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Sociocultural and drug-related factors associated with adherence to iron–folic acid supplementation among pregnant women – A mixed-methods study

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Abstract:

BACKGROUND: The National Family Health Survey of India (NFHS-5) revealed a lapse in the advancement of mitigating anemia despite free supplementation of iron–folic acid tablets (IFAT) and improvement in IFAT coverage during pregnancy. The local sociocultural beliefs and community perspective toward IFAT are pivotal in reducing the gap between IFAT coverage and consumption. Hence, we proposed the study to assess adherence to IFAT among rural pregnant women and explore the associated factors.

MATERIALS AND METHODS: The present study was conducted as a mixed-methods study with a sequential exploratory design in a rural setting of the Model Rural Health Research Unit (MRHRU) from October 2020 to May 2021. Ten focus group discussions (FGDs; 8 – antenatal women, 1 – mother/mother-in-law, and 1 – health care worker) were conducted, and framework analysis was done to identify themes followed by a quantitative survey with a semi-structured questionnaire among antenatal women ($n = 236$). Logistic regression was used to analyze factors associated with adherence.

RESULTS: The major themes that emerged from FGDs were the sociocultural factors (gender norms, communal fallacies), lack of awareness, and drug-related factors (unpalatability, misperceptions, and experienced side effects). Around 57% were adherent to IFAT. Side effects experienced on IFAT intake ($P = 0.001$, OR = 2.33), misconceptions regarding IFAT, like weight gain in IFAT use ($P = 0.001$, OR = 2.86), a big baby with IFAT use ($P = 0.000$, OR = 5.93) negatively influenced adherence.

CONCLUSIONS: The significant gaps between IFAT coverage and consumption surrounded the unpleasant odor and stench of IFAT, side effects, lack of individualized counseling, and misperceptions regarding IFAT use.

Keywords:

Antenatal women, cultural notions, misperceptions, nonadherence, side effects

Introduction

Maternal anemia is a high-priority global health issue with a prevalence of 48.7% in low and middle-income countries and requires focused interventions.^[1] According to the 2020 global nutrition report, 194 countries are currently “off course” to meet the 2025 goal of a 50% decrease in

anemia among women of reproductive age, including India.^[2] In a recent national survey, 52.2% of pregnant women aged 15–49 years were anemic, and the burden is more significant (54.3%) in rural than in urban settings (45.7%).^[3] Maternal anemia is attributed to low socioeconomic status, illiteracy, dietary habits, and lack of knowledge about anemia.^[4] Iron deficiency is

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the prime reason among the variable contributing factors of maternal anemia due to the increased physiological demand for iron during pregnancy.^[5] Maternal anemia results in maternal mortality and adversely affects the next generation, such as low birth weight, preterm birth, perinatal mortality, and stillbirth.^[6] Oral iron supplementation is a cost-effective intervention to combat these adverse fetomaternal health outcomes.^[7] The Lancet nutrition series, 2021, also supports antenatal iron-folic acid tablets (IFAT) and multiple micronutrient supplements as priority nutrition interventions during the “first 1000 days of life.”^[8]

Pregnant women are provided daily IFAT from fourth month throughout pregnancy (minimum 180 days during pregnancy) under intensified National Iron Plus Initiative.^[9] Mothers who consumed IFAT for 180 days or more when pregnant were 26% at the country level.^[3] The effectiveness of IFAT via large-scale programs depends on IFAT coverage and consumption. According to a health index report 2019, Tamil Nadu, the southern state of India, is one of the frontrunners in overall performance.^[10] Despite the sufficient availability and coverage of IFAT supplementations, 53.1% of pregnant women in rural Tamil Nadu are anemic.^[11]

Low adherence to IFAT intake is one of the critical constraints on program effectiveness.^[12] Adherence to the consumption of IFAT supplements involves three essential elements: (1) initiation (disclosure of pregnancy and initiation of antenatal care (ANC)), (2) appropriate use (pregnant mother receiving counseling on the importance of IFAT supplements, how to manage side effects, and receiving prescription or purchasing iron and folic acid supplements for daily oral use), and (3) continued use (pregnant mother consuming IFAT for the duration of the pregnancy and seeking prescription refill via subsequent ANC visits. Thus, adherence is a dynamic phenomenon based on a more complex network of interpersonal and sociocultural influences, offering ample scope for research.^[13] Adherence to IFAT ranged between 53–82%, as shown by various studies in India, and is associated with factors such as forgetfulness, side effects, age, literacy status, and misconceptions.^[14–16] These variations are setting-specific and influenced by the social, economic, cultural, and traditional elements of the community. Exploratory studies addressing the aspects mentioned above are limited and vary with each community.

Hence, a substantial insight into the local sociocultural beliefs and community attitude toward IFAT intake in pregnancy is pivotal in reducing the gap between IFAT coverage and consumption. The need of the hour is to discern the beneficiaries’ attitudes and beliefs to improve adherence. This study aims to look beyond the

obvious to explore the attitudes and opinions on IFAT and determine the factors that alter adherence to IFAT in pregnancy through sequential exploratory research.

Materials and Methods

Study design and setting

We conducted the study in two phases in the Model Rural Health Research Unit (MRHRU) rural field practice area, catering to the population of 36,663 from October 2020 to May 2021, using a mixed-method strategy employing a sequential exploratory study design (qualitative study followed by quantitative study).

Study participants and sampling

Phase 1: Qualitative part

We conducted FGDs among antenatal women, mothers and mothers-in-law of antenatal women, and healthcare workers to elucidate factors influencing IFAT adherence. The study participants were approached face-to-face for participating in FGDs and recruited by purposive sampling from all registered pregnant mothers in the second and third trimesters who had received IFAT in Primary Health Care Centre (PHC) for antenatal care.

A total of 10 FGDs were conducted, with 6 to 8 participants in each group with an average duration of 45 to 60 min until achieving a saturation point. As per the convenience of the participants, three FGDs were conducted in the PHC and five in the local Anganwadi centers near their residences to explore rich information and avoid the influence of healthcare workers. We ensured homogeneity by conducting FGDs for separate groups of primi, multipara, mothers/mothers-in-law, and health care workers (Village Health Nurses).

Phase 2: Quantitative part

All pregnant women in the second and third trimesters attending the AN clinic who had received IFAT and who were willing to participate, irrespective of their age, were eligible for the study. Eligible participants were enrolled by consecutive sampling. A total of 236 participants were recruited, assuming that 43.3% were adherent to IFAT in the antenatal period^[17] with an absolute precision of 5%, 95% confidence interval (CI), and 10% nonresponse. We operationally defined the IFAT as a tablet containing Iron (100 mg elemental iron) and folic acid compound (500 mcg folic acid) prescribed to pregnant women. Pregnant women were taken to be adherent to the IFAT if they took the supplement at least four days per week.^[15,18]

Data collection tools and techniques

Qualitative part

A FGD guide was formulated with questions and probes by the principal investigator and was translated

into the local language. It was back-translated into English again to check for consistency in the questions' meanings and was piloted in an antenatal clinic in a tertiary care hospital. The principal investigator read out the purpose of the study and information sheet in vernacular language to the study participants and obtained written informed consent to participate and audio record the discussion. The investigators ensured that no one else was present except the participants and the researchers for the discussion. Each FGD was conducted with six to eight participants. FGDs were conducted until saturation, when no more new data was obtained.

Quantitative part

A semi-structured questionnaire was framed based on existing literature and insights from the qualitative study and translated into the local vernacular language. Data were collected by the trained social workers regarding sociodemographic characteristics, obstetric and medical history, perceptions regarding anemia, IFAT, and its benefits, the influence of family members on IFAT intake, and experience of taking IFAT. The nonadherent participants were counseled regarding the benefits of IFAT at the end of the interview. Clarifications were given on common misperceptions (if any) to improve adherence to IFAT. The questionnaire was verified for completeness at the end of every data collection.

Data analysis

Qualitative part

Listening to the audio-recorded tapes and re-reading the transcripts were carried out for familiarization with the data of the FGDs. The data obtained were manually coded and analyzed for emerging themes. Arising concepts were noted, and descriptive statements were formed and analyzed. The contextual meaning of the descriptive statements was explored, and interpretation was made. Debriefing was done within the study team to consolidate the findings and develop a list of codes. A list of codes was created manually for all topics related to the question of concern and the texts and verbatim relevant to each topic were summarized.

Quantitative part

Data collected were converted to numerical codes and analyzed using a Statistical Package for Social Sciences (SPSS) version 23. We used Descriptive statistics (frequency, percentages, and mean) to analyze demographic and socioeconomic data. Chi-square and Fisher's exact tests were used to determine the association between adherence and other variables of interest. Logistic regression analysis was used to scrutinize the association between the explanatory variables and adherence to IFAT.

Integration

Integration through methods was by building concept (Data collection instrument for the quantitative part was built upon qualitative data). Finally, analysis by triangulation of results from both parts was done in the present study.

Ethical considerations

The study was approved by the Tirunelveli Medical College Institutional Ethics Committee (TIREC-Ref no: 1292/PHARMA/2018) before the commencement. The study procedures were followed in accordance with the Declaration of Helsinki (2013) and the National Ethical Guidelines for Biomedical and Health Research involving Human Participants (2017) by the Indian Council of Medical Research (ICMR). All ethical and COVID-19 preventive measures were followed. Written informed consent was obtained from all the study participants, and confidentiality was maintained. Patient identifiers were removed, and privacy was ensured.

Results

The analysis of ten FGDs shed light on the significant determinants of IFAT adherence. We arrived at three major themes influencing the adherence to IFAT supplementation among pregnant women in a rural community [Figure 1].

In phase 2, 236 participants were interviewed; 102 (43.2%) were nonadherent to IFAT supplementation [Figure 2]. In the present study, the mean age of the participants was 24.5 years \pm 3.76 (SD) and 99.2%, were literate, 44.9% were primi, and 77.1% registered their pregnancy within the first 3 months. Of 233 participants who revealed their income status, 202 (86.9%) had an average monthly family income \leq Rs 20,000. The baseline sociodemographic characteristics did not significantly affect adherence [Table 1].

Factors associated with adherence

Sociocultural factors

Traditional ideologies

From the perspective of pregnant women, fruits are suitable for their health, but they are skeptical about IFAT intake. "Tablets are a waste. Eat food one more time. Take fruits for one more time in a day. That alone will do you good. Tablets will affect the child. Then delivery will be difficult" (30 years old, second Gravida, FGD-4). "They take homemade indigenous medicines after delivery and never take IFAT along with it." (HCW, FGD-10).

Lack of autonomy

"I am confused about whether to listen to my husband or mother-in-law. Both confuse me. My husband says

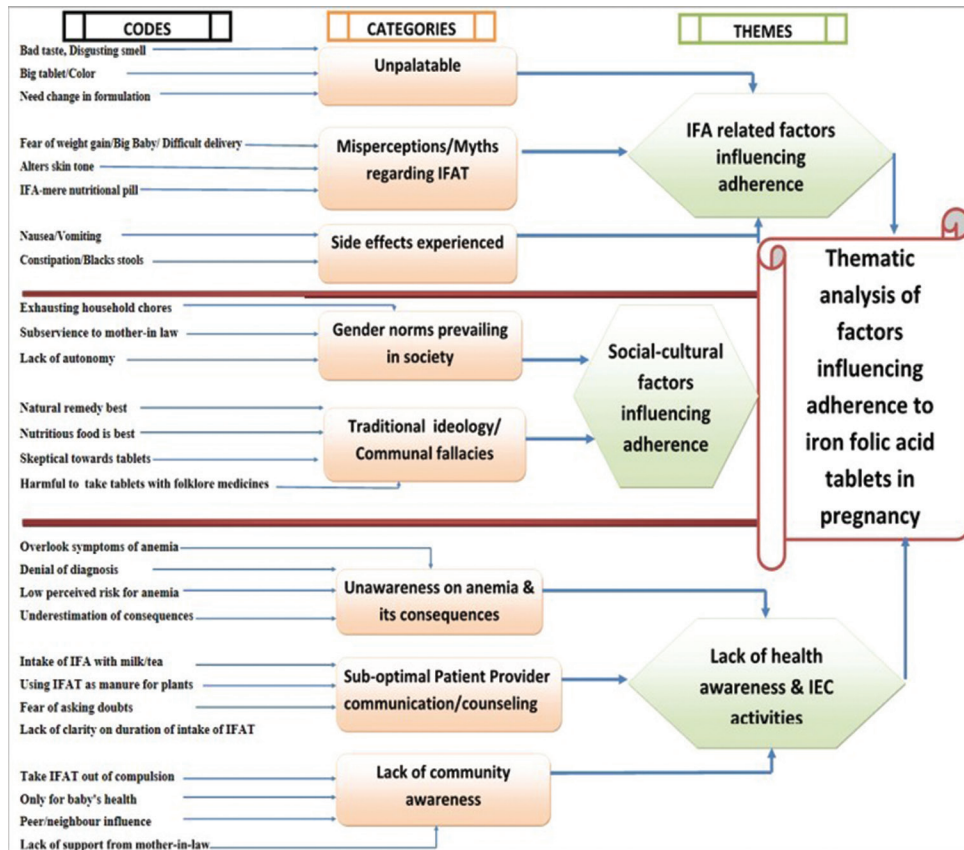


Figure 1: Thematic analysis of factors associated with adherence to IFAT

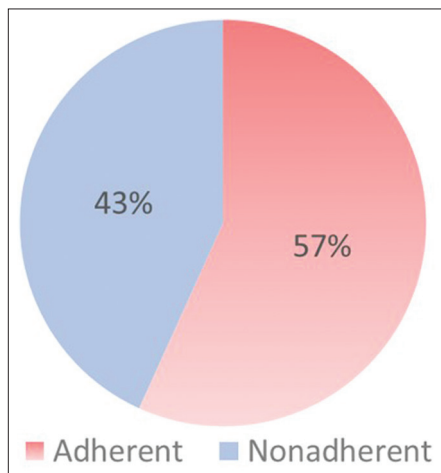


Figure 2: Distribution of adherence to IFAT

I should take it, but my mother-in-law is adamant that I should not take tablets at all.” (22-year-old primi, FGD 2).

Family member/Peer influence

“My neighbor told me she did not use that tablet at all. She never took it. Even then, her delivery just happened well only. On hearing that, I feel that there is nothing big or special in this tablet” (27-year-old second Gravida, FGD-1).

Support of family members, especially mothers-in-law ($P = 0.007$), was significantly associated with adherence to IFAT in the quantitative survey [Table 2]. The same aligns with qualitative data expressed by the participants. “My mother-in-law has told me not to take more iron tablets. If doctors give three tablets, she says taking only one is enough. She has asked me to take those tablets only for 7–8 months. She says not to take the tablets beyond that period. She sometimes even says that taking tablets is not needed beyond the 5th month” (25-year-old primi FGD-2)

Workload

“When there is a lot of work, I forget about the tablets. When I go to work in a hurry, I forget to take the nutrition pill” (28-year-old second Gravida, FGD-3). Forgetfulness was the most cited reason for not taking IFAT as prescribed in the present study [Figure 3].

Drug-related factors

Side effects

Side effects experienced on IFAT intake ($P = 0.001$, $OR = 2.33$) were significantly associated with nonadherence in the quantitative survey [Table 2]. Among 118 participants who had side effects on IFAT intake, a majority, 68 (57.6%,) experienced vomiting, 36 (30.5%) had nausea, followed by black stools,

Table 1: Baseline sociodemographic and obstetric characteristics of study participants

Characteristics	n (%) (n=236)	Nonadherent	Adherent	P
Age group (years)				
18-20	36 (15.2)	20	16	0.288*
21-25	117 (49.6)	48	69	
26-30	59 (25)	22	37	
31-35	24 (10.2)	12	12	
Education				
Illiterate	2 (0.8)	2	0	0.528*
Primary	8 (3.4)	2	6	
Middle	38 (16.1)	18	20	
High school	88 (37.3)	40	48	
Diploma	94 (39.8)	38	56	
Graduate	6 (2.5)	2	4	
Occupation				
Homemaker	197 (83.5)	85	112	0.959
Employed	39 (16.5)	17	22	
Type of family				
Nuclear	102 (43.2)	46	56	0.611
Joint	134 (56.8)	56	78	
Religion				
Hindu	208 (88.1)	93	115	0.431*
Christian	8 (3.4)	2	6	
Muslim	20 (8.5)	7	13	
Gestational age				
4-6 months	74 (31.4)	32	42	0.996
7-9 months	162 (68.6)	70	92	
Time of antenatal registration				
Early	182 (77.1)	74	108	0.144
Late	54 (22.9)	28	26	
Gravida				
Primi	106 (44.9)	42	64	0.314
Second/Multi	130 (55.1)	60	70	
History of abortion (n=130)	28 (11.2)	9	19	0.093
History of stillbirth (n=130)	3 (1.3)	3	0	0.096*
Hemoglobin (n=228)				
<11 g/dL	132 (57.9)	62	70	0.081
≥ 11 g/dL	96 (42.1)	34	62	

*Fisher's exact test used

34 (28.8%), and unpleasant taste/smell 26 (22%). Unpalatability and side effects were the most cited reasons in FGDs as well. "I cannot take it at all. It produces a kind of nausea. If I eat food after taking the pill in the morning the whole day, I feel sick and continuously have nausea. If I eat it during the day, I feel like vomiting." (26-year-old second Gravida, FGD-6). "I have constipation, and so I have stopped taking tablets as for now and am keeping the tablets as such" (23-year-old primi, FGD-5)

Unpleasant smell and taste

"If you take an iron pill, the smell lasts for an hour; the rot will still come on. Even after half an hour of burping, the smell will still be there" (25-year-old Primi, FGD-1). "Many Antenatal women complain of the disgusting smell of the IFAT. They question

why the private tablets don't have the smell while the government supply has an intolerable smell. We used to convince them by saying it has greater iron content, but it's tough" (HCW-FGD-10). "This tablet is so bitter. Should I take this kind of tablet compulsorily to deliver a child? Even I thought of asking the doctor if there was any sweet tablet to take. I even felt I could take any number of tablets for any number of days if they were sweet" (21-year-old primi, FGD-7). "We give around 360 tablets to each woman for the entire antenatal period. We know that they don't take all the tablets supplied due to the color of the IFAT. We cannot provide them with colorful tablets as in private" (HCW-FGD-10).

Some participants felt the need to change the drug formulation as they prefer iron syrups to tablets. "When

Table 2: Bivariate analysis of factors associated with adherence to iron-folic supplementation in pregnancy

Factors	n (%) n=236	Non adherent	Adherent	P	OR	95% CI
Drug-related perceptions and side effects						
IFAT causes Weight gain						
Yes	61 (25.8)	38	23	0.001*	2.86	1.56-5.23
No	175 (74.2)	64	111			
IFAT alters skin tone of baby						
Yes	12 (5.1)	9	3	0.034*	4.22	1.11-16.03
No	224 (94.9)	93	131			
IFAT causes big baby and difficult delivery						
Yes	43 (18.2)	33	10	0.000*	5.93	2.75-12.76
No	193 (81.8)	69	124			
IFAT is not needed in addition to diet						
Yes	61 (25.8)	34	27	0.02*	0.50	0.28-0.91
No	175 (74.2)	68	107			
Experienced adverse effects (n=233)						
Yes	118 (50.6)	62	56	0.001*	2.33	1.37-3.97
No	115 (48.7)	37	78			
H/o additional pill intake other than IFAT						
Yes	35 (14.8)	7	28	0.004*	0.27	0.11-0.66
No	201 (85.2)	95	106			
Health awareness and Counseling						
Aware of term anemia						
Yes	171 (72.5)	73	98	0.78	0.92	0.52-1.64
No	65 (27.5)	29	36			
Aware of symptoms of anemia						
Yes	108 (45.7)	38	70	0.02*	0.54	0.32-0.91
No	126 (53.3)	63	63			
Aware of maternal consequences of anemia n=171						
Yes	71 (41.6)	34	37	0.24	0.69	0.38-1.29
No	100 (58.4)	39	61			
Aware of fetal consequences of anemia n=171						
Yes	66 (38.6)	29	37	0.79	0.92	0.49-1.74
No	105 (61.4)	44	61			
Counseled regarding IFAT importance						
Yes	170 (72.0)	69	101	0.19	0.68	0.38-1.20
No	66 (28.0)	33	33			
Counseled on dietary practice						
Yes	138 (58.5)	56	82	0.33	0.77	0.45-1.30
No	98 (41.5)	46	52			
Support of family members						
Husband (n=233)						
Yes	222 (95.3)	91	131	0.08		
No	11 (4.7)	9	2			
Mother-in-law (n=224)						
Yes	189 (84.4)	73	116	0.007*		
No	35 (15.6)	23	12			
Mother (n=227)						
Yes	208 (91.6)	86	122	0.131		
No	19 (8.4)	11	8			

*P<0.05 (statistically significant), OR - odds ratio, CI -confidence interval

I have nausea, I don't take iron tablets. I also feel that the tablet is very big. I think it gets stuck in my throat when I swallow the pill. I don't take them because of that reason itself. It will be easier to drink syrup than to take tablets. I don't even like the thought of iron tablets." (25-year-old second Gravida, FGD-5).

Misconceptions

Misconceptions regarding IFAT, like weight gain in IFAT use ($P = 0.001$, $OR = 2.86$) and a big baby with IFAT use ($P = 0.000$, $OR = 5.93$), had significant associations with nonadherence when explored in the quantitative part supporting the FGDs. "They say that if we take iron

in more quantity baby will be born black” (28-year-old second Gravida, FGD-4). “Baby will gain more weight, not only with tablets. When a doctor prescribes nutrition powder to take with milk, they ask me not to eat that at all as the baby will gain more weight and then delivery will be difficult.” (22-year-old primi, FGD-2). “My mother-in-law says the baby will become big. Weight will increase. Delivery will become tough. Then they will do a cesarean. So don’t take those tablets.” (26-year-old second Gravida from FGD-4).

Lack of health education

We observed a lack of informed decision-making among participants regarding IFAT intake. This may influence adherence in the postnatal period also. Though more than half of the participants were counseled about IFAT’s importance and dietary practices, some discrepancies were evident in their knowledge and practice.

“They (doctors) don’t say anything at all. They give the tablets, we take them. That is all” (20-years-primi, FGD-3). “I drink milk in a large glass in the morning, and I take iron tablets along with that” (22-year-old second Gravida, FGD-3). “Antenatal women are confused when we instruct them not to take IFAT with calcium and milk because of many advertisements on TV promoting the intake of syrup mixed with milk to increase iron content” (HCW, FGD-10). “It is challenging to make them take IFAT supplements after delivery since they take IFAT merely out of compulsion for safe delivery” (HCW, FGD-10).

Multivariable analysis

Univariate analysis showed IFAT-related perceptions [IFAT causes weight gain ($P = 0.001$), alters skin tone ($P = 0.034$), causes big babies and difficult deliveries ($P = 0.000$), IFAT not needed in addition to the diet ($P = 0.02$), side effects experienced ($P = 0.001$), history of additional pill intake other than IFAT ($P = 0.004$), support from mother-in-law (0.007) and awareness on anemia symptoms ($P = 0.02$)] had a significant association with the outcome ($P < 0.05$) and these variables were taken up for multivariate analysis [Table 2]. On multivariate analysis, side effects encountered on intake of IFAT (OR = 2.639 [1.307;4.296], $P = 0.004$) and misperception of big babies and difficult deliveries associated with IFAT (OR = 4.824 [2.019;11.523], $P = 0.000$) were associated with higher rates of nonadherence. Concurrent additional Pill intake other than IFAT (OR = 0.295 [0.109;0.802], $P = 0.017$) were associated with lower rates of nonadherence [Table 3].

Discussion

Anemia is a multifaceted problem that requires a holistic approach to prevention and management. The principal

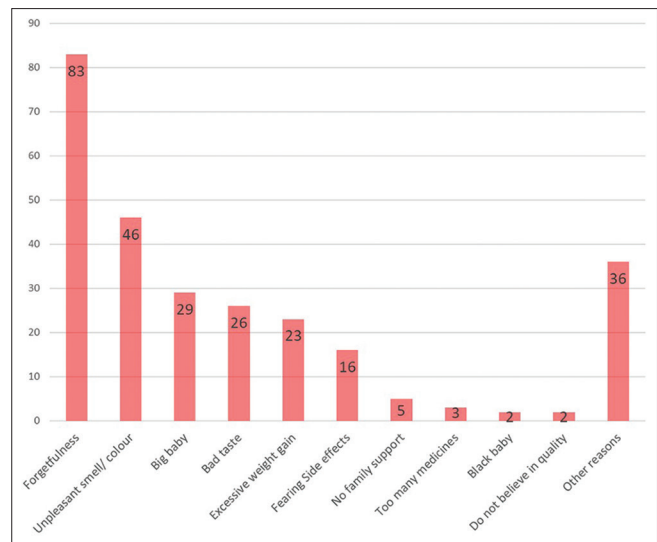


Figure 3: Self-reported reasons for non-adherence

impediment in combating anemia is compliance with IFAT during pregnancy. In the present study, 56.8% were adherent to IFAT. Adherence reported in National Family Health Survey -5 (NFHS-5) data was 44.1% (percentage of women who took at least 100 IFAT during pregnancy), whereas 63.8% adherence was reported in a study done by Lavanya *et al.*^[15] (pregnant women who took IFAT 4 days per week) and compliance of 81.7% was reported in a study done by Debi *et al.*^[16] (pregnant women who took 80% of the prescribed dose).^[3] The deviations might be attributed to different operational definitions and variations in the study population characteristics. The current operational definition was chosen to address recall bias and to check if there is any variation in adherence with gestational age in the present study.

The current study showed that sociodemographic characteristics (age, type of family, education, occupation, and type of family), obstetric status, comorbidity, and health care service utilization (early registration) were not associated with IFAT adherence in contrast to various studies.^[16,19] The study population with near-total literacy status lacking in IFAT adherence emphasizes the need for health literacy. Early registration did not influence adherence since the healthcare providers reached out to all the antenatal women of the community and distributed IFAT regularly. Antenatal mothers with a history of additional pill intake other than IFAT were adherent since they might be more prudent in seeking healthcare due to comorbidities.

In the present study, the information deficits at various levels lay tremendous leverage on adherence to IFAT in pregnancy. The primary lacunae are the communal fallacies surrounding IFAT use in pregnancy. The presumption of IFAT as a mere nutritional pill to increase the baby’s weight and the erroneous interpretation of the

Table 3: Multiple Logistic regression of factors associated with nonadherence to iron-folic supplementation in pregnancy

Factors	Odds ratio (95% CI)	P
Constant	1.307	0.583
History of additional pill intake	0.295 [0.109;0.802]	0.017*
Aware of symptoms of anemia	0.459 [0.239;0.884]	0.020*
IFAT not needed	0.664 [0.337;1.308]	0.236
Experienced side effects	2.639 [1.307;4.296]	0.004*
IFAT causes weight gain	1.972 [0.989;3.932]	0.054
IFAT alters skin tone of baby	1.997 [0.445;8.961]	0.366
IFAT causes big baby and difficult deliveries	4.824 [2.019;11.523]	0.000*
Support of the Mother-in-law's	0.560 [0.266;1.180]	0.127

*P<0.05 (statistically significant)

information provided on the benefits of IFAT (prevents low birth weight) lead to misperception of big babies/difficult deliveries with IFAT. This deep-rooted belief is the most encountered reason for stopping IFAT intake in the present study, akin to previous studies.^[20,21]

Pregnant women in the current study don't identify the cues and susceptibility to anemia despite an irrefutable awareness of the decrease in blood level in pregnancy. They presume the weakness, dizziness, easy fatigue, and swelling of feet as typical pregnancy symptoms rather than anemia signals, similar to a study done in Odisha.^[20,22] The lack of susceptibility effectuates an underestimation of the impact of anemia on their health, which strongly influences the adherence pattern. Further, the enduring belief that an appropriate diet alone can correct anemia complicates the issue of perceived susceptibility in the present study.

The quality of the IFAT supply restrains adherence. The unpleasing smell and taste of the IFAT supply and the side effects such as nausea/vomiting, heartburn, melena, and constipation negatively influenced adherence to IFAT, similar to other studies.^[18,23-25] Another cause of concern arising from this study is consuming IFAT with calcium tablets, milk, tea, and coffee, inhibiting iron absorption and making partial adherence futile. The restricted patient-provider relationship influenced adherence on the provider side, consistent with other studies in the literature.^[26] The most common reason for nonadherence is forgetfulness, similar to studies done by Pathirathna *et al.*,^[27] which might be due to unwitting ignorance and neglect.^[27] Counseling on the importance of IFAT and appropriate dietary practice did not show a significant association with adherence in contrast to a study done by Demis *et al.*^[28] The unpleasant side effects experienced and the firm communal fallacies about IFAT clash against the well-perceived benefits of IFAT in improving blood levels and baby growth in the study population, creating an ambivalence that ultimately ends in nonadherence.

The support of the family members brings a positive behavior change, improving adherence, similar to a study done in Uttar Pradesh by Nguyen *et al.*^[29] Also, social support from family and friends could increase health promotion behaviors during pregnancy as shown by a study by Rashan *et al.*^[30] Postpartum women turn away IFAT with repulsion due to their unpleasant antecedent encounters. The healthcare providers in the study suggested a change in the color/appearance of postpartum IFAT for improved acceptability. Perking up the counseling strategies, focusing on behavior change by educating both antenatal women and their family members to eliminate the misconceptions regarding the IFAT will make the supplements a desideratum in pregnancy.

Limitations and suggestions

The study is based on self-reporting of adherence which is not an accurate method to assess adherence. Another limitation is that the present study did not include antenatal women booked with private providers; hence, the differences in adherence for the same could not be assessed. Future studies estimating the difference in adherence to IFAT in private and public health sectors and determining the associated factors could identify the gaps to enhance the program benefits.

Conclusion

In conclusion, ignorance of the impact of anemia on maternal and fetal health, noxious effects experienced on intake of IFAT, and the profoundly entrenched notions of a big baby and difficult delivery in the community were associated with adherence to IFAT in pregnancy. Planning and executing actions in the outlook mentioned above is essential to improve adherence and conquer this decade-long battle against anemia.

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Conflicts of interest

Nil.

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