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THE RELATIONSHIP BETWEEN FAMILY SUPPORT AND PREGNANT WOMEN'S BEHAVIOR IN EFFORT PREVENT ANEMIA

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Research Report

ABSTRACT

Introduction: *Anemia experienced by pregnant women will hurt the baby, namely the risk of premature birth, low birth weight, and an increased risk of perinatal death. This study aims to determine the relationship between family support and the behavior of pregnant women in efforts to prevent anemia.* ***Methods:*** *This study used analytical research with a cross-sectional approach, the population in this study was all pregnant women in Madiun. This study used purposive sampling techniques. The sample used in this study was 112 respondents. To find out the relationship between variables in this study, the Chi-Square statistical test was used with the result that if the p-value is 0.05, it means that there is a significant relationship between the two variables.* ***Results:*** *The results of the study using the Chi-Square correlation test showed that the Fischer Exact Test value was 0.001. Because the Chi-Square test value is 0.001 < 0.005, it can be concluded that there is a relationship between family support and the behavior of pregnant women in efforts to prevent anemia.* ***Conclusions:*** *Families are expected to always provide motivation, help, and accompany pregnant women so that pregnant women feel safe, comfortable, and calm.*

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INTRODUCTION

The pregnancy phase is a phase where the fetus is in the developmental stage to welcome the birth phase, therefore the presence of maternal health problems in the pregnancy phase has the potential to endanger the mother and fetus in the womb (Ristica, 2013; Tanziha et al., 2016). Sometimes during the pregnancy phase, the mother often experiences various disorders including one of which is anemia. Anemia in pregnancy is a condition where hemoglobin (Hb) levels in maternal red blood cells (erythrocytes) < 11 gr% in the first trimester and III trimester, while in the second trimester, it is said to be anemia when hemoglobin (Hb) levels in the mother's blood < 10.5 gr% (Suryanarayana et al., 2017). Several studies have found that family factors have a significant influence on the prevention of anemia in pregnant women. Family involvement in health education is useful for improving maternal and child health (Triharini, 2019). This study aims to determine the relationship between family support and the behavior of pregnant women in efforts to prevent anemia.

According to the World Health Organization (WHO) in 2019, it is estimated that maternal deaths amounted to 303,000 people or about 216/100,000 live births worldwide. Globally, the prevalence of anemia in pregnant women is 41.8%. About half of the incidence of anemia is caused due to iron deficiency. The prevalence of anemia in pregnant women in Africa is 57.1%, Asia 48.2%, Europe 25.1% and America 24.1%. (Khalid, 2018). The prevalence of anemia in pregnancy in Indonesia in 2019 was 48.9% and this figure increased quite high compared to the results of Riskesdas in 2013 of 37.1% (Ministry of Health, 2019). Meanwhile, the incidence of anemia in pregnant women in East Java is 25.3% of the number of existing pregnancies (Irwanti et al., 2019).

Anemia during pregnancy is generally caused by several factors, namely the level of maternal knowledge about the incidence of anemia in the pregnancy phase, lack of intake of iron (Fe) levels in the diet, disruption of the process of absorption and utilization of iron due to chronic diseases, low socioeconomic conditions, inadequate health services, lack of awareness of

environmental sanitation and personal hygiene, genetic factors, and lack of family support (Siregar et al., 2023). Due to physiological changes during pregnancy, pregnant women need additional iron (Fe), this is because iron will be used for fetal growth and bleeding during childbirth. If iron (Fe) levels in the body of pregnant women are not met, then the production of hemoglobin (Hb) will decrease resulting in anemia, as a result of which blood circulation in the mother's body is disrupted and risks to the fetus in the womb. Anemia due to iron deficiency can reduce the immune system of pregnant women so that mothers with this condition are susceptible to infectious diseases, besides that it can also reduce maternal body fitness due to reduced oxygen supply in the body's muscle cells, and can reduce work productivity (Rahmawati & Wulandari, 2019). Iron deficiency in the pregnancy phase will also be bad for the baby because it can cause low birth weight, according to an Iranian study in 2018 revealed by Tarbizi and Barjesteh, low levels of Hb in the blood during pregnancy are associated with low birth weight (Rahmati et al., 2017). Anemia does not directly cause death in pregnant women but is the basis of death that explodes through bleeding events (Adhimukti et al., 2023).

In addition, based on research presented by Ira Kartika in 2021, it was explained that pregnancy is a phase where pregnant women really need support from their families (Nurhidayati et al., 2023). Therefore, lack of family support during the pregnancy phase results in pregnant women often paying less attention to diet and the type of food they consume so that nutritional intake in pregnant women is not met, especially iron. Many pregnant women do not know and realize themselves affected by anemia even though they know it, pregnant women tend to still think anemia is a trivial matter and sometimes even feel no need to consume blood-added tablets because they do not experience severe complaints, and generally mothers begin to feel affected by anemia when the condition is severe and causes clear signs (Balcha et al., 2023). Such conditions cause the incidence of anemia in pregnant women to increase and need to be controlled as soon as possible, one of which is through good family support to prevent an increase in maternal and infant mortality, especially due to anemia in the pregnancy phase.

Efforts that can be made to overcome pregnancy anemia include complying with the consumption of blood-boosting tablets, eating foods that have been fortified with iron, and changing dietary habits to foods that are high in nutrients, especially iron (Fe). In addition, other important efforts are enhanced through the willingness of family support. Family support is very meaningful for pregnant women in the prevention of pregnancy anemia. This support can be in the form of emotional support, appreciation, information, and networking (Nurhidayati Nurhidayati et al., 2023). Family awareness to always provide support, especially emotional to pregnant women, is expected to prepare a healthy physical condition and good mental in welcoming childbirth. Family involvement greatly affects the mindset and behavior of pregnant women because the family is the closest source of strength to pregnant women.

MATERIALS AND METHODS

Study Design

This study used an analysis design with a Cross-Sectional approach. Which studies the dynamics of correlation and the relationship between independent variables and dependent variables where data collection of independent and dependent variables is carried out once at the same time (Nursalam, 2020).

Example

The population of this study was all pregnant women who visited the Community Health centers from January to March 2022. The sample in this study was several pregnant women who visited the Community Health centers as many as 112 respondents met the inclusion criteria: 1) All pregnant women who could read & write 2) Pregnant women who were willing to be respondents 3) Pregnant women who did not suffer from complications, while the exclusion criteria: pregnant women with mental disorders. The sampling technique of this study used purposive sampling. The independent variable is family support, and the dependent variable n is the behavior of pregnant women in an effort to prevent anemia.

Instruments

The collection data in this study used questionnaires that had been tested for validity and reliability. The number of questions in the questionnaire on family support amounted to 10 questions and the behavior of pregnant women in an effort to prevent anemia amounted to 5 questions.

Data Collection

Data collection in this study was collected by researchers coming directly to the Community Health centers to meet with pregnant women and their families who visited the Community Health centers All researchers distributed questionnaires to pregnant women and their families after the

data was collected, researchers processed the data using editing, coding, scoring, entry, cleaning, tabulating techniques.

Data analysis

The processed data is then analyzed descriptively univariate to see the characteristics of each variable studied and bivariate analysis to find out whether there is a relationship between the independent variable and the dependent variable using the Chi-Square

Ethical considerations

The research procedure is in accordance with the Helsinki Declaration and approved by the Research Ethics Committee of the University of Muhammadiyah Lamongan with number: 065/KET/II.3.UMG/KEP/A/2022. All participants were given informed consent and told that they could withdraw from the study at any time. Informed consent was obtained from each study participant. including the publication of their responses while anonymous, then the place and time of the interview were set to maintain privacy and confidentiality. Respondents' identities are anonymized to maintain their confidentiality.

RESULTS

1) General Data Characteristics Of Pregnant Women

Table 1. Characteristics of Pregnant Women Based on Age, Education, Gestational Age, and Hb Level (n=112).

Indicators	Group	Frequency	Percentage
Age	15-25 Years	38	33,9
	26-35 Years	56	50,0
	≥ 35 Years	18	16,1
	Total	**112**	**100**
Education	Basic School	6	5,4
	Junior High School	44	39,3
	Senior High School	46	41,0
	S1/Diploma	16	14,3
	Total	**112**	**100**
Gestational Age	1st Trimester	0	0
	2nd Trimester	64	57,1
	3rd Trimester	48	42,9
	Total	**112**	**100**
Hb Level	≤ 11.0 Mg/Dl (Anemia)	10	8,9
	≥ 11.0 Mg/Dl (Without Anemia)	102	91,1
	Total	**112**	100

Table 1 shows that half of the pregnant women aged 26-35 years as many as 56 respondents (50%), almost half of the pregnant women with high school education as many as 46 respondents (41%), almost all pregnant women as housewives as many as 96 respondents (85.7%),

2) Bivariate Analysis

gestational age of pregnant women Most are Second Trimester as many as 64 respondents (57%), Almost all pregnant women do not experience anemia as many as 102 respondents

Bivariate Analysis

Table 2. Cross-tabulation of the Relationship between Family Support and Behavior of Pregnant Women in Efforts to Prevent Anemia in 2022 (n=112).

Family Support	Behavior of Pregnant Women in an Effort to Prevent Anemia						Sig Precise	Or Value
	Bad		Good		Entire			
	F	%	F	%	F	%		
Bad	18	64,3	10	35,7	28	100		
Good	12	14,3	72	85,7	84	100		
Entire	30	26,8	82	73,2	112	100		
Chi-Square Test Results							0,001	
Value ODDS Ratio (Or)								10,800

Based on the results of data processing in Table 2 above, it is known that most respondents with poor family support have bad behavior in prevention efforts as many as 18 respondents with poor family support have good prevention behavior as many as 1o respondents (35,7%). While almost half of the respondents with good family support had bad behavior as many as 12 respondents (14.3%) and most respondents with good family support had good behavior as many as 72 respondents (85.7%). Chi-Square Test results show a Fisher Exact Test value of 0.001. In the Chi-Square test, if cells are found that have an expected value of < 5, then the test above must be the Fisher Exact Test. It is known that the Exact Significance value is 0.001 < 0.05, so Based on the above Retrieval decision, it can be concluded that H1 is Accepted. This means there is a relationship between supporting the family with the behavior of pregnant women's in-depth efforts Prevention Value odds ratio or Magnitude Odds may arise from the relationship between the independent variable and the dependent variable With the table above being 10,800. Thus, it was explained that mothers who received good family support had a 10,800 times chance of having Prevention Anemia behaviors compared to mothers with poor family support.

DISCUSSION

Family Assistance for Pregnant Women in Madiun, It is known that most respondents received good support. In line with this statement (Nurhidayati et al., 2023) previous studies stated that good family support will provide psychological benefits and provide encouragement to achieve success in life, including in the formation of behavior and decision-making. Similar research by Hijazi et al., (2021), states that pregnant women need calm and motivation during the pregnancy and childbirth phases, these are the times when pregnant women really need support from their families. Based on Table 1, it is known that half of the respondents were pregnant women aged 26-35 years as many as 56 respondents (50%). This age is a safe age to accept pregnancy and childbirth because at that age the mother's reproductive organs begin to function properly. According to Nursalam's theory (2008) and Agus (2017), it is explained that the age of respondents has a positive involvement, especially in decision-making and deep acceptance of new things This research is family support, the older the age of the respondent, the wiser he is, the more information and its influence on the capture of respondents' knowledge. Age is directly related to one's understanding and mindset, as we get older, understanding and mindset will also develop so that the knowledge gained is better (Siregar et al., 2023) in their research on the relationship between risk factors and the incidence of anemia states that there is a tendency that the older the age of pregnant women, the greater the presentation of anemia. At the age of < 20 years the mother is at risk of anemia due to unstable emotions, while at the age of >35 years is at risk of anemia due to the regeneration of body cells so that the function of organs is not optimal.

According to researchers, when viewed from a practical side, age can affect the level of maturity in respondents' thinking and affect the receipt of family support, especially for the formation of behavior, including the behavior of pregnant women in efforts to prevent anemia.

Then based on Table 1 it is known that almost half of the respondents received high school education / equivalent as many as 46 respondents (41.1%).

In accordance with the theory put forward by (Fegita et al., 2022) the level of education can affect the knowledge of respondents because a person's ability to receive and understand information is determined by the level of education he has. The level of education of a person influences his understanding of something and leads him to positive behavior, as well as in the formation of maternal behavior in an effort to prevent anemia.

According to researchers, practically the level of education of pregnant women can affect their anemia status, this is related to the selection of food consumed by the mother. Higher education facilitates a person in absorbing information and implementing it in behavior, especially in efforts to prevent anemia and daily lifestyle through family support provided.

Family support is very basic to meet the needs of mothers both psychologically and behaviorally because family support will affect emotions or feelings about something that becomes a person's benchmark in shaping behavior. This form of family support is said to be successful if the expected action can be done well. Thus, in this study, it can be concluded that family support is an action given by the family to the respondent to help the respondent from the expected behavior. Pregnant women who get good family support have a great opportunity to form good behavior and characteristics, especially in efforts to prevent anemia. Behavior of Pregnant Women in an Effort to Prevent Anemia in Madiun.

Based on the results of the study in Table 2, it is known that the behavior of pregnant women

in efforts to prevent anemia is mostly included in the category of good behavior, which is as many as 82 respondents (73.2%). In line with Maslow's theory cited in (Maslow, 2010), which states that human needs consist of hierarchy. The lowest level of need is physiological need and the highest is self-actualization. According to the theory, the behavior of pregnant women belongs to the highest hierarchy of human needs that must be met. This means that the behavior of pregnant women is a basic thing that must be fulfilled because it is important for the development of maternal pregnancy. In line with the statement(Triharini et al., 2019), a previous study on pregnant women and the incidence of anemia, stated that one of the behaviors of pregnant women that reflects good family support in efforts to prevent anemia is to pay attention to adherence to Fe tablet consumption and change diet to foods high in iron.

Behavior in efforts to prevent anemia during pregnancy was related to factors from within respondents including education level, occupation, gestational age, and certain body conditions such as Hb levels.

In this study Based on Table 1, it is known that almost half of the respondents received high school education / equivalent as many as 46 respondents (41.0%). The behavior of pregnant women has a close relationship with their level of education, according to theory (Fegita et al., 2022) it is said that the higher a person's education, the better his level of knowledge about anemia. And conversely, the lower the level of education, the less informational mindset. According to researchers, practically the level of education of pregnant women can affect their anemia status, this is related to the mother's behavior in the selection of food she consumes. Universities make it easier for mothers to absorb information about things to do and avoid during pregnancy, increase adherence to Fe tablet consumption during pregnancy, eat foods that are high in protein and iron, and avoid various types of foods or drinks that are considered to inhibit iron absorption such as drinking tea, and coffee.

In addition, the behavior of pregnant women cannot be separated from the work of pregnant women, based on Table 1 it is known that almost all respondents do not work / IRT as many as 96 respondents (85.7%). In accordance with theory, according to Andarwulan (2011), work is an indicator of success in meeting family needs, including pregnant women. Family income affects the fulfillment of nutrition in pregnant women. The higher the family income, the greater the possibility of fulfilling the nutrition of pregnant women, especially iron. The higher the fulfillment of nutrition, the greater the chance of pregnant women avoiding anemia in the pregnancy phase.

Meanwhile, based on the results of the study, it is known that the number of respondents who do not work is greater than the number of respondents who work, so the possibility of fulfilling nutrition for pregnant women who do not work is low due to income factors. Then according to table 1 above, shows that when data were taken from 112 respondents as many as 10 respondents (8.9%) had anemia. Thus, the mother's work was assessed to affect the incidence of anemia in 10 respondents (8.9%) in Madiun, East Java. The possibility of fulfilling insufficient nutrition for pregnant women will cause anemia, especially the fulfillment of iron nutrients. This is in line with the opinion of (Notoatmodjo, 2017) which reveals that the selection of nutritional fulfillment is things that have to do with a person's actions or activities that are formed through processes that take place as a form of interaction between humans and their environment. Based on this exposure, it was concluded that respondents get different scores on each domain of the questionnaire questions because they are directly related to the interaction actions of respondents and their environment.

According to researchers, in terms of practicality, the level of welfare of pregnant women seen from their work and income is related to the incidence of anemia because it can have an influence in the form of fulfilling nutrients, especially iron nutrition to prevent anemia. The higher the mother's income level, the greater the chance of fulfilling nutrients, especially iron to prevent anemia, on the other hand, if the mother's income through her work is low, then the opportunity to fulfill nutrition, especially iron nutrition for pregnant women, will decrease.

Based on Table 1, it is known that, most pregnant women with gestational age in Trimester II as many as 64 respondents (57.1%). In line with the theory presented by Astuti (2018) that the increasing incidence of anemia with increasing gestational age is caused by physiological changes in pregnancy that begin at week 6, namely an increase in plasma volume and reach its peak at week 26. This means that fetal growth in the womb is related to the formation of behavior of pregnant women. Nutritional needs in pregnant women increase with increasing gestational age, increasing these needs without being accompanied by sufficient income, iron reserves will decrease and can cause anemia.

According to researchers, in terms of practicality, the gestational age of pregnant women has a relationship with the formation of

pregnant women's behavior in an effort to prevent anemia. The older the mother's gestational age, the higher the nutritional needs and strong mental drive to face childbirth, so the mother must determine the behavior that must be taken during pregnancy, especially in an effort to prevent anemia. It is known that most respondents have Hb levels of >11.0 mg / dL, which is as many as 51 respondents (91.1%) or said not anemia.

In line with the theory put forward by (Willy, 2017) that hemoglobin levels in small red blood cells (erythrocytes) (<11 mg / dL) are a sign of anemia in pregnant women. One of the causes of low levels of Hb in the body of pregnant women is due to lack of nutritional intake, especially iron. It is known that respondents' responses regarding questions about family support fall into the good category because the difference is above the average value, although family support for mothers is in the good category, the incidence of anemia is still unavoidable. This is in accordance with the theory put forward by (Nurhidayati Nurhidayati et al., 2023) which states that pregnancy conditions are vulnerable conditions and require good support from their immediate environment, however, the habits and behaviors of mothers who are less indifferent during the pregnancy phase can be one of the triggers of disease due to physiological decline in the mother's immune system, one of which is the incidence of anemia. In addition, it is also undeniable that genetic factors and congenital disease factors can also affect the onset of anemia in pregnant women.

According to researchers, it seems practical that pregnancy anemia can arise even when the family has provided good family support to the pregnant woman, other precipitating factors that may be able to cause this condition may include genetic factors and congenital diseases. Raising awareness of pregnant women does not escape good family support. The better the family support for pregnant women, the better the self-actualization of pregnant women, thus pregnant women can improve the formation of behavior in accordance with expectations, especially in efforts to prevent anemia.

According to researchers, the behavior of pregnant women is related to the factors driving the formation of maternal behavior from within the mother, including age, education level, occupation, gestational age, and maternal hemoglobin (Hb) levels, as well as the role of the closest environment, especially the family. Family support has a good influence in shaping the behavior of pregnant women in an effort to prevent anemia. Thus it is concluded that the behavior of pregnant women does not escape family support as the main and first environment for pregnant women.

The Relationship between Family Support and Behavior of Pregnant Women in Efforts to Prevent Anemia in Madiun, East Java. This study proved that there were differences in the acceptance of family support and its interpretation of behavior in all respondents. Good family support will influence the formation of behavior in pregnant women, from data analysis It is known that most respondents receive poor support and behave badly, and almost half of respondents receive poor family support and behave well. While almost half of the respondents received good family support but behaved badly and most of the respondents who received good family support and behaved well.

So it can be stated that family support has a relationship with the behavior of pregnant women. Pregnant women who get good support and behave in good categories still have a chance of developing anemia. This is likely caused by factors from within including genetic conditions and external factors that interfere with the condition of pregnant women, one of which is environmental and sanitary factors.

It can be said that family support has a close relationship with respondents, especially in the formation of behavior in efforts to prevent anemia, the incidence of anemia in 10 respondents is the influence of other precipitating factors beyond the characteristics of respondents in this study.

After data analysis using the Chi-Square Test, the results of Sig. 0.001 < P = 0.05 were obtained. This indicates that there is a relationship so that H1 is accepted.

This research is in line with previous research conducted by Nurhidayati et al., (2023) which states that family support is related to anxiety levels and attitude formation in pregnant women. Similar research results were also conducted by Al-Mutawtah et al., (2023) that good family support will help pregnant women achieve the expected welfare targets.

The results of this study are also supported by Friedman Bowmean, (2010), here high family support will encourage individuals to make good decisions. The better the family support respondents received, the better the level of confidence in making decisions. Respondents who have poor information support will have low confidence and cannot make good decisions. In addition, respondents who receive poor emotional support will feel less appreciated in making decisions, so if respondents receive poor instrumental support they will not be able to realize the plans that have been drawn up because this support is closely related to the provision of

facilities that support decision making. Then if the respondent receives poor appreciation support then he will not be able to advance or develop his ideas, and if the respondent receives less networking or social support then he will not be able to adapt and express his feelings between members in a group.

Based on the results of the cross-tabulation data analysis in Table 1, it was found that most of the 102 respondents (91.10%) did not have anemia. This is likely caused by several factors associated with anemia, (Willy, 2017) some of which are age, education level, occupation, gestational age, and the surrounding environment including family which greatly affect the formation of one's attitude and behavior because the environment has a major influence on daily life.

According to researchers, respondents who receive good family support tend to have good behavior, especially in efforts to prevent anemia. To increase good family support can be done by educating respondents and families about the forms of family support so that respondents will behave according to the forms of support provided. The better the family support provided, the greater the chances for pregnant women to behave in accordance with efforts to prevent anemia. So that the maternal mortality rate due to anemia tends to decrease. This study found a small number of respondents with anemia, which most likely occurs due to other precipitating factors outside family support and the behavior of pregnant women in efforts to prevent anemia. The limitation of this study is that the number of respondents is only 112 people, of course, it is still not enough to describe the actual situation and in the process of collecting data, the information provided by respondents through questionnaires sometimes does not show the true opinions of respondents, this happens because sometimes different thoughts, assumptions and understandings are different for each respondent, as well as other factors such as honesty factors in filling in respondents' opinions in questionnaires.

CONCLUSIONS

Most pregnant women in Madiun, East Java receive family support in the good category, most pregnant women in Madiun, East Java behave in the good category, and There is a significant relationship between family support and the behavior of pregnant women in efforts to prevent anemia.

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