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ASSOCIATION OF SPOUSAL SUPPORT AND SOCIOECONOMIC STATUS WITH MATERNAL ANEMIA

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ABSTRACT

Anemia in pregnancy is one of the most common complications encountered in antenatal care and remains a major contributor to maternal morbidity and poor pregnancy outcomes. In Indonesia, the prevalence of anemia among pregnant women has reached 48.9%, contributing significantly to maternal and fetal morbidity. This study aims to examine the relationship between spousal support and socioeconomic status with the incidence of anemia in pregnant women. A cross-sectional study was conducted from May to June 2025 at the PMB Misykah. Total sampling was applied to 45 pregnant women in their second and third trimesters who met the inclusion criteria. Data were collected using structured questionnaires and secondary data from KIA books. Variables included spousal support, socioeconomic status, and anemia status based on the latest recorded hemoglobin levels. Data were analyzed using Chi-square analysis with a significance level of $p<0.05$. The results showed that 55.6% of the respondents experienced Anemia. A significant relationship was found between spousal support and anemia ($p=0.014$), as well as between a socioeconomic status and anemia ($p=0.008$). The findings suggest that both social and economic determinants are key factors contributing to maternal anemia. Therefore, programs addressing maternal health should not only focus on clinical interventions but also involve husbands in antenatal care and improve the economic resilience of families. Further research is needed to explore the underlying mechanisms through longitudinal or mixed-method studies.

Keywords: pregnancy, anemia, spousal support, socioeconomic status, maternal health

Introduction

Pregnancy is a period characterized by increased physiological demands, especially in terms of maternal nutrition. Among the various nutritional issues during this time, anemia is a significant concern, impacting approximately 40% of pregnant women globally (Wu et al., 2020). In Indonesia, this issue is more pronounced, with nearly 49% of pregnant women reported as anemic according to the 2018 Basic Health Research (Riskesdas) (Aringazina et al., 2021; Haslin et al., 2024). Iron deficiency, often worsened by insufficient dietary intake, is the primary cause of anemia during pregnancy, leading to severe implications for both maternal and fetal health (Darmawati et al., 2019).

The adverse effects of anemia extend not only to the mother's physical well-being but also significantly impact fetal outcomes. Anemic mothers are at increased risk for complications such as low birth weight (LBW), prematurity, and perinatal mortality (Aringazina et al., 2021; Othman et al., 2021). Maternal iron deficiency can compromise the infant's nutritional status, resulting in developmental delays and adversely affecting fetal growth (Aringazina et al., 2021; Juul et al., 2019). This scenario underscores the necessity for systematic screening, early identification, and management of anemia during prenatal care (Haslin et al., 2024; Sreenidhi & Madhavi, 2023).

In addition to biological factors and nutrient intake, social and psychological dimensions significantly influence the prevalence of anemia among pregnant women. Spousal support plays a pivotal role; a husband's involvement-providing both emotional support and practical assistance- can enhance a mother's adherence to iron supplementation, regular check-ups, and maintenance of a balanced diet, all essential

for preventing and managing anemia (Akbarpour et al., 2022; Darmawati et al., 2019). Thus, husband involvement is recognized as a critical factor in mitigating anemia-related risks during pregnancy.

Furthermore, socioeconomic status is a crucial variable impacting nutritional health. Families with higher income levels and education often have better access to quality healthcare services and nutritional resources. In contrast, those from lower socioeconomic backgroynds frequently encounter economic constraints that hinder their ability to meet nutritional needs during pregnancy, thereby increasing the risk of developing anemia (Ahmed et al., 2021; Ouzennou et al., 2019). For instance, studies have indicated that pregnant women living on less than $1 per day are significantly more susceptible to anemia compared to their wealthier counterparts (Ahmed et al., 2021).

Understanding the dual role of supportive partnerships and socioeconomic conditions in the incidence of anemia is vital. This knowledge can inform targeted interventions that effectively reduce anemia rates among pregnant women. Promoting supportive family dynamics alongside enhancing educational outreach regarding nutritious and health may significantly improve maternal and fetal outcomes.

The initial survey conducted by researchers in March 2025 in the working area of *Praktik Mandiri Bidan* (PMB) Misykah showed that out of 20 pregnant women whose hemoglobin levels were examined, 12 people (55%) experienced mild to moderate anemia. Based on brief interviews with nutrition officers and the coordinating midwife, it was found that most pregnant women experiencing anemia come from families with low income and lower-middle education. In addition, most mothers admitted that they had not revived active support from their husbands in terms of consuming nutritious food and adhering to taking iron supplements. This condition strengthens the suspicion that social factors, especially spousal support, and socioeconomic status, play an important role in the incidence of anemia among pregnant women in the region.

Based on this background, this study aims to analyze the relationship between spousal support and socioeconomic status with the incidence of anemia in pregnant women. This research is expected to provide a comprehensive overview of the role of social factors in the incidence of anemia, as well as serve as a basis for developing more effective family and community-based intervention strategies in efforts to prevent anemia in pregnant women.

Research Method

This study uses an analytical quantitative approach with a cross-sectional design, where data collection is conducted at one time to determine the relationship between spousal support and socioeconomic status with the incidence of anemia in pregnant women.

The research was conducted in the working area of the PMB Misykah, from May to June 2025. This selection of the location was carried out purposively based on PMB data, which showed that anemia remains one of the health issues frequently encountered among pregnant women in the area.

The population in this study consists of all pregnant women in their second and third trimesters recorded in the PMB work area who underwent pregnancy examinations during the data collection period. Based on data from KIA officers, there are approximately 45 pregnant women who actively visited ANC during that period. Therefore, this study uses a total sampling approach, where the entire population that meets the inclusion criteria is used as the research sample.

The inclusion criteria in this study include pregnant women in the second and third trimesters, having hemoglobin level records in the KIA book, willing to be respondents, and not experiencing severe medical complications. Data were collected through structured questionnaires and secondary documents in the form of KIA books. The questionnaire consisted of three

parts: respondent characteristics, husband support level, and family socioeconomic status. Husband's support is assessed based on emotional, instrumental, informational, and esteem aspects. Socioeconomic status is determined based on educational level, type of occupation, and family income. Hemoglobin level data was taken from the KIA book, which was last checked by a health officer.

Univariate analysis was conducted to describe the frequency distribution of each variable. Bivariate analysis was sed to test the relationship between spousal support and socioeconomic status with the incidence of anemia using the Chi-square test. A p-value <0.05 is considered to indicate a statistically significant relationship.

Result

Table 1. Respondent Characteristics

Characteristics	n	%
Age		
< 20 years	5	11.1
20–35 years	35	77.8
> 35 years	5	11.1
Trimester of pregnancy		
Trimester II	18	40.0
Trimester III	27	60.0
Last education		
≤ Junior high school	8	17.8
High school/equivalent	29	64.4
University	8	17.8
Mother's occupation		
Not working	31	68.9
Employed (formal/informal)	14	31.1

This study involved 45 pregnant women who met the inclusion criteria. The majority of respondents were aged 20–35 years (77.8%), with most in the third trimester of pregnancy (60%). About 64.4% of respondents had a secondary education (high school or equivalent), and most (68.9%) were unemployed or worked in the informal sector.

Table 2. Distribution of Husband's Support and Socioeconomic Status

Variable	Category	n	%
Husband's Support	Low-Medium	18	40,0
	Good	27	60,0
Socioeconomic	Status: Low	28	62,2
	Upper-Middle	17	37,8

As many as 27 respondents (60%) received husband support in the good category, while 18 respondents (40%) received husband support in the low to moderate category.

Table 3. The Incidence of Anemia in Pregnant Women

Anemia Category	n	%
Not anemia (Hb ≥ 11 g/dL)	20	44,4
Anemia (Hb < 11 g/dL)	25	55,6

As many as 25 out of 45 respondents (55.6%) experienced anemia, based on the recorded hemoglobin levels below 11 g/dL noted in the KIA book.

Table 4. The Relationship Between Husband's Support and Socioeconomic Status with the Incidence of Anemia

Variable	Category	Anemia (n/%)	Non-Anemia (n/%)	p-value
Husband's Support	Low-Medium	15 (83,3%)	3 (16,7%)	0.014
	Good	10 (37,0%)	17 (63,0%)	
Socioeconomic Status	Low	20 (71,4%)	8 (28,6%)	0.008
	Medium-High	5 (29,4%)	12 (70,6%)	

The chi-square test showed a significant relationship between spousal support and the incidence of anemia in pregnant women, with a p-value of 0.014 (p<0.05). The chi-square test also indicated a significant relationship between socioeconomic status and the incidence of anemia, with a p-value of 0.008 (<0.05).

The research results present various characteristics of subject/sample data and the main findings of the research, while the discussion contains a discussion that connects and compares the research results with theories/concepts/findings from other research results using primary references.

Discussion

The findings of this study revealed that 55.6% of pregnant women experienced anemia, which is consistent with national-level data reported by Riskesdas 2018 and WHO estimates indicating that anemia affects nearly half of pregnant women in low-and middle-income countries. This high prevalence highlights that despite the availability of iron supplementation programs, significant gaps remain in addressing the social and behavioral dimensions of maternal health. Further, cultural norms, food taboos, and misconceptions about iron supplementation may also contribute to the persistence of anemia despite programmatic efforts.

One of the key findings in this study is the significant relationship between spousal support and the incidence of anemia (p=0.014). Pregnant women who reported receiving high levels of support from their husbands were less likely to be anemic. This finding can be explained by several mechanisms. Firstly, emotional support from the husband can reduce maternal stress, which has been shown to influence iron metabolism and overall nutrient absorption. Chronic stress activates inflammatory pathways can impair hemopoiesis (red blood cell formation), increasing vulnerability to anemia (Beard et al., 2005). Secondly, instrumental support-such as accompanying the wife to antenatal care visits or remaining her to take iron supplements directly improves adherence to health recommendations. Women with stronger partner involvement are more likely to take iron tablets regularly, maintain proper nutrition, and seek timely medical care (Amina et al., 2023; Haslin et al., 2025).

Furthermore, spousal support often influences household decision-making. In addition to financial control, gender norms often place men as the key health fecision-makers, which can either facilitate or hinder maternal health behaviors depending on their level of involvement. If a husband is involved and supportive, he is more likely to prioritized household spending on nutritious food, pregnancy supplements, or transportation to health services. This level of support becomes especially important when the woman herself has limited autonomy or health literacy.

The study also found a significant association between socioeconomic status and anemia incidence (p=0.008). Women from lower socioeconomic backgrounds showed a higher prevalence of anemia compared to those from middle-to-upper status families. This association is multifactorial. Economic constraints directly limit access to iron-rich food sources such as meat, leafy greens, and fortified cereals. Even when supplementation programs are free, costs relate to transportation, health services, and opportunity coasts (e.g., missing work) can deter regular ANC attendance. Socioeconomic factors are crucial in understanding the prevalence of anemia for example, higher household income is correlated with better nutritional access, fostering improved health outcomes (Little et al., 2018). Several studies elucidate that women from lower socioeconomic backgrounds frequently exhibit a higher prevalence of anemia, reflecting intertwined issues od inadequate diets and limited access to health resources (Mawani & Ali, 2016; Nair & Doibale, 2023).

Education level, another dimension of socioeconomic status, also plays a critical role. Educational efforts aimed at both mothers and their spouses about anemia's risks and preventive strategies could foster a more conducive environment for preventing anemia during pregnancy (Darmawati et al., 2020; Saudah, 2020).

Ultimately, an integrated approach that simultaneously addresses educational gaps concerning anemia and bolsters husband's support within the framework of socioeconomic stability may be essential in reducing anemia incidences among pregnant women. Effective interventions should consider both the husband's role and the broader socioeconomic factors that interact to

influence health outcomes in this vulnerable population.

Nevertheless, this study has certain limitations. Being cross-sectional, it cannot infer causality, only associations. Also, the study was limited to a single midwifery practice, which may reduce generalizability. Future research using mixed-method or longitudinal approaches could further illuminate the pathways through which social support and economic conditions influence maternal health outcomes.

Conclusion and Suggestion

This study concludes that both spousal support and socioeconomic status are significantly associated with the incidence of anemia among pregnant women, indicating that social and economic factors play an essential role in maternal nutritional status. Pregnant women with stronger support from their husbands and those from better socioeconomic backgrounds were less likely to experience anemia. Based on these findings, it is recommended that maternal health programs integrate strategies to involve husbands actively in antenatal education and support, while also providing targeted assistance to economically disadvantaged families through food supplementation, financial incentives, and community-based counseling. Further research is needed using longitudinal or qualitative approaches to explore causal pathways and deepen understanding of behavioral and contextual factors influencing maternal anemia.

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