knowledge (MFMP) was 10.514 (SD 0.6047). It can be concluded that there was an influence of the MFMP (Monitoring Medication and Food Program) against anaemia in pregnant women at the Pinang Jaya Community Health Centre (p-value 0.001).

DISCUSSION

There were differences in Hb levels before and after being given MFMP between the non-MFMP group and the MFMP group. The mean score of prior knowledge (not MFMP) was 10.175 (SD 0.5475). While the average knowledge after (not MFMP) was 10.204 (SD 0.5507). Meanwhile, the average score of prior knowledge (MFMP) was 10.114 (SD 0.7006). Meanwhile, the average post knowledge (MFMP) was 10.514 (SD 0.6047).

This is in line with research by Rifatolistia Tampubolon, Bagus Panuntun, and Jeanita Fernanda Lasamah (2021), showed that anaemia is influenced by various factors, namely the age of pregnant women ranging from 20-35 years (81%), high school education (71%), housewife work (84%), adequate knowledge of pregnant women (81%), adhere of pregnant women consumption of Fe tablets was non-adherent (74%), socio-cultural categories with myths or dietary restrictions (68%), treatment and prevention of anaemia (90%), history of pregnancy in the second trimester (77%), third trimester (23%), low Hb level (100%), primigravida parity status (48%), complications of pregnancy (13%), antenatal care not regular (32%), midwives for antenatal care (84%), place of pregnancy checks outside health facilities (68%), do not get information (10%). According to Astutik & Ertiana (2018), anaemia is a condition in which red blood cells (erythrocytes) in the blood circulation, or haemoglobin (Hb), decrease so that they are unable to fulfil their function as carriers of oxygen to all tissues. Haemoglobin is one of the components in red blood cells (erythrocytes), which functions as a binder of oxygen and delivers it to all the body's tissue cells. Oxygen is needed by body tissues to be able to do their job properly (Suryani *et al*., 2021).

The main cause of anaemia is iron deficiency, which especially occurs in women of childbearing age and pregnant women who experience an

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

increased need for iron. Other causes of anaemia are a lack of iron intake and large amounts of blood loss (Yona & Nurulhuda, 2022). The most common cause of anaemia is malnutrition, especially iron deficiency; on the other hand, deficiency of folate and vitamins B12 and A is also an important cause (WHO, 2022). Anaemia in pregnancy is a condition in pregnant women with haemoglobin levels <11 g/dL in the first and third trimesters, while in the second trimester, haemoglobin levels <10.5 g/dL Anaemia in pregnancy requires serious attention from those involved in the health services (Astutik & Ertiana, 2018).

Bivariate discussion

There were differences in Hb levels before and after being given MFMP between the non-MFMP group and the MFMP group. The mean score of prior knowledge (not MFMP) was 10.175 (SD 0.5475). While the average knowledge after (not MFMP) was 10.204 (SD 0.5507). Meanwhile, the average score of prior knowledge (MFMP) was 10.114 (SD 0.7006). Meanwhile, the average post knowledge (MFMP) was 10.514 (SD 0.6047). It can be concluded that there was an influence of the MFMP (Monitoring Medication and Food Program) against anaemia in pregnant women at the Pinang Jaya Community Health Centre (p-value 0.001).

Haemoglobin is an iron-rich protein that has an affinity for oxygen by forming oxyhaemoglobin in red blood cells. Haemoglobin is the pigment that gives blood its red colour. With this function, oxygen is carried from the lungs to the body's tissues (Evelyn, 2014). Haemoglobin is a protein compound with Fe, which is called conjugated protein. As the essence of Fe and the framework of protoperphyrin and globin cause red blood colour because of Fe. Arterial blood contains oxygen, and venous blood contains carbon dioxide (Wibowo *et al*., 2013). Haemoglobin is a spherical molecule consisting of four subunits. Heme is an iron-containing porphyrin derivative. These polypeptides are collectively referred to as the globin portion of the haemoglobin molecule (Shinta, 2015).

Haemoglobin functions as the oxygen reserve, which is needed for cell metabolism (Sulistyawati, 2011). Factors that affect haemoglobin levels in pregnant women are basic, direct and indirect. Direct factors consist of consuming iron, infectious diseases, and bleeding. Indirect factors consist of parity, distance between 40 pregnancies, age, and diet. The basic factors consist of socio-economics, knowledge, attitudes, education, and culture (Istiarti, 2012). Iron tablet supplementation is a useful way to treat anaemia. In Indonesia, iron supplementation has long been given routinely to pregnant women at Community Health Center; using tablets containing 60 mg/day can increase Hb levels by 1% per month. So far, the results have not been encouraging, as evidenced by the high prevalence of anaemia in pregnant women both at the national and Central Java (Saifuddin, 2012).

In pregnant women who lack Fe, iron anaemia can occur, but iron deficiency can also cause fatigue, so giving Fe tablets is one of the services given at pregnancy visits, where each tablet contains 300 mg of ferrous sulphate (FeSO4) (60 mg of iron). (DeLoughery, 2014). Fe tablets are the most abundant microminerals found in the body, with as much as 3-5 grammes in the adult human body (Megasari, 2012).

The need for iron in pregnant women with a single fetus is around 1000 mg during pregnancy, or it increases by around 200–300%. Many pregnant women get Fe tablets, but there are still pregnant women who suffer from anaemia even though they have been given Fe tablets. This is due to several factors, including mothers who do not understand how to take Fe tablets. Fe tablets should be consumed after eating and drinking. Fe tablets are not recommended together with taking supplements containing calcium or high-calcium milk, coffee, or tea because iron absorption will be disrupted because they can bind Fe, thereby reducing the amount of absorption (Amperaningsih, 2011).

CONCLUSION

There were differences in Hb levels before and after being given MFMP between the non-MFMP group and the MFMP group. The mean score of prior knowledge (not MFMP) was 10.175 (SD 0.5475). While the average knowledge after (not MFMP) was 10.204 (SD 0.5507). Meanwhile, the average score of prior knowledge (MFMP) was 10.114 (SD 0.7006). Meanwhile, the average post knowledge (MFMP) was 10.514 (SD 0.6047). It can be concluded that there was an influence of the MFMP (Monitoring Medication and Food Program) against anaemia in pregnant women at the Pinang Jaya Community Health Centre (p-value 0.001).

SUGGESTION

Pregnant women to be diligent in taking iron tablets with their own awareness and knowing what foods they should not eat or drink together with taking iron tablets. For the Pinang Jaya Community Health Centre, the results of this study are expected to provide useful information in making policies related to the prevention of anaemia in pregnant women. Future researchers should be able to develop this

research further with different variables and develop innovative methods and media with a larger number of samples so that the results are more accurate.

REFERENCES

Adawiyah, R., & Wijayanti, T. (2021). Hubungan Paritas dengan Kejadian Anemia pada Ibu

Adiputra, S.,dkk. (2021). Metodologi Penelitian Kesehatan, Medan: Yayasan Kita Menulis

Andita,F. (2018). Analisa Faktor-Faktor yang Mempengaruhi Anemia Kehamilandi Puskesmas Padang Bulan. Universitas Sumatera Utara.

Astutik, R. Y., & Ertiana, D. (2018). Anemia dalam Kehamilan. Jember: CV.Pustaka Abadi.

Briawan D. 2014. Anemia Masalah Gizi pada Remaja. Jakarta: EGC.

Budiarti, A., Anik, S., & Wirani, N.P.G. (2021). STUDI FENOMENOLOGI PENYEBAB ANEMIA PADA REMAJA DI SURABAYA. Jurnal Kesehatan Mesencephalon, 6(2).

Dai, N. F. (2021). Anemia pada Ibu Hamil. Pekalongan: Penerbit NEM Gazali, R., Arifin, S., & Hayatie, L. (2020). Hubungan Faktor Antenatal Care

Dengan Kejadian Anemia Pada Ibu Hamil Di Puskesmas Kelayan Timur Banjarmasin. Journal Homeostatis, 3(3), 353–360.

Gustanela, O., & Pratomo, H. (2022). Faktor Sosial Budaya yang Berhubungan dengan Anemia pada Ibu Hamil (A Systematic Review). The Indonesian Journal of Health Promotion, 5 (1). https://doi.org/https://doi.org/10.31934/mppki.v5i1.1894

Hidayanti, L., & Rahfiludin, M. Z. (2020). Dampak Anemia Defisiensi Besi pada Kehamilan : A Literature Review. GASTER : Jurnal Kesehatan, 18(1).https://doi.org/https://doi.org/10.30787/gaster.v18i1.464

Hidayati, I., & Andyarini, E. N. (2018). Hubungan Jumlah Paritas dan Umur

Kementerian Kesehatan RI. (2014). Buku Ajar Kesehatan Ibu dan Anak. Jakarta: Kementerian Kesehatan RI.

Kementerian Kesehatan RI. (2015). Pedoman Penatalaksanaan Pemberian Tablet Tambah Darah. Jakarta: Kementerian Kesehatan RI.

Manuaba, I. A. C. (2011). Ilmu Kebidanan, Penyakit Kandungan dan Keluarga Berencana untuk Pendidikan Bidan. Jakarta: EGC.

Manuaba, I. A. C. (2013). Gawat Darurat Obstetri-Ginekologi dan Obstetri Ginekologi Sosial untuk Pendidikan Bidan. Jakarta: EGC. Marmi. (2011). Asuhan Kebidanan Pada Masa Antenatal. Yogyakarta: Pal Mall

Masturoh, dkk. 2018. Metodologi Penelitian Kesehatan. Kementrian Kesehatan Republik Indonesia.

Kehamilan dengan Kejadian Anemia Ibu Hamil The Relationship Between The Number of Parities and Pregnancy Age with Maternal Anemia. Journal of Health Science and Prevention, 2(1), 42–47

Notoatmodjo. 2018. Metodologi Penelitian Kesehatan. Jakarta: Rineka Cipta.

Roflin, E., dkk. (2021). Populasi, Sampel, Variabel (M. Nasrudin (Ed.); Cet. 1). Pt. Nasya Expanding Management.

Sugiyono, (2019). Statistik Untuk Penelitian, Alfabeta: Bandung

Tanjung, A. A., & Mulyani. (2021). Metodologi Penelitian Sederhana, Ringkas, Padat Dan Murah. Scopindo Media Pustaka.