# The Role of Social Support in Iron Folic Acid Supplement Adherence Among Adolescent Girls in a Public Junior High School in Jakarta

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***Abstract***

*Iron deficiency anemia remains a pressing public health issue among adolescent girls, particularly in Southeast Asia. Despite the implementation of school-based weekly iron-folic acid (Fe) supplementation programs in Indonesia, adherence rates remain suboptimal. This study aimed to examine the association between family, teacher, and peer support and adherence to Fe tablet consumption among adolescent girls in DKI Jakarta Province. A quantitative, cross-sectional study was conducted in December 2024 at SMP Negeri 79 Jakarta. A total of 57 female students aged 12–15 years were selected through purposive sampling, based on their participation in the school-based Fe tablet supplementation program. Data were collected using structured, pre-validated questionnaires assessing levels of social support and adherence to Fe tablet intake, with adherence defined as consuming ≥75% of the recommended dosage over the previous four weeks. Statistical analysis was performed using the Spearman Rank correlation test via SPSS version 25.0, with significance set at p < 0.05 and a 95% confidence interval (CI). The findings revealed that most participants received low family (56.1%) and peer support (59.6%), while teacher support was reported as high in 42.1% of respondents. Only 24.6% of participants were categorized as adherent. Significant positive correlations were observed between adherence and family support (r = 0.724; 95% CI: 0.57–0.84), teacher support (r = 0.555; 95% CI: 0.34–0.72), and peer support (r = 0.677; 95% CI: 0.48–0.80), with all associations statistically significant at p < 0.001. Family, teacher, and peer support are critical determinants of adherence to iron-folic acid supplementation among adolescent girls. Strengthening multi-level social support mechanisms within school health programs could significantly enhance compliance and contribute to the prevention of anemia in this vulnerable population*

***Keywords: Iron Folic Acid Supplementation, Adolescent Health, Social Support, Compliance***

## INTRODUCTION

Iron deficiency anemia is a persistent global public health concern, particularly affecting adolescent girls. In 2024, anemia was estimated to affect approximately 30% (571 million) of non-pregnant women worldwide (WHO, 2024). In Indonesia, 25.8% of adolescent girls were reported to be anemic (Ministry of Health of Indonesia, 2023b). The situation is particularly concerning in the capital region: 32.2% of adolescent girls in DKI Jakarta Provincewere found to be anemic in 2023, with prevalence rates reaching 52.08% in Central Jakarta and 58.6% in Kemayoran District (DKI Jakarta Provincial Health Office, 2023).

Anemia occurs when hemoglobin (Hb) levels fall below normal, impairing oxygen transport to tissues. Common symptoms include fatigue and decreased cognitive function, which can negatively affect academic performance and psychosocial development. For

adolescent girls, the condition may also increase the risk of complications in future pregnancies, such as miscarriage, preterm delivery, postpartum hemorrhage, and low birth weight (Ministry of Health of Indonesia, 2023). In children, maternal anemia has been linked to impaired cognitive and physical development (Kemenkes RI, 2018).

To address this issue, the Indonesian Ministry of Health initiated the Iron Folic Acid (IFA) Tablet Supplementation Program for adolescent girls in 2014, delivered through the School Health Unit with weekly distribution schedules. The program also aims to reduce stunting as part of the national strategy to improve maternal and child health. In 2023, approximately 61.3% of adolescent girls nationwide consumed IFA tablets, with 81.5% coverage reported in DKI Jakarta (Ministry of Health of Indonesia, 2023). Despite this, anemia rates remain high, signaling the presence of implementation gaps beyond access and availability.

One of the key barriers to adherence lies in behavioral and psychosocial factors, notably the role of social support. Previous studies have often focused on knowledge, availability, or perceptions, yet limited attention has been paid to modifiable psychosocial factors such as support from family, teachers, and peers. According to Green's PRECEDE-PROCEED model, predisposing, reinforcing, and enabling factors including interpersonal support can shape health behavior (Nurjanah & Azinar, 2023). Family support, for instance, has been linked to adolescents' motivation to adopt healthful routines, including compliance with supplementation (Harlisa et al., 2023). Teachers also function as credible role models and facilitators within the school environment, while peer influence can strongly reinforce or discourage compliance behaviors (Ilham et al., 2023).

At the local level, State Junior High School 79 Jakarta participates in the national IFA program, distributing 10 tablets per student every three months. However, recent hemoglobin screenings conducted by local health centers indicate that anemia prevalence among students remains elevated, pointing to poor compliance. These findings highlight a critical need to explore the role of interpersonal support systems in influencing student adherence.

Therefore, this study aims to investigate the association between family, teacher, and peer support and adherence to iron–folic acid tablet consumption among adolescent girls at a public junior high school in Jakarta. By focusing on modifiable behavioral determinants, the study seeks to inform more socially contextualized interventions within school health programs.

## METHODS

This study employed a quantitative research approach with an analytical survey design and cross-sectional method to explore the association between social support (family, teacher, and peer) and adherence to iron folic acid (IFA) tablet consumption among adolescent girls. The study was conducted at State Junior High School 79 Jakarta on December 12, 2024.

The target population consisted of all female students enrolled in the school. The sample size of 57 respondents was determined using purposive sampling, based on inclusion criteria such as active participation in the IFA tablet supplementation program and willingness to participate. The sample size was considered sufficient to detect moderate correlations with a confidence level of 95% and power of 80%, guided by preliminary prevalence data.

Data collection was conducted through a structured, self-administered questionnaire consisting of both closed and Likert-scale items. The instrument was adapted from previous validated studies and reviewed by experts in public health and nutrition for content validity. A pilot test was conducted with 10 respondents outside the study population, and the reliability of the questionnaire was confirmed with a Cronbach's alpha of >0.7.

The main variables included family support, teacher support, peer support, and adherence to IFA tablet consumption. Social support was measured using a 10-item Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree), while adherence was defined based on the Ministry of Health guideline as the consumption of at least 75% of the tablets distributed over a four-week period. Indicators for each type of support were measured using items reflecting emotional, instrumental, and informational dimensions. Data analysis was conducted using SPSS version 25.0. Descriptive statistics were used to summarize demographic characteristics and variable distributions. The Spearman Rank correlation test was employed to assess relationships between social support and adherence to IFA tablet consumption. A confidence interval (CI) of 95% and a significance level of $p < 0.05$ were applied to interpret the statistical results.

## RESULTS

**Table 1. Distribution of Social Support and Compliance with IFA Tablet Consumption (n=57)**

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Family Support** | | |
| Low | 32 | 56.1 |
| Moderate | 16 | 28.1 |
| High | 9 | 15.8 |
| **Teacher Support** | | |
| Low | 12 | 21.1 |
| Moderate | 21 | 36.8 |
| High | 24 | 42.1 |
| **Peer Support** | | |
| Low | 34 | 59.6 |
| Moderate | 13 | 22.8 |
| High | 10 | 17.5 |
| **Compliance** | | |
| Non compliant | 43 | 75.4 |
| Compliant | 14 | 24.6 |

Table 1 presents the frequency distribution of family, teacher, and peer support, as well as compliance with iron folic acid tablet consumption among adolescent girls at State Junior High School 79 Jakarta. The majority of respondents reported low family support (56.1%) and peer support (59.6%), while 42.1% received high support from teachers. Regarding compliance, only 24.6% of respondents were classified as adherent, whereas 75.4% were non-adherent.

**Table 2. Spearman Rank Correlation Between Support Variables and IFA Tablet Adherence (n=57)**

| Variable | N | p-value | Correlation Coefficient (r) | 95% CI |
|---|---|---|---|---|
| Family Support | | 0.001 | 0.724 | 0.57–0.84 |
| Teacher Support | 57 | 0.001 | 0.555 | 0.34–0.72 |
| Peer Support | | 0.001 | 0.677 | 0.48–0.80 |

Table 2. The Spearman Rank correlation analysis demonstrated strong, positive, and statistically significant associations between adherence to IFA tablet consumption and each of the three types of social support. Family support had the highest correlation (r = 0.724), indicating a robust unidirectional association. Teacher and peer support also exhibited moderate to strong correlations with adherence (r = 0.555 and r = 0.677, respectively). The 95% confidence intervals further support the reliability of these findings. These results suggest that greater social support from family members, educators, and peers contributes significantly to improved adherence to iron folic acid supplementation among adolescent girls.

**DISCUSSION**

This study revealed significant associations between family, teacher, and peer support and adherence to iron folic acid (IFA) tablet consumption among adolescent girls at State Junior High School 79 Jakarta. Family support had the strongest association, suggesting that emotional encouragement, reminders, and the provision of nutritious food may reinforce adherence behaviors. This aligns with findings Putri et al., (2023), who emphasized the role of family dynamics, health literacy, and household communication in promoting IFA compliance. The observed correlation between teacher support and adherence is consistent with Diatri et al., (2023) and Thifal et al., (2023), who noted that structured school-based support, such as consistent reminders and health education, can reinforce student behavior. However, inconsistent teacher involvement, limited anemia knowledge, and lack of follow-up as previously reported by Utomo et al., (2020), may explain variability in adherence across schools. Given the cross-sectional design of this study, the results indicate associations rather than causal relationships.

Peer support also emerged as a significant factor, reflecting the social influence peers exert during adolescence. Studies by Ilham et al., (2023) and Sari et al., (2023), found similar associations, where peer reinforcement increased motivation to consume supplements. These findings are strongly supported by international evidence demonstrating similar patterns of influence. In Ghana, Dubik et al., (2019), reported low adherence to iron supplementation programs among adolescent girls, primarily due to stigma and misinformation. In Indonesia, Hidayanty et al., (2024), highlighted that sensory issues such as unpleasant taste, combined with peer norms and low awareness, discouraged regular tablet consumption. A study in India by Maheswari et al., (2022) found that peer-led education significantly improved adherence by increasing motivation and reducing misconceptions.

Structured school health strategies increased routine supplementation among adolescent girls. Peer counseling sessions provided emotional motivation and increased supplement intake (Ssewankambo et al., 2023). Finally, Saeed et al., (2024) in Pakistan found that emotional peer support, in the form of mutual encouragement and shared experiences, led to more consistent use of iron folic acid tablets.

This study also found that 75.4% of participants were non-adherent, confirming persistent challenges despite high program coverage. Self-reported barriers included taste aversion, misinformation, peer stigma, and parental disengagement. These factors highlight the need for a comprehensive behavior change strategy (Sab'ngatun et al., 2021).

Schools are a place that can help young women to comply with consuming iron tablets by working together with health workers and schools. One way that can be done is by conducting health education about the importance of consuming iron tablets. In addition, providing iron tablets is also possible. Various studies have shown school-based folic acid and iron supplementation as a feasible and effective intervention in efforts to increase compliance in consuming iron tablets in young women (Lestari et al., 2023). Health promotion in schools is a strategic and effective step in efforts to improve public health, especially school communities in developing healthy living behavior, because schools are communities that have been organized so that they are easy to reach in the context of implementing public health efforts (Salamah et al., 2024).

The strength of this study lies in its focus on modifiable psychosocial factors in a real-world school setting. However, limitations include the reliance on self-reported data, which may be subject to social desirability bias, and the single-school sample, which restricts generalizability. Future research should include diverse settings, longitudinal designs, and objective measures of adherence.

Implications for practice health promotion strategies should involve multi-stakeholder engagement. Schools can implement peer-led education sessions, strengthen teacher health literacy through training modules, and facilitate parent-student engagement programs. Policymakers should support monitoring systems and develop context-sensitive communication materials to enhance program reach and sustainability. In conclusion, family, teacher, and peer support are significantly associated with IFA adherence among adolescent girls. Strengthening these support systems may improve the effectiveness of school-based anemia prevention programs in Indonesia and similar contexts.

## CONCLUSIONS

This study concludes that family, teacher, and peer support are significantly associated with adherence to iron folic acid (IFA) tablet consumption among adolescent girls at State Junior High School 79 in the Province of DKI Jakarta. Among the three types of support, family support demonstrated the strongest correlation ($r = 0.724$), indicating its critical role in influencing compliance. Teacher and peer support were also positively correlated, highlighting the multifaceted nature of adherence behavior in adolescents.

These findings underscore the importance of designing school-based health interventions that incorporate structured family engagement strategies. Schools should consider developing integrated parent teacher collaborations to monitor adherence and reinforce health

messages. Furthermore, enhancing teacher capacity through health literacy training and implementing peer-led education models may provide additional reinforcement to improve adolescent compliance with IFA supplementation programs. By prioritizing social support mechanisms in school health policies, stakeholders can strengthen anemia prevention efforts and contribute to better health outcomes for adolescent girls in the Province of DKI Jakarta and similar cont.

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