

Integrating husband's support through leaflet-based education among anemic pregnant women at Helvetia Primary Health Center, Indonesia

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ABSTRACT

Maternal anemia poses a critical global health concern that heightens risks of maternal morbidity, adverse gestational outcomes, and mortality. While routine iron supplementation initiatives are widely operationalized, their real-world clinical efficacy heavily hinges upon spousal support. Educational interventions utilizing printed leaflets may strengthen husband involvement in supporting pregnant women diagnosed with anemia. This study aimed to evaluate the effect of husband-targeted leaflet-based education on informational, appraisal, instrumental, and emotional support dimensions at the Helvetia Primary Health Center. A quantitative, one-group pretest-posttest design was conducted involving 40 anemic pregnant women and their spouses selected via purposive sampling. Spousal support parameters were measured using a validated Likert-scale questionnaire. Collected data were processed through descriptive statistics and paired-sample t-tests, applying a standard significance threshold of $p < 0.05$. The educational intervention yielded significant enhancements across all measured spousal support domains, specifically elevating informational support (70.0% to 85.0%), appraisal support, instrumental support (75.0% to 80.0%), and emotional support. Inferential statistical testing confirmed a significant overall increase in spousal support parameters following the implementation of the intervention ($p < 0.001$). Targeted educational leaflets demonstrate efficacy in augmenting husband participation to support anemic pregnant women. Integrating male-focused educational strategies into routine antenatal care services presents a viable avenue to optimize family-centered health promotion within primary care settings.

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INTRODUCTION

Ensuring optimal maternal health outcomes continues to be a critical imperative for global public health, most notably within low- and middle-income regions where gestational complications drive a significant proportion of maternal morbidity and death. To meet Sustainable Development Goal (SDG) Target 3.1—which mandates lowering global maternal deaths below 70 per 100,000 live births by 2030—expanding equitable access to essential services like antenatal care is paramount. Nevertheless, widespread preventable morbidities such as gestational anemia persist, routinely undermining both maternal and fetal well-being. Consequently, mitigating these risks demands holistic health strategies that integrate clinical interventions with broader socio-behavioral and family-level determinants (World Health Organization, 2025).

Globally, iron deficiency and other nutritional deficits render anemia a pervasive hematological challenge among gestating individuals. As benchmarked by the World Health Organization (WHO), a hemoglobin status under 11 g/dL establishes maternal anemia, marking it as a critical target for public health interventions. Recent global data indicates that over a third—approximately 35.5%—of pregnant women in their reproductive years (ages 15–49) suffered from this condition as of 2023. Beyond its profound physiological toll on energy levels, maternal capacity, and overall quality of life, gestating with sub-optimal iron stores correlates with elevated risks of systemic complications, including premature labor, intrauterine growth restriction, diminished neonatal weight, severe obstetric hemorrhage, infectious susceptibility, and heightened perinatal mortality (World Health Organization, 2024).

Within the Indonesian healthcare landscape, gestating individuals continue to face a substantial burden of anemia, notwithstanding the institutionalization of prenatal care models and routine iron-folic acid (IFA) distribution. Official epidemiological data from the 2023 Indonesian Health Survey (SKI) indicates a 27.7% prevalence among pregnant populations, a figure that directly threatens both maternal well-being and neonatal indicators, notably increasing susceptibility to obstetric complications and low birth weight. While national strategies driven by the Ministry of Health have actively prioritized antenatal oversight, micronutrient supplementation, and nutritional counseling, the persistent disease burden highlights the systemic boundaries of strictly pharmacological interventions. Consequently, mitigating this public health challenge demands expanding beyond biomedical frameworks to integrate family-integrated support networks and behavioral nudges that enhance dietary adequacy and sustained supplement compliance (Kemenkes RI, 2023).

Familial and social dynamics play a decisive role in shaping a pregnant individual's adherence to iron supplementation regimens and protective prenatal routines. Expecting mothers frequently face overlapping personal and structural hurdles to proper nutrition and routine supplement intake, including cognitive knowledge gaps, physical side-effect intolerance, daily forgetfulness, domestic labor burdens, and inadequate tangible assistance. Highlighting the cognitive aspect of this challenge, a systematic review and meta-analysis confirmed that higher maternal literacy regarding gestational anemia and iron-folic acid protocols significantly predicts consistent compliance with prescribed supplementation (Golan et al., 2021). Empirical observations across Indonesian settings underscore the critical role of domestic environments, specifically spousal engagement, in optimizing iron-folic acid (IFA) regimen compliance. Expecting mothers benefiting from robust family-level backing demonstrate markedly higher rates of adherence to prescribed micronutrient therapies and standard prenatal care protocols (Ade et al., 2016) (Triharini et al., 2018).

Spousal participation constitutes a critical determinant in maternal health, owing to a husband's capacity to shape care-seeking choices, offer psychological reassurance, alleviate domestic and financial strains, ensure attendance at prenatal visits, streamline service navigation, and foster adherence to prescribed clinical regimens. Within broader health systems, integrating men into reproductive and maternal care frameworks directly correlates with enhanced utilization

metrics, notably driving higher rates of skilled birth attendance, facility-based deliveries, and timely postpartum follow-up (Suandi et al., 2019), transforming spousal involvement during prenatal encounters—shifting from passive presence to active co-participation—presents a vital strategic pathway to bolster domestic support networks needed for effective anemia prevention and management.

Theoretical frameworks surrounding social support elucidate the mechanism by which spousal engagement impacts gestational outcomes. (James S. House, 1981) categorized social support into four distinct functional domains: informational, appraisal, instrumental, and emotional. Applied to maternal anemia, informational backing entails educating mothers on dietary requirements, anemia risks, and micronutrient regimens; appraisal support encompasses constructive reinforcement and validation of health-promoting habits; instrumental assistance manifests as tangible provisions, domestic labor sharing, or logistics for clinic access; and emotional support offers empathy, attentiveness, and psychological motivation. The operationalization of these interconnected dimensions enhances an expecting mother's capacity to sustain health-seeking practices and maintain strict compliance with anemia protocols.

This perspective aligns directly with the PRECEDE-PROCEED framework, which posits that health-related decisions are driven by the interplay of predisposing, enabling, and reinforcing constructs (Lawrence W. Green, 2005). Applied here, maternal health literacy and perception act as predisposing elements, availability of healthcare resources and information serves as an enabling mechanism, while spousal and domestic backing functions as a primary reinforcing driver. Accordingly, targeted educational initiatives that equip husbands with actionable insights and practical skills can optimize their capacity to sustain positive maternal behaviors. Shifting the educational focus beyond the expectant mother alone to actively incorporate spousal participation fosters a domestic climate conducive to long-term compliance with iron supplementation and nutritional guidelines.

Instructional media serve as critical conduits for disseminating health literacy and facilitating sustained behavioral shifts. Within primary healthcare environments, printed leaflets offer a highly functional, cost-effective, and easily portable educational medium. By synthesizing key clinical concepts through succinct text and visual components, leaflets allow target audiences to engage with material asynchronously within household settings. This format holds particular utility for engaging spousal cohorts, whose occupational obligations often constrain active attendance at structured health seminars. Supporting this approach, a systematic review by (Golan et al., 2021), demonstrated that education-driven measures—including printed learning tools, domestic oversight, automated reminders, and related behavioral cues—substantially elevate gestational micronutrient compliance. Consequently, deploying tailored educational leaflets represents a pragmatic operational strategy to enrich spousal health literacy and amplify supportive behaviors for managing maternal anemia.

While existing literature well documents the influence of maternal health literacy, family backing, and supplementation compliance, conventional interventions remain largely mother-centric in their educational delivery. Furthermore, empirical evaluations predominantly track individual parameters—such as maternal knowledge, dietary patterns, iron intake compliance, or hematological status—while oversight of spousal support as a multidimensional behavioral construct persists. Crucially, targeted interventions that engage husbands using low-barrier tools like educational leaflets remain under-researched, particularly within Indonesian primary care environments. This empirical void underscores the necessity of designing interventions that actively involve husbands while concurrently mobilizing informational, appraisal, instrumental, and emotional support domains.

Operationalizing this framework holds acute relevance for addressing maternal anemia within the localized context of Medan, North Sumatra. Epidemiological records from the Helvetia Primary Health Center documented 124 anemia cases among 2,538 registered pregnant individuals

(Dinas Kesehatan Kota Medan, 2024). Fieldwork and initial observations on March 3, 2026, underscored notable knowledge deficits among spouses regarding maternal dietary requirements, alongside restricted capacity to offer practical and nutritional backing due to occupational duties. These baseline conditions highlight that building spousal engagement and competency constitutes a vital facet of primary-level, family-centered anemia mitigation. To address this, the current study operationalizes husband involvement via targeted educational leaflets—encompassing informational, appraisal, instrumental, and emotional support domains—and measures intervention effects using a one-group pretest-posttest design. Ultimately, this research aims to assess how leaflet-delivered education influences the optimization of husbands' supportive roles in gestational anemia prevention and care at the Helvetia Primary Health Center in Medan, Indonesia.

RESEARCH METHOD

To evaluate shifts in spousal supportive roles following a leaflet-centered health education initiative targeting anemic pregnant individuals, this investigation adopted a quantitative, pre-experimental one-group pretest-posttest architecture. Field operations were anchored at the Helvetia Primary Health Center in Medan, North Sumatra, Indonesia, spanning the period from March through July 2026.

The study population comprised 66 anemic pregnant women along with their respective spouses who accessed antenatal care services at the facility during the research window. Applying a purposive sampling strategy, a final analytical sample of 40 couples was established using Slovin's formula with a specified 10% margin of error.

Inclusion criteria required pregnant women with verified anemia meeting the Indonesian Ministry of Health standards, cohabitating husbands capable of reading and comprehending the instructional leaflet, and couples executing written informed consent. Conversely, exclusion parameters accounted for pregnant subjects presenting with pre-existing chronic conditions, underlying hematological pathologies (such as thalassemia), or critical obstetric complications.

Validation of maternal anemia status relied on documented hemoglobin (Hb) metrics extracted from routine antenatal laboratory screenings within the primary health center's records. Aligned with national health guidelines, anemia was operationalized as circulating Hb values under 11 g/dL during the first and third trimesters, and under 10.5 g/dL throughout the second trimester.

Independent pre- or post-intervention Hb re-testing was not conducted by the research team; instead, laboratory figures generated during standard clinical evaluations by qualified health personnel served exclusively to verify participant eligibility.

Gestational trimester at the time of diagnosis was extracted from antenatal registries and categorized into first, second, or third trimesters to establish baseline obstetric profiles. Given that the primary study outcome focused on total changes in husbands' supportive-role scores rather than maternal hematological shifts, gestational age was not incorporated as a covariate in the paired inferential analysis.

The interventional protocol comprised a structured health education session paired with a purpose-built instructional leaflet. The print media contained concise data on gestational anemia, iron supplementation protocols, dietary guidelines, and actionable mechanisms for husbands to deliver informational, appraisal, instrumental, and emotional support. Husbands completed a baseline pretest questionnaire prior to the educational delivery and a posttest assessment following the session. Spousal support capacity was measured using a validated 20-item Likert-scale instrument divided equally across the four social support domains (five items per dimension).

Primary datasets were gathered directly from pretest and posttest questionnaires completed by husbands, whereas secondary clinical parameters—comprising Hb levels, gestational age, and

obstetric histories – were extracted from facility registries and Maternal and Child Health (MCH) handbooks.

Data processing was executed using IBM SPSS Statistics. Descriptive metrics summarized participant demographics and domain-specific support scores. Data distribution was evaluated for normality using the Shapiro–Wilk test, after which mean differences between pretest and posttest scores were analyzed via the paired-samples t-test, applying a significance threshold of $p < 0.05$.

Formal written informed consent was secured from every participating couple prior to data collection. Participant confidentiality was systematically protected across all research phases, and subjects retained the right to withdraw at any juncture without compromising their standard access to routine primary healthcare services.

RESULTS AND DISCUSSIONS

A cohort of 40 anemic pregnant women alongside their spouses actively participated in this investigation. Every respondent successfully filled out both the baseline (pretest) and follow-up (posttest) evaluations. The resulting data illustrate the shift in spousal support following the leaflet-guided educational program across four core social support domains: informational, appraisal, instrumental, and emotional support.

Respondents' Characteristics

The majority of respondents were aged 20–35 years (75.0%), had completed senior high school education (52.5%), worked as housewives (60.0%), were in the third trimester of pregnancy (42.5%), and were multigravida (52.5%).

Table 1. Characteristics of Respondents (n = 40)

Characteristics	Frequency (f)	Percent (%)
Age		
<20 years	5	12.5
20–35 years	30	75.0
>35 years	5	12.5
Education		
Elementary School	3	7.5
Junior High School	8	20.0
Senior High School	21	52.5
College	8	20.0
Occupation		
Housewife	24	60.0
Private employee	8	20.0
Entrepreneur	5	12.5
Civil servant	3	7.5
Gestational Age		
First trimester	10	25.0
Second trimester	13	32.5
Third trimester	17	42.5
Parity		
Primigravida	19	47.5
Multigravida	21	52.5

Changes in Husband Support Scores Following the Intervention

Table 2 presents the comparison of husband support scores before and after leaflet-based health education. Increases were observed across all dimensions of support. Informational support increased from 16.38 ± 2.80 to 20.70 ± 2.23 , appraisal support from 16.13 ± 2.99 to 19.73 ± 2.62 , instrumental support from 15.68 ± 2.79 to 20.50 ± 2.41 , and emotional support from 16.43 ± 2.62 to 19.63 ± 2.08 .

Table 2. Comparison of Husband's Support Before and After Leaflet-Based Education (n = 40)

Support Dimension	Pretest Mean ± SD	Posttest Mean ± SD	Mean Difference	SD Difference
Informational Support	16.38 ± 2.80	20.70 ± 2.23	4.325	2.868
Appraisal Support	16.13 ± 2.99	19.73 ± 2.62	3.600	4.623
Instrumental Support	15.68 ± 2.79	20.50 ± 2.41	4.825	3.629
Emotional Support	16.43 ± 2.62	19.63 ± 2.08	3.200	3.406

Mean difference calculated as posttest score minus pretest score.

Paired Sample t-test Analysis

The paired-samples t-test demonstrated statistically significant improvements in all dimensions of husband support after the intervention ($p < 0.001$). Instrumental support showed the greatest increase (mean difference = 4.825), followed by informational support (4.325), appraisal support (3.600), and emotional support (3.200).

Table 3. Paired Sample t-test of Husband's Support Before and After Intervention (n = 40)

Support Dimension	Mean Difference	SD Difference	95% CI	t	df	p-value
Informational Support	4.325	2.868	3.41–5.24	9.538	39	<0.001
Appraisal Support	3.600	4.623	2.12–5.08	4.925	39	<0.001
Instrumental Support	4.825	3.629	3.66–5.99	8.408	39	<0.001
Emotional Support	3.200	3.406	2.11–4.29	5.942	39	<0.001

Distribution of Husband Support Categories Before and After the Intervention

To provide a complete picture of the intervention effect, the frequencies and percentages of husband support categories before and after the intervention are presented in Table 4.

Table 4. Distribution of Husbands' Support Categories Before and After the Intervention (n = 40)

Support Dimension	Assessment	Low n (%)	Moderate n (%)	High n (%)
Informational	Pretest	3 (7.5)	28 (70.0)	9 (22.5)
	Posttest	0 (0.0)	6 (15.0)	34 (85.0)
Appraisal	Pretest	1 (2.5)	27 (67.5)	12 (30.0)
	Posttest	0 (0.0)	14 (35.0)	26 (65.0)
Instrumental	Pretest	1 (2.5)	30 (75.0)	9 (22.5)
	Posttest	0 (0.0)	8 (20.0)	32 (80.0)
Emotional	Pretest	4 (10.0)	31 (77.5)	5 (12.5)
	Posttest	0 (0.0)	10 (25.0)	30 (75.0)

Before the intervention, most respondents were classified within the moderate support category across all dimensions. After the leaflet-based educational intervention, a substantial shift toward the high support category was observed. Informational support increased from 22.5% to 85.0%, appraisal support from 30.0% to 65.0%, instrumental support from 22.5% to 80.0%, and emotional support from 12.5% to 75.0%.

Taken together, these empirical results demonstrate that implementing a leaflet-driven health education session was accompanied by marked increases across all four domains of spousal support—informational, appraisal, instrumental, and emotional—toward anemic pregnant partners. Given that baseline maternal anemia served strictly as an inclusion threshold derived from medical registries, and post-intervention hemoglobin (Hb) metrics were not resampled, these findings do not establish a direct therapeutic reduction in maternal anemia. Instead, the documented gains specifically denote positive behavioral adaptations in husbands' caregiving and supportive roles following the educational session.

Discussion

The empirical findings of this study demonstrate that leaflet-guided education significantly enhances spousal participation in supporting anemic pregnant women across four core social support domains, namely informational, appraisal, instrumental, and emotional support. These results suggest that integrating husbands into maternal health education initiatives positively impacts family involvement in anemia prevention strategies. Anchored in the PRECEDE-PROCEED model, health behavior is governed not merely by personal knowledge but also by reinforcing factors, such as domestic support systems, social dynamics, and environmental conditions (Crosby & Noar, 2011). Consequently, educational campaigns designed for husbands serve as a highly viable approach to strengthening family-centered maternal health services.

The data revealed a marked improvement in informational support following the intervention. The mean score escalated from 16.38 ± 2.80 prior to education to 20.70 ± 2.23 post-education, demonstrating a statistically significant difference ($p < 0.001$). This upward shift indicates that leaflet-based education successfully expanded husbands' literacy regarding gestational anemia, iron supplementation protocols, maternal nutritional requirements, and their distinct obligations in safeguarding maternal well-being.

These findings are consistent with the scoping review conducted by (Awaliyah & Yuriah, 2025), which concluded that empowering family members, particularly husbands, significantly improves adherence to iron supplementation among pregnant women. Their review emphasized that family-centered educational interventions strengthen behavioral change by increasing awareness, motivation, and shared responsibility within households. Similarly, Bhaskar et al. (2025) reported that active male partner involvement constitutes an essential component of nutritional anemia prevention because husbands often influence household food allocation, financial decisions, and healthcare utilization. Consequently, educating husbands may substantially improve maternal nutritional practices and pregnancy outcomes.

These empirical observations further reinforce the qualitative findings of (Darmawati et al., 2022), which indicated that husbands' perceptions of anemia heavily dictate maternal health behaviors. Cultural beliefs, misconceptions regarding gestational nutrition, and a restricted understanding of anemia frequently impair spousal involvement in maternal care routines. Educational initiatives are therefore paramount to reshaping these perceptions and driving constructive behavioral modifications.

Another key result of this investigation was the substantial post-intervention gain in appraisal support following leaflet-based education. The mean score escalated from 16.13 ± 2.99 at baseline to 19.73 ± 2.62 following the intervention ($p < 0.001$). Appraisal support captures a husband's capacity to extend validation, words of encouragement, reassurance, and positive reinforcement to pregnant mothers throughout the gestational period.

Pregnancy frequently subjects women to physical discomfort, emotional volatility, and heightened anxiety, particularly among those battling anemia. Constructive encouragement from spouses plays a key role in boosting maternal confidence to sustain healthy routines and adhere to clinical guidance. According to (Marilyn M. Friedman, Vicky R. Bowden, 2021), positive family validation elevates self-efficacy, mitigates psychological stress, and fosters adaptive coping strategies during pregnancy. Consequently, appraisal support serves as a vital determinant in enabling successful health behavior modification.

These empirical findings are corroborated by (Febrika Devi Nanda & Hendrik Probo Sasongko, 2024), who established that family support heavily impacts anemia prevention practices among pregnant women. Their investigation showed that expectant mothers who received affirmative encouragement from family members demonstrated higher compliance with dietary guidelines and iron tablet intake compared to those lacking adequate familial support. Similarly, (Rajagukguk et al., 2025) revealed that family knowledge and social support markedly improved

adherence to iron supplementation among pregnant women in Medan, emphasizing that positive reinforcement from husbands strengthens compliance with antenatal care directives.

Across the four dimensions assessed, instrumental support exhibited the most substantial growth. The mean score rose from 15.68 ± 2.79 at baseline to 20.50 ± 2.41 post-intervention, recording an average increase of 4.83 points ($p < 0.001$). Instrumental support encompasses direct assistance provided by husbands, including preparing nutritious meals, purchasing iron-dense food items, accompanying their wives to routine antenatal check-ups, reminding them to ingest iron supplements, and sharing domestic responsibilities.

This pronounced enhancement can be attributed to the pragmatic design of the leaflet-based educational intervention. Beyond expanding knowledge, the leaflet offered concrete illustrations of supportive behaviors that husbands could readily implement within their daily routines. Supplying actionable advice enables family members to seamlessly translate abstract health principles into observable behavioral changes.

These observations coincide with (Latifah et al., 2025), who highlighted that spousal support significantly advances adherence to iron supplementation regimens and reduces the incidence of gestational anemia. Correspondingly, (Sari et al., 2025) documented that practical assistance from husbands correlates strongly with a decline in maternal anemia, as instrumental support facilitates consistent iron intake, balanced dietary consumption, and regular attendance at antenatal clinics.

The present study further aligns with (Triharini et al., 2023), who affirmed that familial roles contribute substantially to pregnancy-related anemia prevention. Their study underscored that domestic involvement extends beyond emotional reassurance to encompass tangible actions supporting maternal nutrition and clinical care utilization. Consequently, fortifying husbands' practical participation should be adopted as a fundamental component of maternal health promotion strategies.

Emotional support likewise showed a statistically significant improvement following the intervention, with the mean score rising from 16.43 ± 2.62 to 19.63 ± 2.08 ($p < 0.001$). Emotional support entails empathy, affection, active listening, encouragement, and psychological reassurance extended by husbands throughout the gestational journey. Such support plays a vital role in alleviating anxiety and promoting emotional well-being among expectant mothers.

Prior empirical literature indicates that emotional well-being exerts a positive influence on adherence to antenatal recommendations and healthy dietary practices. Expectant mothers who receive adequate emotional support generally display higher motivation to safeguard their gestational health, driven by a sense of shared domestic responsibility. (Marilyn M. Friedman, Vicky R. Bowden, 2021) highlighted that emotional support fortifies psychological resilience, enhances interspousal communication, and promotes healthier overall family dynamics.

These findings align with (Sonata, 2025), who documented that husbands' attitudes and emotional involvement significantly impact maternal compliance throughout pregnancy. Likewise, Mandey et al. (2020) demonstrated that spousal emotional support enhances a mother's readiness for pregnancy and childbirth by mitigating psychological distress and boosting confidence across the gestational trajectory.

In aggregate, the present study offers concrete evidence that leaflet-guided health education effectively intensifies spousal engagement across multiple dimensions of family support (Ainy, 2023). Unlike numerous previous investigations that concentrated solely on maternal literacy or nutritional supplementation, this research comprehensively evaluated behavioral shifts among husbands through informational, appraisal, instrumental, and emotional support lenses. This multidimensional framework constitutes the primary novelty of the study and strongly underscores the concept of family-centered maternal health care (Putri et al., 2023).

From a practical standpoint, incorporating husbands into antenatal education routines can augment the efficacy of anemia prevention strategies within primary healthcare facilities.

Educational leaflets represent a cost-effective, easily accessible, culturally adaptable tool that reinforces verbal counseling delivered during routine antenatal check-ups. Consequently, embedding husband-oriented educational resources into standard antenatal care services may enhance maternal adherence to iron supplementation schedules, refine dietary practices, and ultimately lower maternal anemia prevalence (Ujung et al., 2026).

Primary limitations of this study encompass the absence of a control group in its pre-post assessment, reliance on a localized sample size, and vulnerability to reporting bias via questionnaire instruments. Prospective studies are advised to implement randomized or quasi-experimental methodologies across broader populations, paired with prolonged follow-up durations. Furthermore, evaluating objective physiological indicators—specifically hemoglobin variations, supplementation compliance, and maternal nutritional markers—will strengthen future empirical evidence (Fajria et al., 2024).

According to a study by (Tsegaye et al., 2022), husbands' involvement in theory-based nutrition education programs has been shown to positively impact nutritional status and dietary diversity in pregnant women. This indicates that educational strategies targeting male partners have strong potential to encourage the adoption of healthy lifestyles during pregnancy.

A study by (Laksono et al., 2022), identified that education level, accessibility of health information, and socioeconomic status were key determinants of husbands' involvement in prenatal care. Consequently, family-based education is a crucial strategy for optimizing active partner participation during gestation.

Research by (Hidayati & Yuli, 2020), demonstrated that educational interventions using *the Behavioral Insight* approach significantly contributed to increased knowledge and positive attitudes among husbands in supporting adherence to iron supplement consumption in pregnant women. This finding aligns with evidence that the use of educational media such as leaflets is effective in mobilizing active partner participation. A study by (Latifah et al., 2025), showed a significant correlation between husbands' support, adherence to iron supplementation and a reduced risk of anemia in pregnant women in the third trimester. This finding confirms that practical support from male partners plays a crucial role in reducing the incidence of maternal anemia. A study by (Fatrika et al., 2024), identified a significant relationship between husband's support and pregnant women's compliance with iron supplementation. Active support and regular reminders from husbands have been shown to improve maternal iron supplementation adherence. A study by (Putri et al., 2023), highlighted that emotional support from husbands acts as a mitigating factor, helping pregnant women maintain consistent iron supplement intake, despite experiencing side effects. These findings underscore the importance of psychosocial support in facilitating the formation and maintenance of positive maternal health behaviors.

Research by (Gustini et al., 2025), found that husbands' assistance plays a significant role in optimizing hemoglobin levels in pregnant women by increasing adherence to iron supplement consumption. This finding reaffirms that the active participation of male partners has the potential to positively contribute to improving maternal health indicators.

CONCLUSION

In conclusion, this investigation reveals that deploying a leaflet-centered health education initiative successfully enhanced husbands' supportive involvement toward anemic pregnant partners at the Helvetia Primary Health Center. Post-intervention measurements indicated substantial score gains across all four evaluated support domains—informational, appraisal, instrumental, and emotional—with instrumental assistance registering the most prominent upward shift. These outcomes suggest that actively engaging spouses in prenatal health education via structured print resources offers a viable mechanism to reinforce domestic support systems within routine primary care settings. Nonetheless, because the analytical scope was restricted to evaluating spousal

behavioral changes rather than tracking post-intervention hemoglobin concentrations or direct supplement compliance, these results confirm enhanced paternal backing rather than clinical anemia resolution or verified iron intake adherence. To determine whether elevated spousal engagement translates into quantifiable maternal clinical improvements, future inquiries should employ controlled experimental architectures incorporating objective physiological markers.

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