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Analysis of Anemia Prevention Factors in Pregnant Women Based on Information-Motivation-Behavioral (IMB) Theory in the Work Area of the Kalianget Health Center

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ABSTRACT

Background: Anemia in pregnant women is one of the health problems that is still a challenge in Indonesia, including the Kalianget Health Center. Anemia can have a profound impact on both the mother and the fetus that is conceived. The prevention of anemia is highly dependent on pregnant women's knowledge, motivation, and behavior. This study analyzes the relationship between information and motivation for preventing anemia in pregnant women based on the theory of Information Motivation Behavior (IMB). **Methods:** The study used an observational design with a cross-sectional approach. The sample consisted of 35 pregnant women selected by simple random sampling. The research instrument used questionnaires and hemoglobin level checks. **Results:** showed that most respondents had moderate information and motivation. There was a significant relationship between information and anemia prevention ($p = 0.000$; $r = 0.713$) and between motivation and anemia prevention ($p = 0.000$; $r = 0.743$). **Conclusion:** It can be concluded that the higher the level of information and motivation of pregnant women, the better the anemia prevention behavior that is carried out. The IMB theoretical approach has been proven effective in supporting health promotion efforts to reduce the risk of anemia in pregnant women.

Keywords: Anemia; pregnant women; IMB theory; information; motivation; prevention

1. INTRODUCTION

Anemia is a condition characterized by a reduction in the number of red blood cells or hemoglobin (Hb) concentration below the threshold sufficient to meet the physiological demands of the body.(1) It represents one of the most widespread nutritional disorders globally, affecting individuals across all age groups and socioeconomic backgrounds. Among the most vulnerable populations, pregnant women face a disproportionately high burden due to the increased iron demands associated with fetal growth and development. The global prevalence of anemia among pregnant women is estimated at 43.9%, with regional distributions of approximately 49.4% in Asia, 59.1% in Africa, 28.2% in the Americas, and 26.1% in Europe.(2) In Indonesia, the World Health Organization (WHO) reported that anemia prevalence among pregnant women exceeded 40% in 2019, classifying it as a severe public health problem.(3)

The consequences of anemia during pregnancy are multifaceted, affecting both maternal and neonatal outcomes. For the fetus, anemia is associated with intrauterine growth retardation (IUGR), preterm birth, congenital abnormalities,

low birth weight (LBW), and an increased risk of intrauterine fetal death.[4] For the mother, anemia can lead to dyspnea, fatigue, palpitations, hypertension, sleep disturbances, preeclampsia, spontaneous abortion, and substantially elevated risks of antepartum and intrapartum hemorrhage, which may be fatal. Given these severe clinical implications, anemia in pregnancy continues to be a priority maternal health issue in Indonesia, requiring urgent and sustained public health interventions.

At the local level, data from the working area of Kalianget Primary Health Center in Sumenep Regency, East Java, reveal a concerning and fluctuating pattern of anemia cases among pregnant women over the period 2022 to 2024. During the first antenatal visit (K1), cases of severe anemia (Hb <8 g/dl) increased from 2 in 2022 to 8 in 2023, before declining to 6 in 2024. Moderate anemia cases (Hb 8–10 g/dl) at K1 decreased from 104 in 2022 to 72 in 2023, yet rose again to 85 in 2024. At the final antenatal visit (K4), the number of severe anemia cases increased from zero in 2022 to 6 in 2023, then dropped back to zero in 2024, while moderate anemia cases similarly fluctuated from 66 (2022) to 38 (2023) and 44 (2024). These trends suggest that while certain health interventions have yielded partial improvements, anemia remains a persistent challenge in the region, with 75% of pregnant women in the Kalianget Primary Health Center catchment area reported to be experiencing anemic conditions.

The occurrence of anemia during pregnancy is significantly influenced by the level of knowledge held by pregnant women, as knowledge is recognized as a fundamental stimulus that shapes health behaviors.[5] When pregnant women possess adequate awareness of the causes, consequences, and preventive measures associated with anemia, they are more likely to engage in health-protective behaviors, thereby reducing their risk of developing anemia-related complications. Conversely, poor health literacy related to nutritional needs and supplementation adherence may perpetuate high anemia prevalence, particularly in rural and underserved communities.[6]

The Information–Motivation–Behavior (IMB) model, originally developed by Fisher and Fisher (1992) in the context of HIV prevention, has increasingly been applied in maternal and reproductive health settings as a framework for understanding and modifying health behaviors. In the context of anemia prevention, the IMB model posits that health information equips individuals with the knowledge necessary to understand risks and preventive actions; motivation—comprising personal attitudes and perceived social support—provides the drive to act; and behavioral skills enable the translation of information and motivation into concrete, sustainable health behaviors.[7] Evidence suggests that educational interventions structured around the IMB model can effectively enhance knowledge and antenatal care behaviors among high-risk pregnant women.

In alignment with WHO recommendations, the Indonesian Ministry of Health (*Kemenkes RI*) has established a national policy mandating the provision of iron and folic acid supplementation to all pregnant women throughout the course of their pregnancy. Each tablet contains 60 mg of elemental iron and 400 mcg of folic acid, and women are advised to consume a minimum of 90 tablets consecutively during pregnancy.[8] Despite this policy, adherence to supplementation and the broader uptake of preventive behaviors remain suboptimal in many regions, including Sumenep, indicating a gap between health knowledge, motivation, and actual behavioral practice.

Despite growing interest in the application of the IMB model to maternal health, limited studies have specifically examined its utility in explaining anemia prevention behaviors among pregnant women in rural Indonesia, particularly within the context of community health centers (Puskesmas). This study therefore aims to identify and analyze the relationships between information, motivation, and anemia prevention behavior among pregnant women at Kalianget Primary Health Center, Sumenep. The findings are expected to contribute both theoretically—by enriching the application of the IMB model in obstetric contexts—and practically, by informing the design of more targeted, effective, and evidence-based health education programs for pregnant women in similar settings.

2. METHODS

2.1 Study Design

This study employed an observational design with a cross-sectional approach. A cross-sectional study examines dependent and independent variables simultaneously at a single point in time, allowing for a detailed description of the prevalence and distribution of disease as well as exposure factors occurring within a defined population.[9] This design was selected because it enables the simultaneous assessment of information,

motivation, and anemia-prevention behaviors among pregnant women without requiring follow-up over time.

2.2 Time and Location

Data collection was conducted from April to May 2025 at the Kalianget Community Health Center (*Puskesmas* Kalianget), Sumenep Regency, East Java, Indonesia.

2.3 Population and Sample

2.3.1 Population

The study population comprised all pregnant women who were diagnosed with anemia and registered at the Kalianget Community Health Center during the period of January to March 2025, totaling 37 individuals.

2.3.2 Sample

The sample was drawn from the study population using the following formula:[10]

$$n = \frac{N.Z^2\,P.q}{d^2(N-1) + z^2\,.p.q}$$

$$n = \frac{37.(1{,}96)^2.0{,}5.0{,}5}{(0{,}04)^2.(37-1) + (1{,}96)^2.0{,}5.0{,}5}$$

$$n = \frac{37\ (3{,}8416)\ .0{,}25}{(0{,}0016).36 + (3{,}8416)\ .0{,}25}$$

$$n = \frac{142{,}1392\ .0{,}25}{0{,}0576 \times 0{,}9604}$$

$$n = \frac{35{,}5348}{1{,}018}$$

$$n = 35$$

The size of the research sample obtained was 35 people. Description:

N : 37

$Z_{1-a/2}$: Z statistics (for example Z= 1.96)

P : Approximate proportions, if not found to be applicable 0,05

d : Precision (+/5%) = 0.001 to 0.10 = 0.04.

2.4 Variables

2.4.1 Independent variables

The independent variables in this study consisted of two components derived from the Information–Motivation–Behavioral Skills (IMB) model:

1) Information — the degree to which pregnant women received information related to anemia prevention during pregnancy, obtained from healthcare providers and social media.

2) Motivation — the degree of intrinsic and extrinsic motivation held by pregnant women toward anemia-prevention behaviors during pregnancy.

2.4.2. Dependent variable

The dependent variable was anemia prevention behavior among pregnant women, encompassing four key indicators: 1) adherence to Iron Supplementation Tablet (*Tablet Tambah Darah* or TTD) consumption; 2) practice of a nutritionally balanced diet; 3) regularity of antenatal care (ANC) visits; and 4) hemoglobin (Hb) level status.

2.5 Data Collection

Data were collected using a validated questionnaire and a simple laboratory examination (hemoglobin check). The research procedure was as follows: 1) an official research permit was obtained from Wiraraja University, Sumenep; 2) authorization was secured from the Head of Kalianget Community Health Center; 3) eligible respondents were identified and invited to participate; 4) written informed consent was obtained from all participants prior to data collection; and 5) questionnaires were administered and hemoglobin levels were measured.

All instruments measured three core constructs of the IMB model — information, motivation, and anemia-prevention behavior — using a four-point Likert scale (Strongly agree = 4, Agree = 3, Disagree = 2, Strongly disagree = 1). Each construct was assessed using 10 questionnaire items. Scores were then converted to percentages and categorized as: High (Good) = 68–100%, Moderate (Fair) = 34–67%, and Low (Poor) = 0–33% (9).

2.6 Data Analysis

Data processing involved four sequential stages: editing (reviewing data completeness and accuracy), coding (assigning numeric codes to each variable category), scoring (calculating and converting raw scores to percentage scores for each construct), and tabulating (entering data into a master table for frequency distribution analysis).

2.6.1 Univariate analysis

Univariate analysis was performed to describe the characteristics of respondents (age, education, occupation, parity, distance to healthcare facility, and hemoglobin level) as well as each study variable (information, motivation, and anemia-prevention behavior). Results are presented as frequency distributions and percentages, interpreted according to the following scale (9): 0% = none; 1–25% = a small proportion; 26–49% = nearly half; 50% = half; 51–75% = the majority; 76–99% = almost all; 100% = all.

2.6.2 Bivariate analysis

Bivariate analysis was conducted using the Spearman Rank Correlation test with the assistance of SPSS software to examine the relationship between each independent variable (information and motivation) and the dependent variable (anemia-prevention behavior among pregnant women). This non-parametric test was selected because the data were measured on an ordinal scale and did not follow a normal distribution. A significance level of $\alpha = 0.05$ was applied; a p-value < 0.05 was considered statistically significant. The strength of correlation was interpreted according to the following index (10): 0.00–0.20 = very weak; 0.21–0.40 = weak; 0.41–0.70 = strong; 0.71–0.90 = very strong; 0.91–0.99 = almost perfect; 1.00 = perfect correlation.

2.7 Ethics Approval

The study received ethical approval from the Faculty of Health Sciences, Wiraraja University ethics committee (approval No. 048/KEPK-FIK/UNIJA/IV/2025)

3. RESULTS

3.1 Information Level

Table 1 shows that the majority of pregnant women had a moderate level of information regarding anemia prevention, comprising 20 respondents (57.1%), followed by those with a low information level at 10 respondents (28.6%), and only 5 respondents (14.3%) had a high information level.

Table 1. Information level distribution of pregnant women at Kalianget Community Health Center (Primary Data, 2025)

No.	Information level	Frequency (f)	Percentage (%)
1	High	5	14.3
2	Moderate	20	57.1
3	Low	10	28.6
	Total	35	100.0

3.2 Motivation Level

Table 2 shows that nearly half of the respondents had a moderate level of motivation toward anemia prevention, comprising 16 respondents (45.7%), followed by those with a low motivation level at 10 respondents (28.6%), and 9 respondents (25.7%) had a high motivation level.

Table 2. Motivation level distribution of pregnant women at Kalianget Community Health Center (Primary Data, 2025)

No.	Motivation level	Frequency (f)	Percentage (%)
1	High	9	25.7
2	Moderate	16	45.7
3	Low	10	28.6
	Total	35	100.0

3.3 Anemia Prevention Behavior

Table 3 shows that nearly half of the respondents demonstrated a moderate level of anemia-prevention behavior, comprising 16 respondents (45.7%), followed by those with a low level at 10 respondents (28.6%), and 9 respondents (25.7%) showed a high level of anemia-prevention behavior.

Table 3. Anemia prevention behavior distribution of pregnant women at Kalianget Community Health Center (Primary Data, 2025)

No.	Anemia prevention level	Frequency (f)	Percentage (%)
1	High	9	25.7
2	Moderate	16	45.7
3	Low	10	28.6
	Total	35	100.0

3.4 Relationship Between Information Level and Anemia Prevention Behavior

Table 4 shows that all 5 respondents (100%) with a high information level also demonstrated a high level of anemia-prevention behavior. Among the 20 respondents with a moderate information level, 4 (20.0%) had high, 13 (65.0%) had moderate, and 3 (15.0%) had low anemia-prevention behavior. Among the 10 respondents with a low information level, 3 (30.0%) had moderate and 7 (70.0%) had low anemia-prevention behavior.

The cross-tabulation results indicate a consistent pattern: higher levels of information were associated with higher levels of anemia-prevention behavior, and conversely, lower information levels corresponded with lower prevention behavior. Statistical analysis using the Spearman Rank test yielded a p-value of 0.000, which is less than the significance level of $\alpha = 0.05$. Accordingly, H1 is accepted and H0 is rejected, confirming that there is a statistically significant relationship between information level and anemia-prevention behavior

among pregnant women at the Kalianget Community Health Center. The Spearman correlation coefficient r = 0.713 indicates a very strong positive correlation.

3.5 Relationship Between Motivation Level and Anemia Prevention Behavior

Table 5 shows that among the 9 respondents with a high motivation level, 5 (55.6%) had high and 4 (44.4%) had moderate anemia-prevention behavior. Among the 16 respondents with a moderate motivation level, 4 (25.0%) had high, 11 (68.8%) had moderate, and 1 (6.3%) had low prevention behavior. Among the 10 respondents with a low motivation level, 1 (10.0%) had moderate and 9 (90.0%) had low anemia-prevention behavior.

The cross-tabulation results indicate that lower levels of motivation were consistently associated with lower levels of anemia-prevention behavior. Statistical analysis using the Spearman Rank test yielded a p-value of 0.000, which is less than $\alpha = 0.05$. Accordingly, H1 is accepted and H0 is rejected, confirming that there is a statistically significant relationship between motivation level and anemia-prevention behavior among pregnant women at the Kalianget Community Health Center. The Spearman correlation coefficient r = 0.743 indicates a very strong positive correlation.

Table 4. Cross-tabulation of information level and anemia prevention behavior at Kalianget Community Health Center (Primary Data, 2025)

Information	Anemia prevention						Total, n (%)
	High		Moderate		Low		
	n	%	n	%	n	%	
High	5	100.0	0	0.0	0	0.0	5 (100.0%)
Moderate	4	20.0	13	65.0	3	15.0	20 (100.0%)
Low	0	0.0	3	30.0	7	70.0	10 (100.0%)
Spearman rank test: p-value = 0.000 < (α = 0.05); Spearman correlation coefficient r = 0.713							

Table 5. Cross-tabulation of motivation level and anemia prevention behavior at Kalianget Community Health Center (Primary Data, 2025)

Motivation	Anemia prevention						Total, n (%)
	High		Moderate		Low		
	n	%	n	%	n	%	
High	5	55.6	4	44.4	0	0.0	9 (100.0%)
Moderate	4	25.0	11	68.8	1	6.3	16 (100.0%)
Low	0	0.0	1	10.0	9	90.0	10 (100.0%)
Spearman rank test: p-value = 0.000 < (α = 0.05); Spearman correlation coefficient r = 0.743							

4. DISCUSSION

4.1 Level of Information Among Pregnant Women in the Working Area of Kalianget Primary Health Center

The findings of this study indicate that the majority of pregnant women in the working area of Kalianget Primary Health Center possess a moderate level of information regarding anemia prevention during pregnancy. This result suggests that while a baseline level of health information exists among the respondents, it has not yet reached the level necessary to consistently and optimally drive preventive health behavior.

Information is broadly defined as a collection of data and facts that has been organized and processed in such a manner that it becomes comprehensible and useful for the recipient.[11] In the health domain, information encompasses knowledge about diseases, health conditions, and recommended behaviors. Theoretical and empirical evidence consistently affirms that health information serves as a foundational stimulus for shaping individual behavior—knowledge-based behaviors tend to be more sustained and consistent than behaviors enacted without adequate informational support. According to the IMB model originally proposed by Fisher and Fisher, information constitutes a primary determinant of health behavior performance; individuals who are adequately informed are more likely to initiate and maintain health-promoting behaviors and to achieve positive health outcomes, whereas those who lack

sufficient information tend to engage in risk-with negative health consequences.[12]

Educational attainment is recognized as a key determinant of information-seeking behavior and health literacy.[13] Affirmed that a pregnant woman's level of education significantly influences her capacity to identify the causes of health problems and to seek appropriate solutions. Mothers with higher educational backgrounds tend to act more rationally in health matters—for example, by attending antenatal care (ANC) visits regularly with the aim of monitoring their own health and that of the fetus. Furthermore, higher educational attainment facilitates greater receptiveness to nutritional information; as education levels increase, the ability to comprehend and apply nutritional guidance improves accordingly.

The present findings are consistent with the study by,[14] which demonstrated that higher levels of knowledge among pregnant women regarding pregnancy danger signs were significantly associated with greater adherence to ANC visits. Increased awareness of pregnancy-related risks and complications, along with an understanding of the benefits of ANC, was shown to motivate pregnant women to engage more actively in routine health-monitoring behaviors, ultimately enhancing maternal and neonatal outcomes. Similarly, the study conducted by Nursiah (2025) at UPTD Puskesmas Tajuncu Soppeng district, confirmed a significant association between the level of knowledge about anemia and adherence to iron supplementation (TTD). That study underscored that knowledge plays a pivotal role in determining pregnant women's attitudes and behaviors toward iron tablet consumption. When women understand how to properly store and use iron supplements, compliance with supplementation regimens improves, thereby contributing to better nutritional status during pregnancy.[15]

In summary, the findings of this study affirm that information is a critically important domain in the management of pregnancy-related anemia. Pregnant women who possess well-rounded, accurate information about anemia—derived from trusted healthcare sources—are better positioned to effectively manage their pregnancies. When information is adequate, both maternal and fetal health can be maintained, substantially reducing the likelihood of anemia-related complications during the gestational period.

4.2 Level of Motivation Among Pregnant Women in the Working Area of Kalianget Primary Health Center

The results of this study reveal that nearly half of the pregnant women in the working area of Kalianget Primary Health Center demonstrated a moderate level of motivation toward anemia prevention. This finding indicates that motivation, while present, has not consistently translated into optimal preventive health actions among the majority of respondents.

Motivation is defined as the underlying reason that drives an individual to engage in a specific action or behavior. An individual who possesses high motivation is understood to have a sufficiently strong drive to pursue desired outcomes through sustained effort and engagement.[16] Within the context of pregnancy, motivation plays a crucial role in supporting maternal health, influencing women's willingness to adhere to antenatal care protocols, dietary recommendations, and supplementation guidelines. Motivation can arise from internal sources—referred to as intrinsic motivation—such as personal values, self-efficacy beliefs, and health attitudes, as well as from external sources—extrinsic motivation—including family support, encouragement from peers, and guidance from healthcare personnel.[16]

Parity has been identified as a significant correlate of motivational levels among pregnant women. Research by Palupi found that multigravida women tend to exhibit higher levels of motivation compared to primigravida women, a difference attributed to the accumulated experiential knowledge of multigravida women, which informs their decision-making and health management during subsequent pregnancies.[17] The IMB model further posits that motivation—both personal motivation and social motivation—functions as a fundamental determinant of health behavior performance; when motivation is strong, individuals are more likely to apply available information and skills toward health-protective actions.[18]

The present findings are supported by the study conducted by Retno Nawang Wulan (2025), which demonstrated a significant association between motivation and ANC visit attendance among pregnant women at Jumantono Primary Health Center. Higher levels of motivation were associated with more regular attendance at scheduled antenatal check-ups, underscoring the role of motivational factors in promoting care-seeking behavior.[19,20] In addition, research by Handayani et al. (2023) similarly found that

motivation was significantly correlated with adherence to iron tablet (Fe) consumption among pregnant women at Sukamaju Baru Primary Health Center, further validating the critical role of motivational factors in supplementation compliance.[20]

In conclusion, motivation constitutes an essential domain in supporting optimal pregnancy management and anemia prevention. When pregnant women receive adequate motivational support—from both internal sources and their social environment, including healthcare providers and family members—their capacity to implement preventive health behaviors is substantially enhanced. Interventions aimed at strengthening motivational dimensions, particularly through targeted health education and social support reinforcement, are therefore imperative in efforts to reduce anemia prevalence among pregnant women.

4.3 Level of Anemia Prevention Behavior Among Pregnant Women in the Working Area of Kalianget Primary Health Center

The findings of this study indicate that nearly half of the pregnant women in the working area of Kalianget Primary Health Center exhibited a moderate level of anemia prevention behavior. This result suggests that while preventive actions are being undertaken by a considerable proportion of respondents, the overall adoption of comprehensive and consistent preventive behaviors has not yet reached an optimal level.

Prevention is conceptually defined as any deliberate action or effort undertaken to preclude, inhibit, or avert the occurrence of undesired events or outcomes.[21] In the context of maternal health, anemia prevention during pregnancy encompasses a constellation of health-protective behaviors, including the consumption of iron-rich and nutritionally balanced foods, adherence to supplementation regimens, regular attendance at antenatal care visits, and active monitoring of hemoglobin (Hb) levels. The consumption of adequate nutrients—particularly iron and folic acid—along with physician-prescribed supplementation is widely recognized as the cornerstone of anemia prevention in pregnancy. Additionally, environmental hygiene maintenance and sustained support from both family members and healthcare workers are integral components of an effective anemia prevention strategy.

The behavioral perspective advanced by Maharani (2023) asserts that an individual's health behavior is substantially shaped by their knowledge and attitudes. Pregnant women who possess sound knowledge of anemia and hold positive attitudes toward preventive health practices are more likely to engage in behaviors that actively reduce their risk of developing anemia during pregnancy.[22] This relationship between knowledge, attitudes, and health behavior is well-established in health behavior theory, reinforcing the importance of comprehensive health education and counseling as a strategy for improving anemia prevention behavior.

It can therefore be concluded that anemia prevention during pregnancy is a priority public health action for ensuring the health and well-being of both mothers and their unborn children. It is essential that pregnant women, supported by their families and healthcare providers, actively engage in prevention programs—including maintaining adequate nutritional intake and adhering to supplementation protocols as recommended by attending clinicians—in order to mitigate the risk and burden of gestational anemia.

4.4 Relationship Between Information and Anemia Prevention Behavior Among Pregnant Women at Kalianget Primary Health Center

The results of the statistical analysis in this study indicate that a significant relationship exists between the level of information and anemia prevention behavior among pregnant women in the working area of Kalianget Primary Health Center. This finding confirms that information serves as a fundamental and actionable determinant of preventive health behavior in the context of pregnancy-related anemia.

Theoretical foundations supporting this association are well-established. Information is recognized as an important factor in shaping human behavior because behaviors grounded in knowledge tend to be more durable and consistent than those enacted without adequate informational support. Health knowledge directly influences an individual's level of adherence to health-promoting behaviors; the greater the volume and quality of health information available to an individual, the higher the likelihood of their engaging in behaviors that maintain or improve their health status.[7] Within the framework of the IMB model developed by Fisher and Fisher, information is conceptualized as a primary behavioral determinant: individuals who are well-informed about a given health threat are more likely to initiate and sustain health-protective behaviors, while those lacking sufficient information are at greater risk of

engaging in behaviors that compromise their health outcomes. In particular, information that is directly relevant to the performance of a specific health behavior and that can be practically applied in daily life constitutes a critical determinant of health behavior performance.[18]

The present findings are corroborated by the study of Kolantung et al. (2023), which identified a significant association between educational level and the incidence of anemia among pregnant women, affirming the role of information and knowledge access in reducing anemia risk.[23] Similarly, the study by Azizah et al. (2023) found that the majority of pregnant women across several regions of Indonesia possessed a moderate level of knowledge about anemia and its prevention, and exhibited positive attitudes toward preventive measures—suggesting that when information is available and understood, it translates meaningfully into health-positive attitudes and behaviors.[24]

Based on the foregoing evidence, it is posited that information constitutes a critically important domain in preventing anemia among pregnant women. When a pregnant woman possesses high-quality, accurate, and accessible health information, the perceived and actual benefits of appropriate pregnancy management are maximized. Conversely, when health information is limited or inaccurate, the quality of pregnancy management and associated health outcomes tends to deteriorate. Strengthening health information delivery through targeted, evidence-based educational interventions at the community and health facility levels is therefore a strategic imperative in reducing the burden of anemia during pregnancy.

4.5 Relationship Between Motivation and Anemia Prevention Behavior Among Pregnant Women at Kalianget Primary Health Center

The statistical analysis conducted in this study demonstrates that a significant relationship exists between the level of motivation and anemia prevention behavior among pregnant women in the working area of Kalianget Primary Health Center. This finding underscores the fundamental role of motivation as a behavioral driver in the context of maternal health and anemia prevention.

Motivation is broadly defined as the internal or external force that initiates, directs, and sustains an individual's behavior toward the fulfillment of a need or the attainment of a goal.[16] Within the framework of the IMB model, motivation is affirmed to be a fundamental determinant of health behavior performance. The model distinguishes between two motivational dimensions: personal motivation, which reflects an individual's own attitudes and beliefs toward performing a health behavior; and social motivation, which encompasses perceived social support and the normative expectations of significant others, including family members and healthcare providers.[18] Both dimensions work synergistically to determine the extent to which an individual engages in health-protective actions.

The current findings are strongly supported by prior research. The study by Putri (2023) reported a significant association between motivation and adherence to iron supplementation (TTD) among anemic pregnant women at UPTD Nguter Primary Health Center, Sukoharjo, establishing that higher levels of motivation were associated with significantly greater supplementation adherence. Similarly, Wiyono (2023) confirmed a significant association between motivation and iron tablet adherence among pregnant women at Borneo Kasih Clinic, Palangka Raya, further validating the role of motivational factors in sustaining supplementation behavior. These findings are consistent with the conclusions of Retno Nawang Wulan (2025) and Handayani et al. (2024), which demonstrated motivation's significance in promoting ANC attendance and supplementation compliance, respectively.

5. CONCLUSION

This study concludes that the majority of pregnant women in the working area of Kalianget Primary Health Center possess a moderate level of information regarding anemia prevention, nearly half demonstrate a moderate level of motivation, and nearly half exhibit a moderate level of anemia prevention behavior. Most importantly, both information and motivation were found to have significant relationships with anemia prevention behavior among pregnant women, consistent with the theoretical propositions of the Information Motivation Behavior (IMB) model. These findings suggest that strengthening health information delivery and motivational support—through targeted education programs, active family involvement, and enhanced counseling by healthcare providers—are essential strategies for improving anemia prevention outcomes among pregnant women in similar community health settings.

Ethical Approval

The study received ethical approval from the Faculty of Health Sciences, Wiraraja University ethics committee (approval No. 048/KEPK-FIK/UNIJA/IV/2025).

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Competing Interests

All the authors declare that there are no conflicts of interest.

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Underlying Data

Derived data supporting the findings of this study are available from the corresponding author on request.

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