Anemia and its determinants among women of reproductive age of a slum in Kolkata: A focus group discussion among health workers in a slum of Kolkata

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ABSTRACT

Context: Anemia is a major contributor to morbidity and mortality among women of reproductive age. Progress toward reducing the burden of anemia has been little despite efforts through decades. **Aims:** We conducted this study to unearth the microlevel determinants of anemia among women of reproductive age. **Settings and Design:** This qualitative study was conducted in Urban Health Centre (UHC), Chetla. **Subjects and Methods:** A focus group discussion was held among all the eight health staffs, who were involved in reproductive and child health-related service delivery under UHC, Chetla. **Analysis Used:** A thematic analysis of the transcript was performed. **Results:** We found that socioeconomic factors like poverty and social neglect, diet and nutrition related factors, lack of personal hygiene, and worm infestation contributed to the burden of anemia, and this was reinforced by factors related to service delivery, such as lack of supply of drugs and supplements, and inadequate training of health workers as well as poor media accountability. **Conclusions:** Because of easy reversibility and implementation, health service delivery-related issues should be addressed closely through monitoring and evaluation and appropriate and timely action should be taken to improve the effectiveness of the services.

Keywords: Anemia, focus group discussion, primary health care, reproductive age group

Introduction

Anemia is a long-standing public health problem both in the developing as well as developed countries. Globally, the prevalence of anemia among women of reproductive age was estimated to be 29.4% by WHO.[1] Although the prevalence of anemia has declined in India from the past, more than half of the women in 11 states and UTs are anemic.[2] Moreover, there is gross unawareness and enormous ignorance in the communities about the effect of anemia on health and its prevention.[3]

Recent studies in different parts of the country revealed that age, educational level of the women, socioeconomic status, history of excessive menstrual bleeding and inadequate intake of green leafy vegetables and pulses, increased parity, and narrow birth spacing were the significant predictors of anemia among women of reproductive age.[4,5] Moreover, the distribution of anemia across different geographical locations and population groups is determined by factors such as poverty, malnutrition, and social neglect.[6-8] In addition, it also reflects the presence of cumulative impact of dissociative privilege offered to a particular community.[9]

To combat the anemia problem through the lifecycle, National Iron Plus Initiative has been launched in India with strategies

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including health and nutrition education, iron folic acid supplementation and deworming, and appropriate treatment for anemia. To find out the present scenario after implementation of the program, we had carried out a survey among nonpregnant nonlactating women of reproductive age (WRA) in Chetla slum of Kolkata, catered by an urban health center (UHC) for more than two decades. The population is additionally served by a municipal health center. However, we found that more than half of the study participants in our survey had been suffering from anemia. In this context, we conducted this study among the health personnel of the local UHC to explore the micro-level determinants of anemia and the perception of the health staffs on anemia.

Subjects and Methods

This study was conducted in the slum of Chetla, Kolkata, using qualitative research methods. Among the wide range of available qualitative methods, focus group was found to be the best available choice:
- To generate hypothesis based on the insight of the primary level health workers' insights and experiences
- To obtain the interpretation of health staffs of the results from the earlier unpublished work
- To obtain information regarding any contribution of health care delivery toward the high burden of anemia among the said population from persons within the grass-root level of care delivery system in a nonthreatening climate and flexible interactive ambience
- To collect data until the point of saturation and modulate the course of flow of information according to the knowledge gap as well as sudden disclosure of new information.

In the preparatory phase, a complete list of health staffs working as field level worker in the service delivery area of the UHC, Chetla, was obtained. A meeting was held among the researchers to identify an experienced moderator among them, trained and experienced in performing the task of conducting focus group discussions (FGDs) on anemia and reproductive health.

All the health staffs working for the UHC, Chetla, as field level workers delivering services to the WRA were included as participants of the study. The primary aim was to obtain as much information as possible in relation to the contribution of social factors and health care delivery-related factors as well as to conglomerate the summative reflections of the perceptions of those in direct contact with the community.

As there were only eight health staffs, in-depth interview would have been a more exhaustive method of data collection. However, as there was a time constraint, all were willing to participate in the FGD, and the study population was homogenous, plan was formulated to include all of them in a single focus group. This would additionally serve the purpose of identifying reflections and expressions of all the respondents simultaneously for every bit of information. Moreover, an FGD would provide

the researchers the opportunity to determine the reflection, expression, and viewpoint of the participants to the views of each other. The idea of keeping eight participants in a single focus group was also in-line with the recommended number of participants forming a focus group in available literatures.[10]

For the study, one focus group was held in the conference cum meeting room (separate from the administrative and out-patient department building) of UHC, Chetla. The age of the recruited participants varied from 30 to 60 years. All the workers were female. Apart from the youngest participants, all had at least 20 years of in-service experience of working as health workers. While one had completed secondary level of education, and another higher secondary level of education, the others completed either graduate or postgraduate level of education.

A meeting was held among the moderator, other experts in community medicine and health education to prepare the discussion guide. A set induction involved greetings, ice breaking, and was followed by the discussion proper.

The discussion guide was formulated to understand the micro-level determinants and the perception on anemia among the local health workers. To fulfil the objectives, the following information were sought:
- To elicit the actual knowledge and perception of the community health providers regarding the causes, clinical features, prevention, and treatment of anemia
- To investigate the locally predominant factors causing anemia in the nonpregnant WRA
- To determine the perception of the local community regarding the prevention of anemia
- To formulate an axiom regarding the relationship of the sociodemographic, economic, and cultural dimensions with anemia among the population of interest.

Two separate note-takers were involved in the process of note-taking. To increase the reliability of data, standard norms for note taking were followed.

A sociogram was prepared and the flow and dynamics of the session was ascertained. During the session, validity was ascertained using the following methods:
- All the person involved in conducting the session of FGD except the moderator refrained from talking. The note-takers produced notes as exact as possible
- Feedback forms were distributed at the end of the session
- Line-by-line coding, inductive coding, extraction of descriptive themes, and thematic analysis were performed. To improve the credibility of the results, meeting with the note-takers, and two independent expert observers were held separately. Prior to analysis, procedural dependability was ascertained by thematic structuring of the data, comparing the presession process standard with the process note
- Peer debriefing with specialist in the field of health education

was performed to ensure disclosure of blind spots and compare the working hypothesis and results.

Permission from the local health authorities and the Institute Ethics Committee was taken to perform the research work.

Results

Knowledge of the focus group regarding anemia.

Definition of anemia

All the respondents were able to define anemia to the best of their knowledge as health-staffs. Their verbatim was translated as "decrease in hemoglobin level in blood." Although they knew that the cut-off level of Hb to diagnose anemia differed with respect to age and gender, they specified that the cut-off level of hemoglobin as 11 g/dl to define anemia among nonpregnant WRA. The lack of confidence and consensus regarding the value was prominent from the use of phrases as "perhaps," "may be," etc., Only one could correctly and confidently specify the threshold of hemoglobin for adult males as 13 g/dl.

Causes of anemia

Most of the participants identified dietary issues, including "dietary habit," "malnutrition," and "eating less iron containing foods" as the most important cause of anemia. However, among the iron containing foods, they mentioned the names of Bengal gram, plantain stem, plantain flower, and guava, which were not found to be rich sources of iron in literature. The other factors or conditions responsible for anemia, as stated by the participants were, worm infestation, particularly among those having "improper personal hygiene," "menstrual blood loss," "bleeding piles," thalassemia, sickle cell anemia, megaloblastic anemia, sprue, malabsorption, kidney diseases, chronic constipation, and chronic diarrhea.

Presentation and complications of anemia

The symptoms of anemia, as discussed by the participants, were translated as "shortness of breath on exertion," "swelling of limbs and body," "clouding of vision," "lack of concentration," and "palpitation." Among the adverse consequences, they mentioned "intrauterine growth retardation of baby," "postpartum hemorrhage among mothers," "poor quality of breast milk," and "heart failure."

Prevention of anemia

The participants emphasized the necessity for modification of dietary habits, especially increase in consumption of "diet rich in green leafy vegetables" and other "low cost" iron-rich foods as well as consumption of iron-folic acid tablets. However, they failed to enumerate the names of some low-cost iron rich foods. Majority of the participants also knew that lemon consumption could prevent anemia by increasing iron absorption. They also emphasized on the consumption of "home-made food" to prevent conditions precipitating anemia, e.g., chronic diarrhea

and worm infestation. One of the participants emphasized on "quality assurance of food" and "regular consumption of seasonal fruits."

Management of anemia

The respondents considered hemoglobin testing an essential tool for early diagnosis of anemia and prompt initiation of treatment. They failed to elaborate the dose and duration of IFA tablets required for prophylactic and therapeutic use. The group also failed to reach consensus regarding the same. While one of the participants was of the opinion that only 30 days treatment with IFA tablets would be needed to treat anemia, others emphasized on administration of the tablets for 100 days. In addition, one among the latter emphasized on rechecking of hemoglobin after 1 month of treatment. Two participants emphasized the necessity of stool test to rule out worm infestation before starting the treatment of anemia. One emphasized on following the guidelines of "National Programme" for management of anemia, but failed to elaborate the required interventions.

Factors, incriminated by the focus group, as causes of anemia among women of reproductive age in the slum area

The respondents felt that faulty dietary habit, food insecurity, and worm infestation were the main explanatory factors responsible for development of anemia in that particular community. According to the respondents, faulty dietary practice was due to knowledge practice gap among the slum dwellers, because they had repeatedly advised the women in the community to consume low-cost iron rich foods. Poor dietary habits in the form of adherence to fast food, inappropriate dietary restrictions, and frequent fasts for religious purpose were reported as nutritional causes of anemia by two of the participants. Their responses were translated, as "adolescent girls are concerned about obesity and practice diet restriction," "they eat popcorn at breakfast." Regarding this issue, most of the participants also remarked that media influenced greatly in increasing fast food intakes, particularly advertisements shown in the television in which celebrities promoted junk foods.

Majority of the participants also stressed on unequal distribution of food as a factor predisposing to anemia. Their responses were translated as "the women eat at the end, after all other members eat and little residual remains for them to eat," "even 18-month-old girl get only rice to eat during the day; they do not even get potato to eat." Heavy drinking by some male members added to the household food security, as the participants remarked "the male members of the family waste the meagre amount they earn in alcohol abuse," "even the male members do not quit drinking after developing peptic ulcer." One of the health staffs pointed out that migration from rural area was a cause of food insecurity as there was no land to plough, not even for kitchen gardening in the congested slum. She also experienced that the residents could not afford the cost of vegetables following migration.

The health workers also expressed their helplessness because no specific intervention were known to them to combat the abovementioned issues.

The participants identified that walking bare-foot and open defecation were the main causes for prevalence of worm infestation in the community. Regarding the latter, two of the participants were of the opinion that over-crowding and disproportionately less availability of public toilet facilities were responsible for the grave situation. However, one remarked that commencement of "Nirmal Bharat" program had reduced open defecation in the slum. Moreover, the participants opined that there was considerable improvement in hygiene practices among the slum dwellers due to repeated health education interventions by the staffs of UHC, Chetla. Their responses could be translated as "it cannot be concluded that there is no practice; the women follows hand-washing practice, stores water in closed containers."

Perception regarding service delivery for prevention and management of anemia

The participants had a consensus regarding health education as the major intervention used by them to prevent anemia among WRA. They used to provide nutrition and health education to the women including pregnant mothers, and their family members including the mother-in-law to prevent anemia. One participant added that this was reinforced by the health education provided in the MCH Clinic of UHC, Chetla. They also opined that the women might gain awareness from television programs and media sources as well.

One of the participants also added that commencement of Janani Sishu Suraksha Karykram has helped in the reduction of anemia problem.

The participants opined that the treatment offered by UHC was based on IFA and deworming along with blood and urine investigations. However, the participants stated that there had been no supply of IFA tablets and Vitamin A oil in the UHC and central medical store for approximately 2 years. The implications could be translated as "the doctors had to prescribe IFA tablets for only 6–10 days," "it is government's fault" and "patients are accusing us for no service."

Discussion

From the above findings, it was evident that:
A. The participants had enough knowledge as health staffs regarding anemia as a disease; but, they had very little working knowledge regarding the prevention and management of anemia that is, essential for implementation of preventive services in the field. The potential implications of the findings are as follows:
   - They participants did not know the normal hemoglobin level. Therefore, there was a possibility that the beneficiaries, even after being screened positive for anemia by hemoglobin estimation, were not advised to seek treatment

   - The participants did not know the name of the specific foods to be advised during nutrition and health education to prevent anemia in the community. Mere, suggestions for taking green leafy vegetables and low cost iron rich food would fail to produce any change in dietary practice of the community, unless they are informed about specific food items
   - The participants had inadequate knowledge about the difference between prophylactic and curative use of IFA tablets and the appropriate management of anemia with IFA tablets. Moreover, they did not have consensus regarding these issues. This is especially important because their inadequate knowledge would not only be a barrier for healthcare utilization by the community members, but also the beneficiaries would lose confidence on the health workers.
B. The following sociocultural factors contributed to the high burden of anemia among WRA:
   - Migration, poverty, and food insecurity
   - Faulty dietary practice including food fads and lack of knowledge regarding correct diet
   - Open defecation and walking barefoot resulting in worm infestation
   - Social nuisance, such as substance abuse, stigma, gender inequality/neglect, neglect since early life, and faulty religious practices including fasting.
C. The following service delivery-related issues contributed to inadequate prevention and control of anemia problem among the slum dweller WRA
   - Inadequate government supply of medicines and nutritional supplements
   - Insufficient training and capacity building of frontline health workers.
   - Lack of intersectoral coordination and poor accountability on the part of the media resulting in dispersion of wrong message regarding diet and nutrition.

Recent studies in India have shown poor education, poor socioeconomic status, faulty dietary practices as major bio-social factors of anemia among women.[4,11,12] These factors were largely similar to the sociocultural correlates of anemia among WRA found in our study. However, there has been repeated emphasis on capacity building of health workers for prevention and management of anemia.[13] In spite of that, our study revealed that the health workers lacked practical skills for providing nutrition and health education despite having considerable knowledge. Moreover, our study revealed the necessity of uninterrupted supply of IFA tablets, intersectoral coordination, and media accountability to combat the anemia problem, especially in low-resource setting such as urban slum.

The major limitation of this study was that the findings only reflected the viewpoints of the health-staffs through FGD. Findings from a beneficiary survey may unearth additional issues, such as community perception about the effort of the health staffs, service delivery, and social neglect. Moreover, in-depth

interview might have revealed more sensitive issue related to service delivery, including service climate, satisfaction and motivation, and work-compensation inequity.

Conclusion

Programmatic and service delivery-related issues are no less important than bio-sociocultural factors in determining the burden of anemia among WRA. Capacity building of frontline health workers, health and nutrition education of the women, increased media accountability, continuous supply of IFA tablets, and promotion of food security and women empowerment would help in sustainable reduction of the anemia problem.

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Conflicts of interest

There are no conflicts of interest.

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