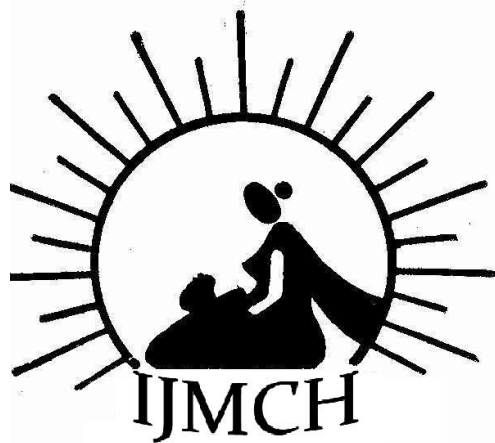


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**Knowledge and Health Seeking Behaviour for Anaemia in  
an Urban Slum of Mumbai**

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To study the awareness and health seeking behaviour pertaining to anaemia amongst the adolescent girls.

## Knowledge and Health Seeking Behaviour for Anaemia in an Urban Slum of Mumbai

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### ABSTRACT:

**Research Question:** To study the awareness and health seeking behaviour pertaining to anaemia amongst the adolescent girls

**Settings:** An urban slum of Mumbai

**Study Design:** Descriptive Cross-sectional study design

**Participants:** 943 adolescents girls between 10-19 years consenting to participate in research study

**Methodology:** A systematic random sampling of the households to identify adolescent girls residing in the house. A pre-tested structured questionnaire in local language was used for interviewing the girls.

**Results:** Amongst the 943 girls interviewed, 88% girls were currently studying.

Almost all girls could enumerate atleast one symptom/sign of anaemia. Only 1% knew about haemoglobin testing. Majority of the girls mentioned poor food consumption as the cause of anaemia. Only 16% and 43% girls knew about ill effects of anaemia on pregnancy and newborn. Iron folic Acid supplementation is consumed by 12% girls currently and is being obtained from schools (90%).

**Keyword:** *Adolescent girls, anaemia, health seeking behavior*

### INTRODUCTION:

Anaemia is one of the causes leading to maternal mortality. Nutritional deprivation, increased iron demand during adolescent growth, excessive menstrual losses of iron and early/frequent pregnancies aggravate and exacerbate pre-existing anaemia and its effects. National Family Health Survey – 3 (NFHS-3) has found that 11.7% of the girls between 15-19 years are stunted, 47% are underweight and 56% are anaemic<sup>(1)</sup>. Anaemia in adolescent girls enhances the risk of preterm delivery and having babies with low birth weight<sup>(2)</sup>. Anaemia in adolescent girls also increases their risk of maternal deaths. In India majority of pregnant women and young children and half of non-pregnant non-lactating women suffer from anaemia. In a collaborative effort between the Department of Education and the Department of Women & Child Development, weekly iron-supplementation programmes to control anaemia in adolescent girls were initiated in the year 2000 in selected States.

Various programmes in different parts of the country provide adolescent girls with iron folate tablets (100 mg iron and 500µg of folate) on a weekly basis for a minimum of six months to one year. Iron tablets are provided through School and Anganwadi's of Integrated Child Development Scheme. The programmes also included other activities such as counselling, provision of educational materials, monitoring cards, imparting life skills

education and providing deworming tablets. There is substantial evidence that weekly iron/folate supplementation to adolescent girls is effective and efficient. (3,4)

Reproductive and Child Health - Phase II (RCH-II) <sup>(5)</sup> addresses the problem of provision of reproductive and sexual health services to adolescents in a facility based approach but fails to highlight the issue of wide community coverage required to tackle the core problem of anaemia in adolescents especially the girls.

An informal interaction with the community revealed that the girls and mothers did not feel the need to take the tablets and were throwing away the tablets. The anganwadi workers are struggling to improve the coverage for iron folic acid supplementation, but have not met with desired success. The free weekly distribution of iron folic acid tablets to adolescent girls, is a routine policy and practice, but it is not known, how many of these girls are actually consuming these tablets.

The proposed study therefore aims:

1. To know the awareness level amongst adolescents girls regarding anaemia and its impact on the reproductive health.
2. To study the health seeking behaviour with regard to anaemia

#### **MATERIALS AND METHODS:**

**Study Area:** The study was conducted in an urban slum of Mumbai in the F/N ward. The study area was demarcated in geographical continuity with the hospitals Urban Health Centre.

**Study Design:** A Descriptive cross-sectional study design was adopted for the study.

**Study Sample:** The participants of the study were the adolescent girls between 11-18 years of age. The purpose of the study was explained and a written consent was obtained either from the girl or from their mother/guardian depending on their age.

**Sample Size:** The area demarcated for the study had a population of 1,07,817; 25309 households and 7297 adolescent girls. Sample size was taken as ten percent of the total number of adolescent girls in the study area. Assuming a non-response rate of 20%, the requisite sample size worked out to be 880 adolescent girls. It was estimated that 3052 houses would need to be visited so as to meet 880 adolescent girls.

#### **Sample Selection:**

A Systematic Random Sampling technique with household as the unit of sampling was adopted. If a particular household had more than one girl then the youngest adolescent girl was interviewed. If the adolescent girl was not present at the time of the visit, the household was not visited again.

**Study Tools:** A pre-tested structured questionnaire in Hindi language was used for interviewing the adolescent girls. The questionnaire explored aspects regarding knowledge of anaemia, health seeking behavior of adolescent girls, and consumption of iron folic acid tablets.

**Study period:** One year; July 2011 to June 2012

**Data collection process:** The first household was selected by randomly picking a ten rupee currency note and noting its last digit number to select the first household for survey. All the subsequent households were selected as the eighth household from the last enumerated. If any eighth household was locked then the next eighth household was selected and the procedure repeated. The total respondents for the survey were 943 adolescent girls.

**Ethical committee approval** for the study was taken prior to the start of the study.

**OBSERVATIONS:****Profile of Respondents**

A total of 943 adolescent girls with a mean age of 14.21 years (11 to 18 years) were interviewed amongst the 3082 households visited. Majority of the girls belonged to the age group of 11-14 years (55.8%) and were Hindus (74.4%). Almost 88% girls (829) were studying at the time of the interview. Of the 113 girls who were currently not attending any school, only nine girls had attended more than ten years of schooling. Remaining 104 girls had discontinued their education primarily due to poor scholastic performance (25%) and family reasons (21%). Family reasons included poor economic status of the family, responsibility of household chores, taking care of siblings, death of parent etc. Almost 8% of the girls cited health reasons like suffering from TB as a reason for discontinuing their education. A substantial number of girls 12% were not interested in studies. Majority of the 672 (71.3%) girls attaining menarche had attained menarche at the ages of 12 and 13 years (70%). Amongst the girls surveyed, only 3 girls were married of the total 943 girls but none of them had children.

**Table 1: Profile of Respondents – Adolescent Girls**

	Frequency	%
<b>Age of adolescent girls</b>	<b>n=943</b>	<b>%</b>
11 – 14 years	526	55.8
15 – 18 years	417	44.2
<b>Religion</b>	<b>n=911*</b>	<b>%</b>
Hindu	678	74.4
Muslims	197	21.6
Others	36	4.0
<b>Educational status</b>	<b>n=943</b>	<b>%</b>
Currently studying	829	87.9
Attended 1-4 years of school	8	0.9
Attended 5-7 years of school	31	3.3
Attended 8-10 years of school	65	6.9
Completed more than 10 years of school	9	1.0
Illiterate	1	0.1

**Socio-economic status**

Amongst the 943 girls, 650 (70.8%) lived in a nuclear family. The family size varied from 2 to 11 members. The average family size was 5.1. Only 46% girls (450) mentioned their income which ranged from Rs. 2000 to 25000 per month with an average of Rs. 6370. In most of the families (89%) only one family member was earning. Of the 777 girls who could mention the colour of the ration card, 97.4% had orange coloured card, 1.4% had white card and 1.2% had yellow card.

### Knowledge about Signs and Symptoms of anaemia

Majority of the girls (98%) were able to enumerate atleast one symptom or sign of anaemia. Correct knowledge about signs of anaemia was poor as observed in Table 2. Fatigue and weakness was the most common symptom known to girls. Becoming thin and aches/pains in different parts of the body like body ache, abdominal pain, foot pain, headache etc. were other responses

**Table 2: Girls response to question on how to recognize anaemia.**

Signs and symptoms of Anaemia	Girls	
	n=943	%
Feeling tired	605	64.2
Feeling Weak	424	45.0
Pale Nails	36	3.8
Becoming thin	90	9.5
Giddiness	13	1.4
Pale Eyes	19	2.0
Pale tongue	22	2.3
Palpitation	3	0.3
Don't know	22	2.3
Aches and Pains	32	3.4

**Table 3: Girl's perception regarding causes of anaemia among women**

Causes of anaemia	Girls	
	n=943	%
Poor food consumption	887	94.1
Excessive bleeding during Menstruation	16	1.7
TB	1	0.1
Others	11	1.2

### Knowledge regarding the test used for diagnosing anaemia

Blood test is required to diagnose anaemia was known only to 21% girls, of whom only a few specified about testing blood for haemoglobin levels. A very small percentage of girls (1%) were aware about the normal haemoglobin levels.

### Knowledge regarding causes of anaemia

Only 5% girls said that they did not know how anaemia is caused. In Table 3, it is observed that the cause of anaemia cited by almost all the girls was eating less food than required. Only five girls mentioned that not eating iron rich food causes anaemia. Girls also mentioned about TB, stress, and pregnancy at a young age as a cause for anaemia.

**Table 4: Impact of anaemia on adolescent girl, pregnant women and the newborn baby as perceived by the girls**

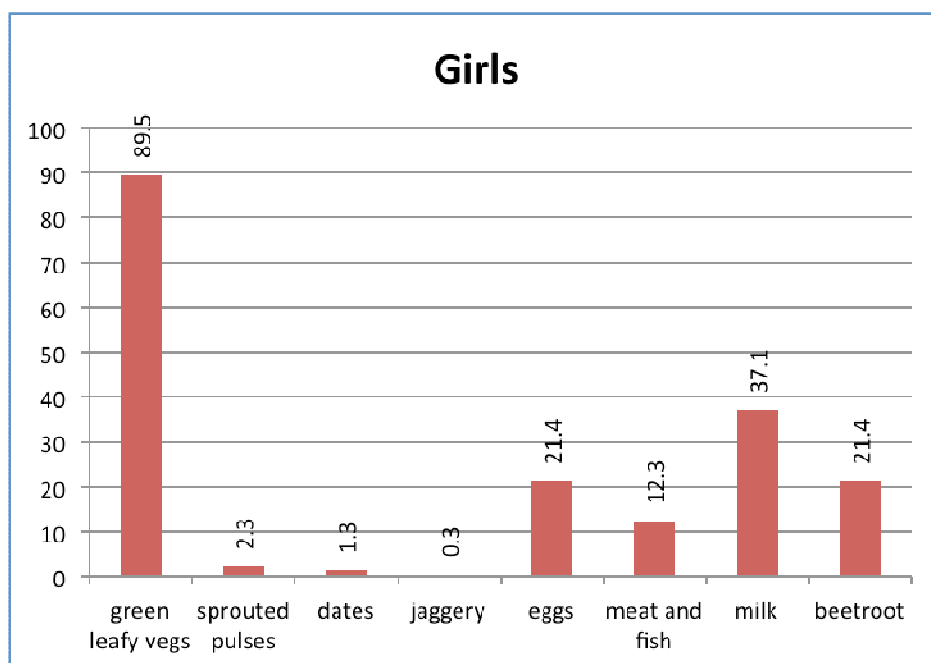
	Girls	
	n=943	%
<b>Effect of anaemia on adolescent girl</b>		
Weakness in body	807	85.6
Low weight	142	15.1
Stunted Growth	14	1.5
Irregular menstrual cycle (MC)	4	0.4
Don't know	30	3.2
Others	4	0.4
<b>Effect of anaemia on pregnant women</b>		
Swollen feet	3	0.3
Excessive bleeding post delivery	3	0.3
Weakness	150	15.9
Giddiness	3	0.3
Don't know	794	84.2
Other	2	0.2
<b>Effect of anaemia on newborn</b>		
Weak baby (new born)	333	35.3
Low birth weight of new born	74	7.9
Pre mature baby	2	0.2
Don't know	535	56.7

**Effect of anaemia on the health**

Table 4 reveals the poor knowledge of adolescent girls regarding effect of anaemia on the pregnant women and newborn. Some girls mentioned that it causes weakness amongst pregnant women. Around 35% girls knew that the baby is weak if the mother is anaemic. However 86% girls knew that anaemia causes weakness in the adolescent girl and are thin in appearance.

**Knowledge regarding prevention of anaemia**

90% said the consuming proper food will prevent anaemia. Only 10% girls mentioned about eating iron rich foods. It is observed from Figure 1, that the awareness about consuming green leafy vegetable for prevention of anaemia was found to be high in girls. A significant proportion of girls mentioned milk (37%) and eggs(21%) as rich sources of iron.

**Fig 1: Foods to be consumed for prevention of anaemia as perceived by girls****Table 5: Current Consumption of iron folic acid supplementation in Adolescent girls as reported the Girls**

	Girls	
<b>Current IFA tablets consumption</b>	<b>n=943</b>	<b>%</b>
Yes	112	11.9
<b>Current Pattern of IFA tablets consumption</b>	<b>n=112</b>	<b>%</b>
Every day	92	82.1
Once a week	19	17.0
No response	1	0.9
<b>Since when IFA tablets are being consumed</b>	<b>n=112</b>	<b>%</b>
<3 months	15	13.4
3-6 months	63	56.2
6-12 months	12	10.7
>12 months	20	17.8
Don't remember		
<b>Current Source of IFA tablets</b>	<b>n=112</b>	<b>%</b>
From school	100	89.3
From Anganwadi	7	6.3
Other	5	4.5

### Knowledge about Need for IFA supplementation in adolescent girls

Though Iron folic acid supplementation needs to be taken by adolescent girls was known to 19% girls, only 12% girls were taking IFA (Table 5). A large proportion of the girls (89.3%) taking IFA cited School as the main source of information.

### Health seeking behaviour and practices of adolescent girls pertaining to anaemia

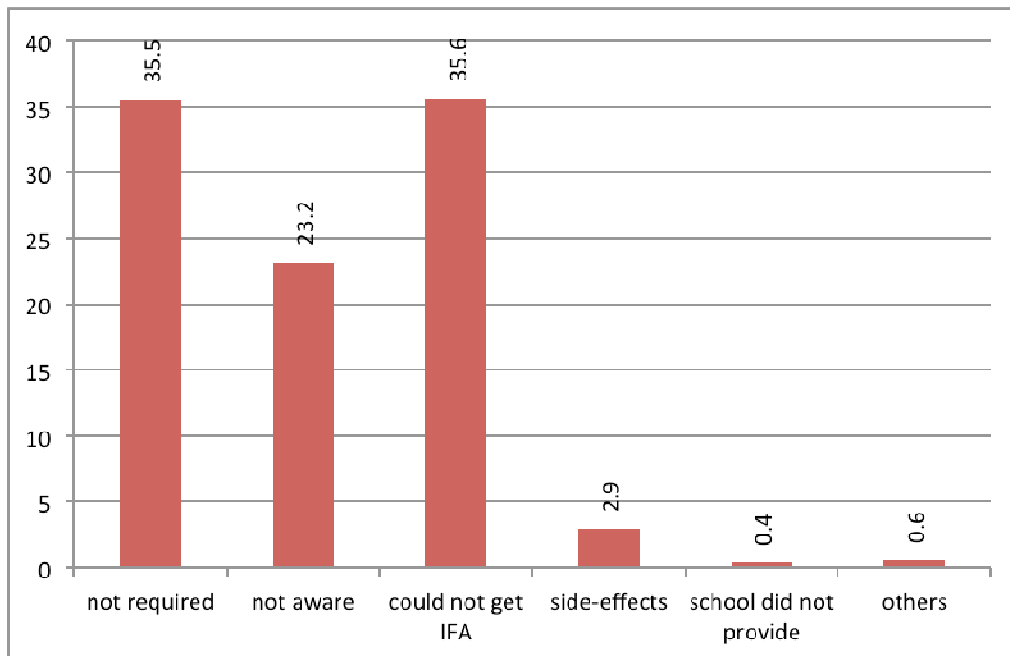
Only 9% girls (82) responded saying that they had a blood test done. Blood test was done less than 6 months in most of these adolescent girls (74%) and only 57% of them knew that Haemoglobin levels were assessed in the blood test.

From Table 5, it is seen that 12% adolescent girls reported to be consuming IFA tablets. A large proportion of these girls (70%) were consuming since less than six months. School was the main source of IFA tablets.

### Reasons for not currently consuming IFA supplements

The three major reasons (Figure 2) cited for not consuming IFA tablets were; *tablets are not required, did not get the IFA tablets; and not aware that tablets are to be consumed by all adolescent girls.*

**Figure 2: Reasons for not currently consuming iron folic acid tablets as reported by Girls (n=831)**



### DISCUSSION

Anaemia causes weakness and fatigue was known to most of the girls. Majority of girls, however neither knew the signs of anaemia nor the specific test (i.e. haemoglobin levels in blood) for diagnosing anaemia. Inadequate consumption of food was attributed as a cause of anaemia by majority of the girls.



Green leafy vegetables, milk, eggs & beet root were cited as rich sources of iron by girls. It is noted here that milk, which is not really a good iron source, is still mentioned by one third of the girls. Egg is an affordable non-vegetarian source but is mentioned only by one fifth of the girls. None of them mentioned about fermentation of cereals & pulses, which is a traditional Indian custom of increasing bioavailability of iron in our daily diet. Nobody described cooking in iron vessel.

The study points to the glaring gap in the awareness of iron rich sources in the society. This awareness needs to be consciously created in our population by giving emphasis in formal education system where nutrition is taught in graded manner. In our study most of the girls were educated, in spite of which only green leafy vegetables was named as iron rich source. In a study conducted in Medak district, the researchers found that the knowledge on Anaemia was poor at the beginning of the study, which increased considerably after health education programmes.<sup>(7)</sup>

Knowledge regarding effects of anaemia amongst adolescent girls, pregnant women and newborn baby was extremely poor. Thus there is a need for sensitization of girls on these issues before they step into their family life.

It is evident that very few girls have undergone blood testing. The girls quite often do not know what investigations are done and do not understand the importance of correcting anaemia.

The need for IFA supplementation is not felt by one-third of the girl. However, two-thirds of the girls were willing to take IFA only during this interview. So it is evident that sensitization of girls & mothers towards anaemia and its effects will facilitate the utilization of IFA. It needs to be noted that some mentioned that IFA was not consistently available in the school. This fact needs to be looked into.

In spite of the fact that weekly supplementation is adequate for prophylaxis, IFA tablets are being consumed daily. Many programmes involving different professional bodies & NGOs have been launched aiming at weekly supplementation<sup>(6)</sup>. Amongst the current consumers of IFA tablet, majority were getting IFA from the school. As 88% girls go to school during adolescence, the coverage of urban adolescent girls with IFA can be improved, if the main avenue is school. IFA tablets should be made available to all the school public or private. Twelve percent non-school going girls can be reached by ICDS programme which will avoid duplication.

#### **CONCLUSIONS:**

Knowledge regarding anaemia and prophylactic iron folic acid tablet consumption amongst adolescent girls 11-18 years of age is poor. The girls who are consuming IFA have been getting it mainly through school. Very few have been availing the service of ICDS, which is co-existent in Mumbai urban slums. Utilizing the educational infrastructure to implement iron folic acid supplementation programme for school children; and ICDS's anganwadi for the non- school going girls will maximize the reach to adolescent girls. The two sectors can thus effectively co-ordinate avoiding duplication of services.

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