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### **Original Research Article**

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# A qualitative study of primary care physicians' perceptions and experiences on iron-folic acid consumption

Ankur Joshi<sup>1</sup>\*, Surya Bali<sup>2</sup>, Saket Kale<sup>1</sup>, Sharad Tiwari<sup>1</sup>, Viswanath Arutagi<sup>1</sup>

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## \*Correspondence: Dr. Ankur Joshi,

E-mail: drankurjoshi7@gmail.com

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#### **ABSTRACT**

**Background:** A primary health centre (PHC) physician, because of his physician-provider interaction at community level and legitimate capacity to deliver and monitor health services, serves as an ideal candidate to understand the specific health/health program related issues.

**Methods:** This community based qualitative study was conducted in selected clusters of state of Madhya Pradesh (central India) identified through multileveled stratification. The physicians serving in primary health centres from the selected clusters were in depth interviewed through topic guides based upon conceptual construct. The data obtained through in-depth interviews was utilized for thematic framework and linkage association.

**Results:** Two major interrelated themes emerged from the convergence of the user related and system related subthemes. The first major theme is "distorted perceptions reinforced by unpleasant encounters" which is constructed from the convergence of user concerns. The theme "system resistance and resource constraints" is assembled from convergence of system issues.

**Conclusions:** On a policy perspective, all the attempts should be made to break the misconception around IFA supplementation and to augment the feeling of ownership in the community.

Keywords: Anemia, IFA, Qualitative research, Physician perception, Experiences

#### INTRODUCTION

Anemia is a public health problem of high magnitude in India. It is a major challenge in order to achieve an optimum health amongst Indian population. <sup>1-3</sup> Government of India thus is intensifying the corrective efforts in the form of Iron-plus initiative which addresses the issue in a more holistic manner. <sup>4</sup> It not only covers the existing vulnerable groups as pregnant, lactating and under-5 children, but also takes care of other emerging at risk segments such as adolescents. <sup>5-6</sup> The strategy categorically mentions specific supplementation and

treatment protocol for different age groups, process of service delivery and roles of different service providers. <sup>5</sup> Although dietary diversification, food fortification and supplementation with other micronutrients / vitamins are given due emphasis yet major corrective tool in this strategy is provision of Iron-Folic Acid (IFA) tablets. <sup>7-10</sup>

Considering the comprehensiveness of this strategy and the decisive role of IFA supplementation, there seems to be an urgent need to understand the clinico-psychosocial and system related dynamics affecting the Anemia/IFA consumption status. This need become more relevant especially in the background of not achieving the desired

<sup>&</sup>lt;sup>1</sup>Department of Community Medicine, Gandhi Medical College, Bhopal, Madhya Pradesh, India

<sup>&</sup>lt;sup>2</sup>Department of Community and Family Medicine, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India

success rate of previously attempted IFA supplementation strategies. <sup>11,12</sup> This evidential understanding may aid to implement the new strategy efficiently taking care of population dynamics.

A 'primary health center (PHC)' is the first point of care where a physician comes in contact with the specified population. 13 It is supposed to be the first convergence – point for all kind of curative, promotional and preventive services for a defined population. The functions of a primary health centre encompass both facility centric and community centric dimensions. 14-16 Thus a physician who is serving at a PHC gets an ample opportunity to look into the community dynamics and to intervene further holistically. His immediate vicinity to community and his supposed approaches for community care rank him higher amongst the other program managers who may be approached to understand their perceptions and experiences about a specific issue. 13-16 Hence, this study is an attempt to explore and understand the physician perspective and experiences from a qualitative standpoint about the Anemia and Iron Folic Acid supplementation.

#### **METHODS**

This specific topic of inquiry (physicians' perceptions/ experiences about Anemia/ IFA supplementation) is one of the specific objectives of a broader inquiry which uses methodology triangulation techniques to understand the attributions of psychosocial and managerial issues in the Anemia occurrence and IFA consumption. This study was conducted for a period of one year (July 2014 to June2015) in the state of Madhya Pradesh, Central India. This community based study uses multi-levelled cluster sampling. At the first level the state was divided into 5 geographical zones and 2 districts were randomly selected from each zone. Three primary health centers and one community health centre were selected from each district. Investigators decided to take at least (but not restricted to) one in depth interview of physician from each primary health centre. A total of 29 physicians working at primary health centres (PHCs) and 8 physicians from community health centres (CHCs) were interviewed from 10 districts.

A structured framework about relative contribution of several factors in the causation of anemia and speculative attributes of IFA consumption was prepared in advance. A topic guide (rooted in structured framework) consisting of open ended questions with probes was then prepared. As the topic of interest gets nearer to applied policy research, we adapted the framework technique. Accordingly the topic guide was consisted of both 'priory' questions with a space for 'emerging' concepts during the process of in-depth interview.

During the phase -1 (consists of eight clusters in first two districts) 8 physicians were interviewed by using the topic guide. The responses were audio recorded and transcribed. The audio recorded interviews were

supplemented with theoretical memos and field observations made by the investigators. Three investigators independently read these interviews in order to identify more 'emerging' codes in the topic guides which were not included in the topic guide till then. All those codes which were endorsed by at least 2 out of 3 investigators were included in the topic guide. In the next phase this upgraded topic guides were used in the rest of the eight districts. Fifty two physicians from 10 districts were in –depth interviewed. An alphanumerical number and a pseudonym were assigned to each interview. A secure file was created that linked pseudonyms and alphanumerical numbers to the original informants

Transcribed interviews also accommodated non-verbal cues like silence in transcript. Any Identifier of person/ place was removed at this juncture. This narrative data was numbered in reference with line and paragraph. Manual coding was done by using the cutting and pasting technique for a sub-set of the transcripts where different colors were used to show the similarity / dissimilarity between codes. The cross –referencing system for linking to original text (from where cutting and pasting was done) was developed at this stage using the several alphanumeric indicators. The codes conveying the similar meaning were combined into several categories which were named as per their fitness either into 'priori' conceptual framework or as per emergence from data. The exhaustive thematic index thus obtained was further methodically applied to all data by writing numerical codes along the margin of transcripts and a short text descriptor for that specific index heading. The whole data was reorganized at its respective places in thematic framework. Investigators extracted some typologies and linked association between sub-themes for generating major theme and further tried to create a logical sequential mapping of events.

#### RESULTS

A number of subthemes emerged after convergence of subcodes and major codes. These subthemes were further merged into two major themes as shown in Table 1. The first theme "distorted perception reinforced by unpleasant encounters" emerged from the subthemes derived from beneficiaries /users concerns while the second of the major themes "system resistances and resource constraints" emerged from the subthemes grounded into the data related with the various system related issues with the inclusion of resources availability.

Investigators further tried to semi-quantify the thematic analysis for operational clerification of interested readers and an as an attempt to add objectivity in understanding which is shown as Table 2.

The burden of anemia was perceived as 'high' and alarming'; by the entire community of interviewed physician. Yet the quantitative estimates (proportions of anemic females in General Out Patient Department)

varied from 20% to 90%. They further recognized most of the cases as 'mild' and 'moderate' anemia. Some physician appreciated that the anemia is a 'recurrent' and 'persistent' problem. A lady physician (serving since 7 years) said "I say 90% of females are anemic because most of the time haemoglobin never goes beyond ten."

Another physician (56 years old male physician) deterministically said "Anemia is too much here. It remains in between 7-10 gm/dl. No matter how much you treat them it reverts back to same figures after 2-3 months of treatment."

Table 1: Showing framework analysis of the verbatim and discourse of perception of the physician about IFA nonconsumption leading to emergence of major themes.

Codes	Category	Sub-themes	Theme	
Absolute and relative awareness, knowledge, importance	User Concerns	Perceived non appraisal of IFA supplementation value		
Irregular consumption, compelling priority, avoidance	User Concerns	Casual behavior of consumer combined with other perceived commitment leading to avoidance	Distorted Perceptions reinforced by unpleasant encounters	
Mistaken Belief, misconceptions	User Concerns	Mistaken belief and false impression deterring the initial consumption of IFA		
Fear -side effect	User Concerns	Encountered side effect leading to discontinuation after initial consumptions		
Bitterness, palatability, less attractive	User Concerns	Unpleasant taste and bland wrapping perceived as hindrance for consumption		
Casual monitoring, no supportive supervision	Monitoring and supervision	Disjointed patchy supervision	System Resistance and Resource constraints	
Non-standardized procedures-for IFA supervision/ demand generation/reporting formats	Monitoring and supervision	mechanism in the absence of standard protocol		
Shortage human resources, connectivity, geographical barriers	Logistic concerns	Perceived absolute (vacant) or relative( overburdened) deficiency of supportive staff with poor logistic support		
supposed ownership –individual/ organizations and community	Perceptual concerns	Lack of ownership and shared responsibility by supportive department and community		

Almost all the physicians emphasized that there was a "perceived non-appraisal of IFA supplementation value" especially in the adolescent girls, workers and farmers which might not consider IFA as equally important compared to other reservations that they have.

Many of interviewee pointed toward the casual behaviour of consumer, their mistaken belief about IFA and false impression deterring the initial consumption of IFA, One of the physician (46 years old female serving since 18 years) quoted a patient to express the extent of casual behaviour "The first child was delivered normally even when I was told of 'reduced blood', why should I consume IFA during second pregnancy?" "They believe that nothing will happen!" - she added.

Majority of the physicians also attributed this phenomenon of non-consumption/irregular consumption/discontinuation due to experienced side-effect by the consumers. Some of them further pointed to the unpleasant taste and bland wrapping of the IFA. A senior physician (50 year old male serving since 22 years) humorously expressed "the current tablets of IFA that we

are giving don't have a widespread acceptance in society. May be making wrapper more decorative will help".

The analysis of system and resource related data provided diversified yet specific information in term of perceived "deficit" of supervision mechanism by frontline workers, logistics and accountability of stakeholders. Most of them relate the 'anaemia' problem to the presence of suboptimum number of human resources in place and the resultant obligation to cover very large area and/or population. One young physician (29 year male serving since 3 years) expressed annoyingly. "There is lack of doctors in hospitals and there is lack of workers in the field, doctor should look after the hospital or the sector? They also perceived that permissiveness in the monitoring is also responsible for less effective implementation of the program. They sensed further that inadequate supervision prevailed at all level of organization.

Some of them shared about their experiences with persons from other sectors involved in IFA distribution

Table 2: Semi-quantification of thematic analysis: subthemes grounded in the verbatim of the participants.

Major theme	S. No.	Emerged subtheme	Quantitative word used in narrative description of result	No. of participants with verbatims as source of subthemes	% of total participants
Distorted perceptions reinforced by unpleasant encounters	1	Perceived non appraisal of ifa supplementation value	Entire	37	100
	2	Casual behavior of consumer combined with other perceived commitment leading to avoidance	Many	25	67.6
	3	Mistaken belief and false impression deterring the initial consumption of ifa	Many	24	64.9
	4	Encountered side effect leading to discontinuation after initial consumptions	Majority	32	86.5
	5	Unpleasant taste and bland wrapping perceived as hindrance for consumption	Majority	31	83.8
System resistance and resource constraints	6	Disjointed patchy supervision mechanism in the absence of standard protocol	Most	35	94.6
	7	Perceived absolute (vacant) or relative (overburdened) deficiency of supportive staff with poor logistic support	Most	35	94.6
	8	Lack of ownership and shared responsibility by supportive department and community	Some	15	40.5

(such as school teachers and aanganwadi worker). They felt the 'lack of shared ownership' and 'resistance in these segments' may also contribute to the non-consumption of the IFA. "Teachers are not interested in this work, they says why we should do your (health department) work"?

The investigator further attempted to map this apparently non-linear phenomenon to a sensible cause-effect sequence which is depicted in Figure 1.

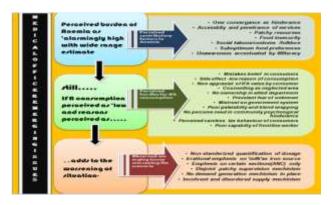


Figure 1: Linear mapping of perceptions and experiences of medical officer about IFA consumption.

#### DISCUSSION

Several efforts are being taken at policy level to address the burden of nutritional anaemia, through IFA supplementation, still the magnitude of problem stays worrisome. This study investigates the numerous possibilities for answering the question "why" this problem of IFA non-consumption (as a surrogate marker of anaemia persistence) prevails in the community. Several answers emerged after analysis of subthemes which were grounded into the verbatim(s) and discourse of the conducted interviews thus providing the scaffold for the major theme.

The two major themes emerged after the analysis offers a comprehensive scenario in which the component attributes act in different dimensions of consumers, providers and systems. This is analogous to classical traditional model of epidemiological triad of disease where agent, host and environment essentially interact for causing a disease in the host. 17

The emerging attributes contributing to the one of major theme seems to be embedded into the mental milieu of the consumer in form of numerous beliefs and misconception about the IFA and its implications. The emerging subthemes sequentially revealed the linkup between perceptions and the practiced behaviour. All these users related factors like misconceptions, and casual behavior seems to arise as either they don't perceive the requirement or in the absence of factual information they may rationalize their unpremeditated behavior through levelling the IFA as 'useless' and' non-essential'. <sup>18-21</sup> Moreover there appears to be a requirement to look beyond the conventional motivational /health-belief model in this particular scenario. IFA tablets are prescribed in apparently healthy state which may preclude the supposed necessity to be taken by consumers (in the absence of overt disease). <sup>18-21</sup> A social intervention where the IFA may be welcomed by the groups (social institutions) to whom the consumers belong may serve the purpose. <sup>22</sup>

In a study of compliance of IFA among pregnant women in urban slum of Surat, forgetfulness and ignorance were found to be most important factor for non-compliance.<sup>18</sup> In a school based cross sectional study conducted at Pondycherry a focal group discussion among boys revealed "not-necessary" as major cause of non-compliance.<sup>19</sup> Studies from Tanzania and Brazil on IFA compliance of pregnant women also found that awareness about the factual information is required for reducing non-compliance.<sup>20,21</sup>

Furthermore this behaviour of non-compliance may be rationalized by some undesirable side-effect of IFA and palatability issues. Literature also endorses the objectivity of these findings and reports nausea, heartburn and vomiting are strongly associated with IFA consumption.<sup>23</sup>

In a study conducted in urban south India among the women attending Antenatal clinic, found perceived and experienced side effects of IFA as important factors for non-compliance.<sup>24</sup> Studies around globe have emphasized the adverse events as one of the major cause of discontinuation of IFA tablets.<sup>25,26</sup>

This study explored and sensed an element of resistance and repulsion among grass root level health workers (ASHA, AWW, ANM, school teachers) for IFA distribution and supervision. As all of them are the integral part of social environments which at this juncture may not be able to show them the real benefits of adopting this strategy. Here authors want to emphasize that 'awareness' should be recognized in its broadest sense hence correctional measures should not be restricted to consumer only but to the immediate providers (ANM, ASHA, school teachers and AWW in this scenario) as well. A 42 old physician serving at the same primary health center since 10 years says- "there is an element of fear in the frontline workers that this tablet may cause some unknown reactions".

In order to understand this issue further the findings of analysis may be intertwined with the functioning of health system and programs. A primary health center may be considered as first merging point of information arising from community. This is the nodal point from where penetration of the health program can be measured.<sup>27</sup> This indicative performance of a program also serves as valuable inputs for customized correctional measures and feedback at policy level.<sup>27</sup> Thus any deviation from standardized protocol and systematized approaches may adversely affect the desired outcome on one hand and devoid the program managers from critical inputs generating directly from community.

Another connected factor which determines the operability of program is an efficient resource management. A physician at primary health center also plays a role of health manager for the catchment area. <sup>15,16</sup> One of the major hurdle as perceived by all of them was, related to human resources. A fifty year old physician said "There is dearth of doctor in the hospital and of workers in the field". I cannot decide where I should be?" Delegation of IFA supplementation to related people like school teacher or AWWs could be a viable solution for deficiency of human resources but allied personals mistakenly perceived it another 'accessory' burden and expected commitment level and belongingness could not be attained.

The finding of this study endorses to look into the matter from three planes namely systemic, user and linking interface. Participatory approach in any health intervention is proven superior to service approach as it offers autonomy and self-reliance while making decisions, all the effects should be directed to involve not only users but also the frontline workers. 28 As frontline workers are the major connecting link between user and health system in place, addressing their concerns will be automatically percolated to potential users. This will ensure the community participation in real sense. System interface is another important domain which needs to be strengthened. At the policy level branding of IFA can be promoted which will arouse the 'need 'in the consumers by stimulating the curiosity among them. A policy decision after the community trials (for replacing Ferrous Sulphate salt with Gluconate or adding of antacid palatable inclusion of iron polymatose /polysaccharides iron complex with Vit-C) may also be taken in order to enhance the acceptability of IFA among consumers.

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