



Determinants Affecting Pregnant Women's Adherence to Iron-Folic Acid Supplementation in India

Mrs Punithalakshmi.K, Research Scholar, Malwanchal University, Indore.

Prof Dr.Pradeep VS, Research Supervisor, Malwanchal University, Indore.

Introduction

Anemia in pregnancy is a significant public health problem in India, primarily due to iron deficiency. Despite numerous interventions, including government programs offering free iron-folic acid (IFA) supplements, compliance among pregnant women remains inconsistent. Iron and folic acid are crucial for the health of both the mother and the fetus. Adequate intake prevents iron deficiency anemia, supports the development of the fetus, and reduces maternal morbidity and mortality. However, various factors influence pregnant women's compliance with these supplements. This article explores the socio-economic, cultural, individual, and healthcare system-related factors affecting compliance with IFA supplementation during pregnancy in India.

1. Socioeconomic Status and Education

1.1 Economic Barriers One of the major factors influencing compliance is socioeconomic status. Many pregnant women in India, particularly those from lower-income families, may face challenges in accessing healthcare services, even though IFA supplements are provided for free by the government. Economic hardships, coupled with the opportunity costs of visiting healthcare centers, lead to a lower uptake of these essential supplements. Women from poor households may prioritize daily survival needs over accessing healthcare facilities, which directly impacts their compliance with prescribed IFA supplementation.

1.2 Educational Attainment The level of education among women is another significant determinant. Education plays a pivotal role in enhancing awareness and understanding of the importance of IFA supplements. Educated women are more likely to comprehend the health benefits and the potential risks of iron deficiency during pregnancy. Studies have shown that pregnant women with higher educational attainment exhibit better adherence to IFA supplements compared to those with little or no formal education. Education empowers women to make informed decisions regarding their health, reducing misconceptions and fears about IFA consumption.



2. Cultural and Behavioral Influences

2.1 Cultural Practices and Beliefs Cultural beliefs and traditional practices in India often play a significant role in shaping health behaviors, including the consumption of supplements during pregnancy. In some communities, there is a belief that consuming iron tablets may cause the baby to grow too large, resulting in complications during delivery. Other misconceptions include fear of side effects like nausea, vomiting, or constipation, leading many women to discontinue taking the supplements. In rural areas, traditional healers or elders may discourage the use of modern medicines, favoring herbal remedies or dietary changes instead.

2.2 Dietary Preferences In India, dietary habits are strongly influenced by cultural norms. Vegetarianism, a common dietary practice, may contribute to iron deficiency as plant-based iron is less bioavailable than iron from animal sources. Women who rely solely on vegetarian diets may require higher doses of iron supplements, yet cultural beliefs about food restrictions during pregnancy may limit their acceptance of these supplements. In some cases, pregnant women are discouraged from eating certain foods, further reducing their iron intake.

3. Individual Factors

3.1 Knowledge and Awareness A lack of knowledge regarding the importance of iron and folic acid supplementation is a major barrier to compliance. Many women, particularly in rural areas, are unaware of the necessity of these supplements during pregnancy. Inadequate counseling by healthcare providers exacerbates this issue, leaving pregnant women uninformed about the potential consequences of anemia, such as preterm birth, low birth weight, and increased risk of maternal mortality. Women who are well-informed about the benefits of IFA supplements are more likely to adhere to the prescribed regimen.

3.2 Side Effects The side effects of IFA supplements, including gastrointestinal discomfort, nausea, constipation, and metallic taste, are commonly reported by pregnant women. These side effects often lead to discontinuation of the supplements. Pregnant women may not always communicate these issues to healthcare providers, resulting in non-compliance. Effective counseling on managing these side effects, such as taking supplements after meals or splitting the dose, could help improve adherence.

3.3 Parity and Previous Pregnancy Experience A woman's previous experience with pregnancy and her current parity (number of children) can influence her compliance with IFA supplements. First-time mothers may be more



cautious and more likely to follow the advice of healthcare providers, whereas women who have had multiple pregnancies may rely on their previous experiences, which may or may not have involved consistent use of supplements. If they did not encounter problems in previous pregnancies without supplementation, they might believe it is unnecessary for subsequent pregnancies.

4. Healthcare System Factors

4.1 Accessibility of Health Services Inadequate access to healthcare services, particularly in rural and remote areas, is a major factor affecting compliance with IFA supplementation. India's public healthcare infrastructure is often insufficient, with long distances to health centers, inadequate transportation, and a shortage of healthcare workers. These logistical challenges hinder regular check-ups and access to IFA supplements. Pregnant women living in these areas may not receive the required dosage of supplements, leading to a higher prevalence of anemia.

4.2 Quality of Antenatal Care (ANC) The quality of antenatal care services significantly influences the compliance of pregnant women with IFA supplementation. In many cases, the quality of counseling provided to pregnant women during ANC visits is inadequate. Healthcare providers may not offer detailed explanations regarding the importance of IFA supplements, how to take them, and how to manage side effects. Women may leave the clinic with limited knowledge, leading to poor adherence. Additionally, frequent stockouts of IFA tablets in healthcare facilities can discourage compliance. If women are unable to receive the supplements consistently, they may lose motivation to continue the regimen.

4.3 Health Worker Attitudes and Communication The attitude and communication skills of healthcare providers also play a critical role in promoting compliance. In many rural settings, healthcare workers, particularly frontline workers like ASHAs (Accredited Social Health Activists), are the primary source of information and support for pregnant women. However, if these workers are overburdened, poorly trained, or lack motivation, their ability to effectively communicate the importance of IFA supplements is diminished. Studies have shown that positive interactions with healthcare providers, where women feel supported and encouraged, are associated with higher compliance rates.

5. Government Programs and Policies

5.1 National Programs on Anemia Prevention The Government of India has implemented several programs aimed at combating anemia in pregnancy,



including the National Iron+ Initiative and the Anemia Mukht Bharat campaign. These programs provide free IFA supplements to pregnant women and emphasize the importance of reducing anemia-related maternal and child mortality. However, despite these efforts, compliance remains suboptimal due to the aforementioned factors, including cultural barriers, healthcare access issues, and inadequate counseling. Moreover, the effectiveness of these programs is often limited by poor implementation at the local level, with gaps in monitoring and follow-up.

5.2 Incentives and Conditional Cash Transfers Some government schemes offer conditional cash transfers to encourage pregnant women to access antenatal care services, including IFA supplementation. The Janani Suraksha Yojana (JSY) and Pradhan Mantri Matru Vandana Yojana (PMMVY) are examples of such programs, providing financial incentives for institutional deliveries and antenatal care visits. These incentives can have a positive impact on IFA compliance, particularly for women from economically disadvantaged backgrounds. However, the effectiveness of these programs is contingent on timely disbursement and adequate awareness among beneficiaries.

6. Environmental and Community Factors

6.1 Influence of Family and Community In India, decisions regarding pregnancy and maternal healthcare are often influenced by family members, particularly husbands and mothers-in-law. In many cases, pregnant women rely on the guidance of older women in the family, who may have traditional views on health and medicine. If family members do not prioritize modern healthcare practices or are unaware of the benefits of IFA supplements, pregnant women may not feel encouraged to take them. Conversely, support from family and community health workers can significantly enhance compliance by reinforcing the importance of maternal nutrition and supplement use.

6.2 Peer Support and Group Counseling Peer support and group counseling have been shown to improve compliance with IFA supplementation in some regions. When pregnant women have the opportunity to engage in group discussions with other expectant mothers, they are more likely to share experiences, ask questions, and seek advice on managing side effects. This form of community-based support helps to normalize IFA use and reduces the stigma or fear associated with taking supplements during pregnancy. Community health workers and NGOs play a crucial role in facilitating these peer support groups.

7. Conclusion and Recommendations



Compliance with iron-folic acid supplements among pregnant women in India is influenced by a complex interplay of factors, including socioeconomic status, cultural beliefs, healthcare system challenges, and individual knowledge and attitudes. To improve compliance rates, it is essential to address these factors through a multi-faceted approach.

Recommendations:

- **Enhance Education and Counseling:** Pregnant women need comprehensive counseling on the importance of IFA supplements, potential side effects, and how to manage them. This should be a routine part of antenatal care, with healthcare workers receiving training to provide effective communication and support.
- **Improve Healthcare Access:** Strengthening the infrastructure of healthcare facilities, particularly in rural and remote areas, is crucial. Ensuring a consistent supply of IFA supplements and reducing the burden of travel for antenatal care visits would encourage higher compliance.
- **Address Cultural Barriers:** Public health campaigns should focus on dispelling myths and misconceptions about IFA supplementation, with community leaders and influencers involved in spreading accurate information.
- **Leverage Government Programs:** The government should continue to promote anemia prevention programs while improving the monitoring and follow-up mechanisms to ensure effective implementation at the grassroots level. Conditional cash transfers should be made more efficient to incentivize compliance.
- **Encourage Family and Community Support:** Engaging family members, particularly husbands and mothers-in-law, in antenatal care sessions could help improve acceptance of IFA supplements. Community-based peer support groups should be expanded to provide pregnant women with a platform for shared learning and encouragement.

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