The Effect of Folic Acid IntakeAgainst IUGR in Pregnant Mothers Trimester I

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Abstract.
Nutritional problems are currently the most important because they are a direct cause of death experienced by mothers and their babies after childbirth. Dominantly low nutritional intake and related to poor nutritional status in pregnant women during pregnancy will cause various good impacts on both mother and baby, for example, low birth weight. Bay has been born into this world with a baby weight of more than 2,500 grams. Growth retardation in the fetus is known as intrauterine growth restriction (IUGR). This study aims to determine the effect of giving polalic acid to women who are pregnant in the first trimester and its effect on IUGR. The research was conducted using Google Scholar with the variables studied. The article/review is then read and internalized according to the written criteria and then used as a literature review. The results of the study were carried out by taking articles using observational analysis research methods using cross sectional research methods with a duration of less than 5 years (2016-2021). There is an effect of IUGR on folic acid intake in first trimester pregnant women. deficiency in folic acid during pregnancy and can occur and cause risk factors for fetal malformations and the development of placental disease. A sign of folic acid deficiency is anemia caused by abnormal production of red blood cells. Adequacy of folic acid for pregnant women is 600 g / day to 800 g / day. Folic acid can be obtained from fresh green leafy vegetables, oranges, potatoes and whole grains.

Keywords: *Folic Acid, Pregnancy, Disease, IUGR*

I. INTRODUCTION

The issue of the most concerning problems in non-industrialized countries is the morbidity and mortality of mothers who are pregnant and awaiting delivery (1). Re-information from WHO said that there were 585,000 mothers biting dust every year during pregnancy or childbirth and most (58.1%) were caused by toxemia and eclampsia. According to information from the Indonesian Ministry of Health, toxemia occurs in 3-10% of pregnancy. There are several factors that make it the highest cause of maternal death, namely specific death (28%), preeclampsia (24%), and disease (11%). In addition, toxemia is one of the events of blood poisoning which if toxemia is not handled properly it will create things that get worse and eclampsia. There are several side effects of toxemia, namely proteinuria, edema, and hypertension(2).The etiology and pathophysiology of this event are still unclear, but it is generally agreed that three significant pathologies can be experienced: placental ischemia, hypertension, and DIC (dispersed intravascular coagulation). Although the reason for the toxemia at this point is unclear, the pathogenesis of stage 1 begins with a healthy and unusual placenta. One of the supplements that acts as folic acid is to work for DNA and RNA biosynthesis, homocysteine digestion, protein capacity, and the separation process.(3)In addition, nutritional problems are currently a major problem, causing maternal and infant mortality. The existence of instability resulting in low nutritional intake and nutritional status of pregnant women can have a different impact on mothers and children, one of which is in terms of lower birth weight. The existence of post-natal children who have a fairly low birth weight, many times they are bound to bite the dust if a comparison is made to those who were born weighing 2500 grams. What influences progress during pregnancy is the status of the health of the pregnant mother(4).

From the need for nutrition that has been an influence on pregnancy from the mother, it has been influenced by how much of a maroo nutrient with micronutrients that has entered the body area. Several types of micronutrients have a relationship with postnatal weight, such as corrosive folate and iron (Fe) (Fe).

Presence Pregnant women need up to 600 g of folic acid daily. Pregnant women who take folic acid are very useful in preventing miscarriage in the baby. During pregnancy, the need for folic acid drastically increases because the body develops and the baby feels this development. Women who are pregnant with folic acid deficiency are at a higher risk of various regeneration problems, including birth defects and birth surrender(5) The energy requirements of a normal pregnancy require an additional 80,000 calories in less than 280 days. This implies that an additional about 300 calories each day during pregnancy is required. From the presence of hidden energy in the measured protein has a value of 26,244 Kcal extra energy, which is used to convert the energy bound in the intake or a food that will become energy so it can be metabolized. Therefore the aggregate amount of energy that needs to be accessible during pregnancy is 74,537 Kcal, aggregated to 80,000 Kcal. To get how much energy each day, the result of this aggregate is then separated by the number 250 (calculated the length of pregnancy in days) so that the total is 300 Kcal(6).In women who are pregnant, this requires the presence of special supplements such as calcium, vitamin D, the presence of flat-form acids, and iodine. This supplement can be obtained from the breast milk of pregnant women. not only that focus on whether the milk has been purified. Usually this data is recorded on bundling(7).Mothers who are pregnant need special supplements such as calcium, vitamin D, folic acid and iodine. This supplement can be obtained from this milk in pregnant women recorded on the bundling. Known as follows: Calcium If a pregnant woman is 24 years old or more experienced, she really needs how much calcium about 1,200 milligrams daily. Pregnant women younger than 24 years need between 1,200 and 1,500 milligrams of calcium each day. If the mother does not get enough calcium during pregnancy, the body will take calcium from things that the poor have prepared for the needs of the child. Regular dairy products contain 276 milligrams of calcium for each cup, so they can meet the calcium needs of pregnant women(8).

II. METHODS

The research design used was a literature review using a quasi-experimental design and a random control trial(9). By describing the dependent variable (the effect of IUGR on folic acid intake) to the independent variable (pregnant women in the first trimester). This literature review was compiled using articles/journals conducted by previous research related to tidal research. Examples of community used are articles/diaries related to the impact of IUGR on folic acid intake in third trimester pregnant women.

III. RESULT AND DISCUSSION

From the results of the research, it has been carried out by taking articles using an analytical observational exploration strategy using a cross-sectional review approach with under 5 years (2016-2021). The articles obtained are more than 5 articles, the results in these articles are in accordance with the current led research where from the test results on the article as a whole using examples of 40-170 people with an average age of 25-35 years with the consequences of reviews stating which from the point of view of this pregnant woman on the intake of folic acid, and iron is sufficient, it will usually produce pregnant women who indulge with normal content.From the results of research conducted by Aghadiati, (2020) it can be concluded:The gestational age of the subjects in this study was normal between 33-40 weeks, with the most important level being at 37 weeks, specifically 37.7%. There were 112 (98.1%) subjects in the study who had a foundation in further education and 26 (1.9%) had a low instructive basis. The subjects of this study have several professions, as many as 8 (77.1%) and 26 (22.9%) have professions. The type of salary in the family in this study has an average of, 108 (94.7%) have paid the minimum wage and 6 (5.3%) < UMR. A total of 68 (94.4%) subjects had adequate intake of folic acid.The state of food intake like that can hinder the development and progress of the baby. From the aspect of nutritional intake, which can not be used as the cause of LBW. From the results of this study, it was explained that pregnant women had adequate intake of folic acid and iron so that this was sufficient to be able to give birth to babies with normal weight in general.

From the presence of folic acid, it is one of the nutrients that has a double need for both the mother and the fetus. Many women in developing countries are still deficient in folic acid, this is due to a lack of folic acid in their daily diet. From the completion of the need for folic acid differs from one individual to another. During the period of pregnancy, folic acid is needed which can increase, this is not only important

for mothers who are pregnant but also for the development and development of babies. In women who are pregnant, folic acid plays an important role for pregnant women but also for the development and development of the baby. In pregnant women, folic acid plays an important role in the development of 33% of red platelets. Therefore, pregnant women who need folic acid also often experience illness. In this way folic acid is consumed from the beginning of pregnancy until during pregnancy as much as 400 g / day (10).

From the results of the study, it can be concluded as follows: In terms of age, it was noted that most of the respondents were of childbearing age, the mother was pregnant once, where the history of the mother's work was as a housewife (IRT) and basic education (SD).). In terms of intake of folic acid, the results found in respondents were not only fulfilled and only some of the respondents were satisfied with the intake of folic acid, which was 2.8%. Most of the respondents in the research that has been carried out, making this folic acid intake in accordance with the recommended RDA of 747.3g/day, overwhelmed by the types of foods that contain high levels of folic acid such as rice, energy/oats, rice made into diamonds, and Chinchining, bananas, and squeezed oranges. Of the respondents whose folic acid intake was achieved at a high value, especially 1.814, g/day, the informants from this study had fulfilled folic acid several times the folic acid intake determined according to the RDA (11). In terms of respondents, the highest intake of folic acid was as much as consuming sources from foods that had folic acid, for example chicken porridge, custard rice, spinach, vegetable soup and bananas. Evaluation of food from respondents who do not meet the presence of folic acid, for example, vegetable soup, green beans made into porridge and papaya fruit.

Differences in eating patterns between informants as respondents on intake of folic acid, food, and satisfactory intake of corrosive foods from various types of food such as rice, eggs, vegetable soup and chicken soup. The relationship between food eaten by respondents and intake of folic acid was not filled and filled, both respondents consumed foods high in folic acid sources. However, the respondents had a low recognition of folate corrosiveness, as far as the consumption of foods that were too low even though they were similar, for example, both respondents ate soup with vegetables. Respondents who were satisfied with folic acid intake only consumed 60 grams of vegetables at a time, while respondents with satisfied folic acid intake consumed 250 grams of vegetables or the equivalent of 1 small piece at a time.

From the results of the study, it can be concluded as follows: There are 53 women who have taken this supplement or around 34.7%. Mothers who have consumed supplements are 54 people or about 65.4%, when compared to mothers who have not taken supplements totaling 28 people or around 34.6%. There are 46 of the babies or about 56.8% of children who have been born on earth have a normal weight. there were 35 babies who had been born or about 43.2% of the low birth weight(12). LBW has a relationship between the impact of giving additional drugs to mothers who are pregnant with babies who have been born. Impact is a force that exists or arises from something, two individuals and an article, etc. that is strong or affects other people. Low Birth Weight (LBW) is the point where the body weight is below 2500 grams (as much as 2499 grams). Babies born into the world with low birth weight are largely unprepared to reduce new ecological tensions that can cause developmental delays and progress, and can actually hamper their endurance.Body weight is the main temperature estimate that should be taken during the actual assessment of the child. Weight gain is a side effect of gaining/losing all tissues in the body including: bone, muscle, fat, body fluids and different tissues.Body weight is the main temperature estimate that should be taken during the actual assessment of the child. Body weight is a consequence of the gain/loss of all tissues in the body including: bone, muscle, fat, body fluids and various tissues(13).

Judging from the number of associations with folic acid for women who are pregnant, it is twice as much as the need for g/day to 800 g/day. Corrosive folate is used in the formation of new red platelets. Increase blood volume, strengthen the uterine wall, placenta and the development and increase of hatchlings into term offspring, folic acid is important for child strength and increases the development of the child's brain and spine. baby. For pregnant women, extra folic acid recommended by WKNPG in 2004 is 200 g/day. Corrosive sources of folate are leafy green vegetables, natural dull ingredients, and whole grains.Considering that from the analysis results that actually occur from folic acid intake, the level of objection from low birth weight in newborns is higher than LBW, it is reasonable to state that intake of folic acid is relatively low and

there is no big relationship. against the occurrence of low birth weight because these pregnant women with low folic acid intake will definitely give birth to a child who has a low birth weight.

From the results of the examination, it is also similar that respondents with backgrounds marked by an increase in folic acid intake are relatively low but nothing has changed in LBW, this is why they have several factors that can directly influence LBW, including women who have been diagnosed with low birth weight. take multivitamin supplements. From the results of this study, almost all informants took multivitamin supplements which is one of the important variables in determining experience in determining children's recognition of world weight.Based on food review interviews, the majority of respondents did not include dairy and natural products in their diet on a consistent basis. Whereas the human body needs every supplement (einergics, fats, proteins, nutrients, and minerals) depending on the situation. while there is no single type of food that contains a total healthy substance. By eating a variety of food sources will ensure the fulfillment of healthy needs.Based on food review interviews, respondents generally do not consistently drink milk and organic products in their diet. Whereas the human body needs every supplement (energy, fat, protein, nutrients and minerals) depending on the situation. while not a single type of food is finished in its nutrients. By eating various types of food will ensure the fulfillment of nutritional needs.

IV. CONCLUSION

From the results of research that has been carried out previously, it can be concluded that among others: In this article, most of the samples used are 40-170 people with an average age of 25-35 years with the results of the review stating that women who are pregnant will have adequate intake of folic acid. , generally will bring forth pampering with ordinary birth burden .. Due to the lack of folic acid which during the period of pregnancy can be a factor causing abnormalities in the shape of the fetus and there are various infections related to the placenta. One indication of folic acid deficiency is a disease caused by the strange formation of red platelets. Regarding the need for the availability of folic acid to pregnant women, it is 600 g/day to 800 g/day. It can also be interpreted that folic acid is found from fresh vegetables that have green leaves, oranges and potatoes and need.

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REFERENCES

[1] Adjorlolo S, Aziato L, Akorli VV. Promoting maternal mental health in Ghana: An examination of the involvement and professional development needs of nurses and midwives. Nurse Educ Pract [Internet]. 2019;39(January):105–10. Available from: https://doi.org/10.1016/j.nepr.2019.08.008

[2] Kemenkes RI. Profil Kesehatan Indonesia Tahun 2020. Vol. 42, Kementrian Kesehatan Repoblik Indonesia. Kementerian Kesehatan Republik Indonesia; 2020. 97–119 p.

[3] Ding Y, Xu F, Zhong C, Tong L, Li F, Li Q, et al. Association between chinese dietary guidelines compliance index for pregnant women and risks of pregnancy complications in the tongji maternal and child health cohort. Nutrients. 2021;13(3):1–16.

[4] Bustami B, Ampera M. The identification of modeling causes of stunting children aged 2–5 years in Aceh province, Indonesia (Data analysis of nutritional status monitoring 2015). ***Open Access Maced J Med Sci.*** 2020;8(E):657–63.

[5] Edward K, Hospital M. Antenatal care schedule. 2016;1–20. Available from: http://kemh.health.wa.gov.au/~/media/Files/Hospitals/WNHS/For health professionals/Clinical guidelines/OG/WNHS.OG.AntenatalCareSchedule.pdf

[6] El-Kurdy R, Hassan SI, Hassan , Nahed Fikry, El-Nemer A. Antenatal Education on Childbirth Self-Efficacy for Egyptian Primiparous Women: A Randomized Control Trial. ***IOSR J Nurs Heal Sci.*** 2017;06(04):15–23.

[7] Ibrahim T, Dalimunthe RF, Yustina I, Juanita. The model of midwife performance of antenatal care in banda aceh. Syst Rev Pharm. 2020;11(5):21–8.

[8] Yuliana A, Murti B, Prasetya H. The Effect of Antenatal Class on Birth and Parenting Preparedness: A Path Analysis Evidence from Salatiga, Central Java. 2018;(36):223–223.

[9] Sugiyono. Metode Penelitian Kuantitatif, Kualitatif, dan R&D. 2nd ed. Sutopo, editor. Bandung: Alfabeta; 2019.
[10] Kandari N, Sikki S, Simbung R. Analisis Pemberian Biskuit Makanan Tambahan Terhadap Kadar Malondialdehyde Pada Ibu Hamil Kurang Energi Kronis Di Kota Pare-Pare. 2021;1:133–40.
[11] Chalid MT. Gambaran Umum Program 1000 Hari Awal Kehidupan. 2014;(November 2014):0–18.
[12] Mariati M. Pengaruh Pendamping Persalinan Terhadap APGAR Score Bayi Menit Pertama. ***J Ipteks Terap.*** 2015;8(3):112–22.
[13] Mardiana, Arsin AA, Sirajuddin S, Syafar M. Polymorphism nucleotide oligomerization domain-2 (NOD2) in neonatal with early breastfeeding initiation. Enferm Clin [Internet]. 2020;30(Cards 15):247–9. Available from: https://doi.org/10.1016/j.enfcli.2019.10.016