

(Completion of dissertation from the respective organisation)

The certificate is awarded to

**DT. PRIYA BANSAL**

In recognition of having completed her internship as

**PROJECT COORDINATOR** and has

completed her Project on

**Prevalence of iron deficiency anaemia among the schools of Delhi NCR and promotion of healthy growth and development through early detection, awareness, referral, and treatment through IFA**

**tablets and food intervention**

(Jan 31 to Apr 30, 2025)

**Organisation: Doctors For You**

She comes across as a committed, sincere & diligent person who has a strong zeal for learning.

We wish her all the best for her future endeavours.



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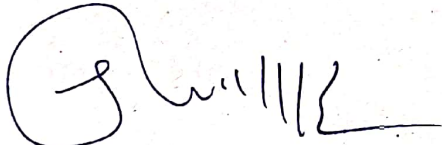
**(Training and Development)**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dt. Priya Bansal**, a student of PGDM (Hospital & Health Management) at the International Institute of Health Management Research, New Delhi, underwent internship training at **Doctors For You** from **January 31, 2025, to April 30, 2025**.

The Candidate has successfully carried out the study designated to her during internship training, and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements. I wish her success in all her future endeavours.



**Dr. Sumesh Kumar**  
Associate Dean, Academic and Student Affairs  
IIHMR, New Delhi



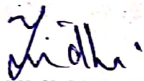
Mentor **Dr. Nidhi Yadav**

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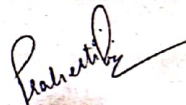
This is to certify that **DT. PRIYA BANSAL**, a graduate student of the **PGDM (Hospital & Health Management)**, has worked under our guidance and supervision. She is submitting this dissertation titled

"Prevalence of iron deficiency anaemia among the schools of Delhi NCR and promotion of healthy growth and development through early detection, awareness, referral, and treatment through IFA tablets and food intervention" at "Doctors For You" in partial fulfilment of the requirements for the award of the **PGDM (Hospital & Health Management)**. This dissertation has the requisite standard, and to the best of our knowledge, no part of it has been reproduced from any other dissertation, monograph, report or book.



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Associate Professor

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The following dissertation titled "TITLE OF YOUR PROJECT" at "YOUR ORGANIZATION" is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of PGDM (Hospital & Health Management) for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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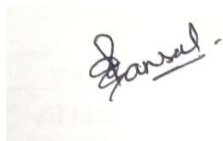
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INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,  
NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **“Prevalence of iron deficiency anaemia among the schools of Delhi NCR and promotion of healthy growth and development through early detection, awareness, referral, and treatment through IFA tablets and food intervention”** and submitted by **DT PRIYA BANSAL** Enrollment No. PG/23/083 under the supervision of **DR NIDHI YADAV** for award of PGDM (Hospital & Health Management) of the Institute carried out during the period **from 31<sup>st</sup> JAN 2025 to 30<sup>th</sup> APR 2025** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



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Name of the Organisation in Which the Dissertation Has Been Completed: Doctors For You

Area of Dissertation: CSR Project

Attendance: 100%

Objectives achieved: Objectives met were up to the mark.

Deliverables: Targets of completing schools for the project and campaign, nutrition counselling for kids and adults, and Distribution of Nutrition kits to the children as per direct.

Strengths: Confident, Responsible, Good Management skills, team leadership, Stakeholder management skills.

Suggestions for Improvement: Aggression is needed wherever required.

Suggestions for the Institute (course curriculum, industry interaction, placement, alumni):  
The Institute should collaborate on these projects periodically for its students from organisations like Doctors For You.



**Signature of the Officer-in-Charge/ Organisation Mentor  
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| Enrollment/Roll No.                              | PG/23/083                                                                                                                                                                                                                  | Batch Year        | 2023-2025     |
| Course Specialization (Choose one)               | Hospital Management                                                                                                                                                                                                        | Health Management | Healthcare IT |
| Name of Guide/Supervisor                         | Dr./ Prof.: Nidhi Yadav Associate Professor                                                                                                                                                                                |                   |               |
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# Abbreviations

| Table of Abbreviations |             |                                              |
|------------------------|-------------|----------------------------------------------|
| 1.                     | <b>IFA</b>  | Iron- Folic Acid                             |
| 2.                     | <b>NFHS</b> | National Family Health Survey                |
| 3.                     | <b>yrs</b>  | years                                        |
| 4.                     | <b>CNNS</b> | Comprehensive National Nutrition Survey      |
| 5.                     | <b>Hb</b>   | Haemoglobin                                  |
| 6.                     | <b>LCPS</b> | low-cost private schools                     |
| 7.                     | <b>DLHS</b> | District Level Household and Facility Survey |

# Prevalence of iron deficiency anaemia among the schools of Delhi NCR and promotion of healthy growth and development through early detection, awareness, referral, and treatment through IFA tablets and food intervention

**Guide:** Dr. Nidhi Yadav

**Name of the student:** Dt. Priya Bansal

## Abstract:

Iron deficiency anaemia remains a major public health challenge in India, particularly among school-aged children and adolescents. This study aimed to estimate the prevalence of anaemia among children (5–9 years) and adolescents (10–19 years) attending low-cost private schools in Delhi NCR and to evaluate the benefit of iron-folic acid (IFA) supplementation and food-based interventions. A pre-post intervention study design was employed, screening 5,425 participants across 34 schools. The gross prevalence of anaemia was found to be 27%, with higher rates among adolescent girls (14.2%) and male children (26%). Of those anaemic, 899 (61.2%) had moderate anaemia. Post-intervention, 152 individuals were re-screened; 96% showed improvement, and 89.5% reversed their anaemia. The study highlighted critical gaps in school access and compliance with treatment but demonstrated that community-based nutritional strategies—when implemented with early detection, awareness campaigns, and targeted supplementation—can significantly improve haemoglobin levels and health outcomes. These findings support the need for integrated, school-linked, and culturally sensitive interventions to address anaemia in urban underserved populations.

## Introduction:

About 30% of people worldwide and 37% of school-age children suffer from anemia brought on by iron deficiency, according to WHO data. Numerous studies have documented a significant prevalence of anemia in Indian children, ranging from 27% to 90%. Environmental factors that impact nutrition, including economic position, ethnic practices, and geographic considerations, contribute to population disparities in anaemia prevalence (Moy, 1999).

According to the NFHS 5 (2019–21), the prevalence of anaemia among women is 57.0 per cent and among men is 25.0 per cent (15–49 years). 31.1 percent of teenage boys aged 15 to 19 years, 59.1 percent of teenage girls, 52.2 percent of pregnant women aged 15 to 49, and 67.1 percent of children aged 6 to 59 months (*ANAEMIA MUKT BHARAT*, n.d.).

In India, 50% of people suffer from iron deficiency, which results in poor pregnancy outcomes and 20% of maternal mortality. The greatest increase in anemia occurs in children between the ages of 6 and 59 months.

Anaemia was reported in 67.1% of Indian children aged 6–59 months in the National Family Health Survey-5 (NFHS-5) (2019–21), a significant increase over the NFHS-4 survey. The anemia prevalence among women aged 15–49 and children aged 6–59 months is nearly the national average in Uttar Pradesh, the most crowded state of India. Various districts in Uttar Pradesh showed a high prevalence of anaemia. In India, the count of anaemia among women of reproductive age has similarly increased, going from 53% in NFHS-4 (2015–16) to 57% in NFHS-5 (2019–21) (Ministry of Health and Family Welfare et al., 2013).

## Rationale:

Anaemia, though common, remains one of the most neglected public health concerns, affecting individuals across all age groups and remarkably affecting overall well-being. The study focuses on **achieving early detection and timely intervention**, ensuring that those affected receive proper medical attention. Anaemia is often associated with fatigue, weakness, and reduced cognitive function, which leads to poor productivity at work and in daily activities. Moreover, if treatment is not received, it makes people more vulnerable to infections and leads to long-term health issues. Severe cases of anaemia can turn out to be long-term conditions that trade off mental and physical functioning, influencing both individual well-being and economic output. Fortunately, the most prevalent kind of iron-deficiency anemia (IDA) may be avoided and controlled with an easy course of action, including dietary changes and nutritional supplements. Also, helping people, treating anemia also benefits society by supporting a healthy community and minimising the burden on healthcare services. Workplace and community-based health measures are critical for intervention since many people, especially those from disadvantaged groups, do not have access to regular health checks. This program builds a sustainable plan for improving general well-being and elevating a healthier society by including anemia screening into larger public health programs.

## Aim:

To estimate the prevalence of iron deficiency anaemia and address it among the schools of Delhi NCR by publicising healthy growth and development through early detection, awareness, referral, and treatment with IFA tablets and food interventions.

## Objectives:

### **General Objective:**

To screen and address anaemia among schools of Delhi NCR, encouraging healthy growth and development through early detection, awareness, referral, and treatment with IFA tablets and nutrition kits.

### **Specific Objective:**

- To estimate the prevalence of anaemia among the schools of Delhi NCR.
- To check the effectiveness of food intervention for improving haemoglobin levels.

# Review of literature:

- Chauhan et al. (2022) examined anaemia, using data from 20,594 people aged 10 to 19, among adolescents in Uttar Pradesh and Bihar. The prevalence of anemia among females (20%) was higher compared to males (8.7%). Late adolescence, stunted growth, low education, little media exposure, and living in a remote area were important risk factors. Moderate/severe anemia was considerably less common in adolescents with significant levels of schooling. The results underline the need for targeted public health drives, especially in rural regions, improved awareness through the media, and interventions designed for adolescents.
- Rahman et al. (2020) used data from the nationally representative Comprehensive National Nutrition Survey (CNNS) to study anaemia in Indian children aged 5 to 9 years. They found that 23.5% of anemic children in this age group had anemia, with deficiencies in micronutrients such as vitamin A, B12, folate, and zinc being key predictors. The study discovered that anaemia rates varied greatly across states, ranging from 3.1% in Kerala to 41.1% in Tripura. Children whose mothers had higher education levels were less likely to be anemic. These findings brought out the need for focused interventions to upgrade maternal education, raise overall household socioeconomic conditions, and enhance children's nutritional status.
- Kishore et al. (2020) estimated the prevalence of anaemia in 5,776 people at AIIMS Rishikesh in Uttarakhand by a cross-sectional survey that was performed during the month-long Anaemia Mukta Bharat campaign. Information was mustered from various community locations, including slum areas, health facilities, and schools. The study's haemoglobin testing publicised that 53.2% of participants had anemia, with females having higher rates (54.6%) than males (45.1%). 33.5% of pregnant women had anemia. The results emphasise the significance of anaemia as a public health concern and highlight the need for supporting measures to lessen its prevalence and improve overall health results.
- A cross-sectional study by (Kaur et al., 2006) examined the foundation of nutritional anemia in adolescent girls residing in rural Wardha, confining four villages under the authority of the Kasturba Rural Health Training Center. Anthropometric measures and haemoglobin testing were used to collect data. The survey found that 59.8% of people had anemia. Noteworthy correlations were found by univariate analysis between worm infestation, heavy menstrual bleeding, vegetarianism, low socioeconomic status, and inadequate iron intake. Worm infestation, excessive menstrual bleeding, a vegetarian diet, and inadequate iron intake were proven to be the best predictors by multivariate analysis. Age, education level, BMI, and menarche status did not correlate with anaemia.
- Kamble et al. (2021) also executed a cross-sectional study during a T-3 (Test, Treat, Talk) anemia camp, assessing the prevalence of anemia and related variables among 203 adolescent girls enrolled in a central Delhi government school. Findings revealed that 59% of participants were anaemic, with most cases being mild. The average haemoglobin level was 11.3 g/dL. The majority of the girls were aged 14–15 years. Great associations were found between anaemia and factors such as a vegetarian

diet, being underweight, lack of deworming, and clinical signs like pallor. The study focuses on the need for regular T-3 camps in schools to successfully address adolescent anaemia.

- Verma et al. (1998) examined anaemia prevalence among 2,000 urban school children aged 5–15 years in Ludhiana, Punjab. It found that 51.5% of children were anaemic, with higher rates among girls, particularly those who had reached menarche. Anaemia was also prevalent among children from higher socioeconomic backgrounds (38%) and those who were well-nourished (47.6%). Vegetarian children showed a much higher prevalence (65.9%) compared to non-vegetarians (38%). The most common type of anaemia identified was microcytic hypochromic. The findings suggest that anaemia is widespread even among urban, affluent, and healthy children, highlighting the need for targeted nutritional strategies.
- Gore et al. (2024) investigated anaemia among 400 adolescent girls in rural public schools in Pune, India. It found a 42.75% anaemia prevalence, with most cases being moderate or mild. Additionally, 74.6% of the girls were underweight. The majority came from lower-middle (64.25%) and upper-lower (27%) socioeconomic backgrounds. Anaemia was more common in younger adolescents (ages 10–14) and those from families with low income, low education levels, unemployment, and no access to banking. The study highlights that addressing anaemia requires more than just distributing iron and folic acid supplements—it calls for broader efforts to improve socioeconomic and nutritional conditions.



# Research Methodology:

- ✓ **Study design- Pre-post intervention study**
- ✓ **Study period- 3 Months.**
- ✓ **Study setting- Delhi NCR**
- ✓ **Study population-** Females aged between 5 years and 20 years & males aged between 5 years and 9 years.
  - **Inclusion criteria before IFA tablets and food intervention:**
    1. Respondent should be at least **5 years old or above.**
    2. Residents of Delhi.
    3. Both males and females are included.
    4. Only those individuals and schools were included who were permitted to conduct and organise the anaemia screening campaign.
    5. For nutrition kits/food intervention: Only anaemic (mild, moderate, and severe) males with age between 5-9 years and only anaemic (mild, moderate and severe) females with age between 5-19 years.
  - **Inclusion criteria post IFA tablets and food intervention:**

Only those candidates will be screened who have been screened Pre-intervention.
  - **Exclusion criteria:**
    1. Children who will be 4 + years, even 1 day less to 5 years
    2. People not consenting to participate in the survey.

## Study variables:

### Independent Variables:

- Iron Folic Acid tablets (IFA tab): It will be the count of the population who received the IFA tablets.
- Nutrition Kit: It will count the population who received the food intervention.
- Demographic factors: Age, gender and location.

### Dependent Variables:

- Anaemia screening: It will state the prevalence of anaemia in the schools of Delhi NCR.
- Effectiveness of Food Intervention

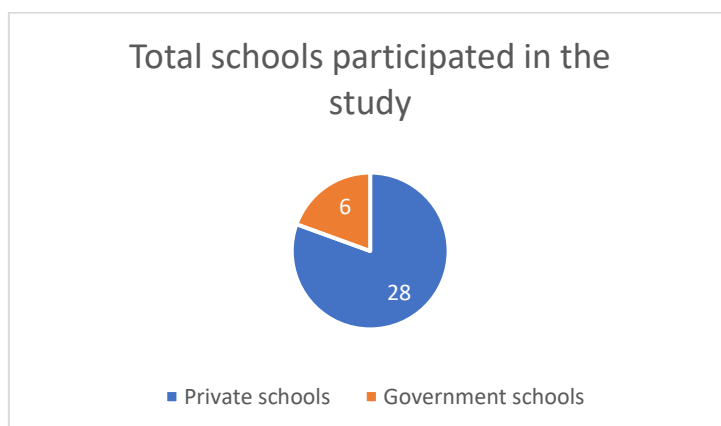
- Awareness and Behavioural Change through Improvement in dietary habits, and Adherence to supplementation or dietary recommendations

- ✓ **Sampling technique-** Convenience **sampling**.
- ✓ **Sample size estimation-** The sample size is **5425 study participants**.
- ✓ **Research instrument-** We will use a semi-structured **questionnaire with closed-ended questions** for the data collection. The data will be collected manually before testing the Hb of the candidate.
- ✓ **Method of data collection-** The data will be collected manually with a registration slip comprising of basic demographic details like name, age, gender, etc (attached with annexures )
- ✓ **Ethical Considerations - This study will be submitted to the IIHMR Student Research Review Board** for ethical review. The tool and study protocol will be reviewed and approved by this committee. Consent for this study will be obtained from 'Doctors For You', which implemented this project among the beneficiaries. All the participants will be informed about the objectives of the study, and people who are willing to test their blood will be considered for the study. Consent from the school principal will be taken to organise the campaign in the schools. As a researcher, I would make the participants understand and explain them in a language they understand. Privacy and data protection will be strictly followed.

# Results:

(Part I: To estimate the prevalence of anaemia among the population of Delhi NCR)

1. The total number of schools that participated in the study was 34. 6 (17.6% of 34) of the schools are Government schools out of 34 schools.



In the slums of Delhi, private schools were requested permission to conduct an anaemia screening camp. The schools that had given consent (refer to the annexure) were asked three things: the date of the campaign, the number of children and adolescents, and confirmation of consent, which included the school principal's signature on the document (refer to the annexure).

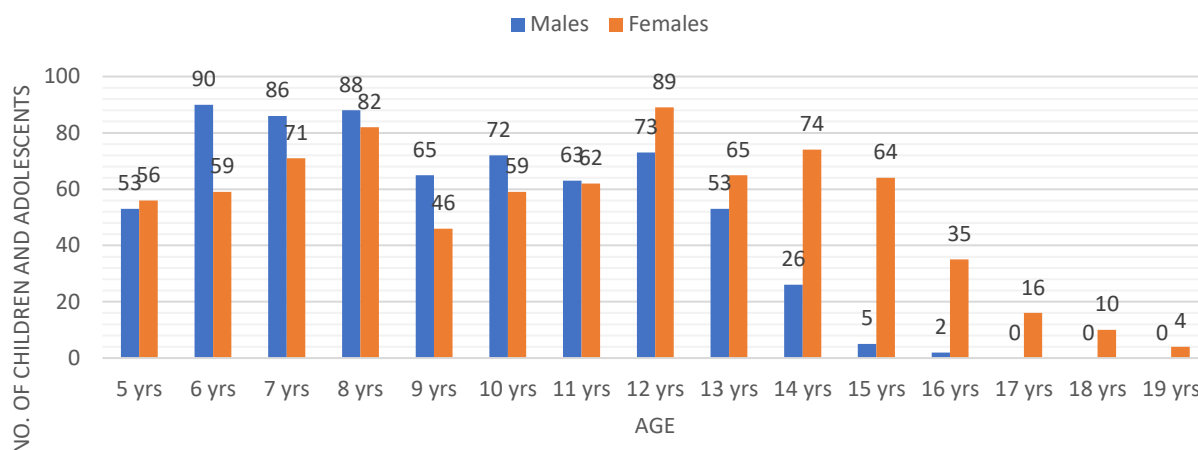
2. Areas of Delhi NCR covered under the study from all districts of Delhi:

**Table I: Private slum schools are available throughout Delhi.**

| School regions are covered | Number of schools |
|----------------------------|-------------------|
| North Delhi                | 6 (17.6 % of 34)  |
| North East Delhi           | 5 (14.7 % of 34)  |
| North West Delhi           | 3 (8% of 34)      |
| South Delhi                | 1 (2.9 % of 34)   |
| South East Delhi           | 5 (14.7% of 34)   |
| South West Delhi           | 1 (2.9% of 34)    |
| Central Delhi              | 5 (14.7 % of 34)  |
| East Delhi                 | 3 (8% of 34)      |
| West Delhi                 | 3 (8% of 34)      |
| Delhi NCR                  | 2 (5.8% of 34)    |
| <b>Total</b>               | <b>34 (100%)</b>  |

3. The total number of children and adolescents aged 5 to 19 years screened for anaemia was 5,425.
4. The prevalence of anaemia was 1468, that is 27% children and adolescents were found anaemic (mild, moderate and severe), out of which 676 (12.4% of 5425) were males and 792 (14.6% of 5425) were females.

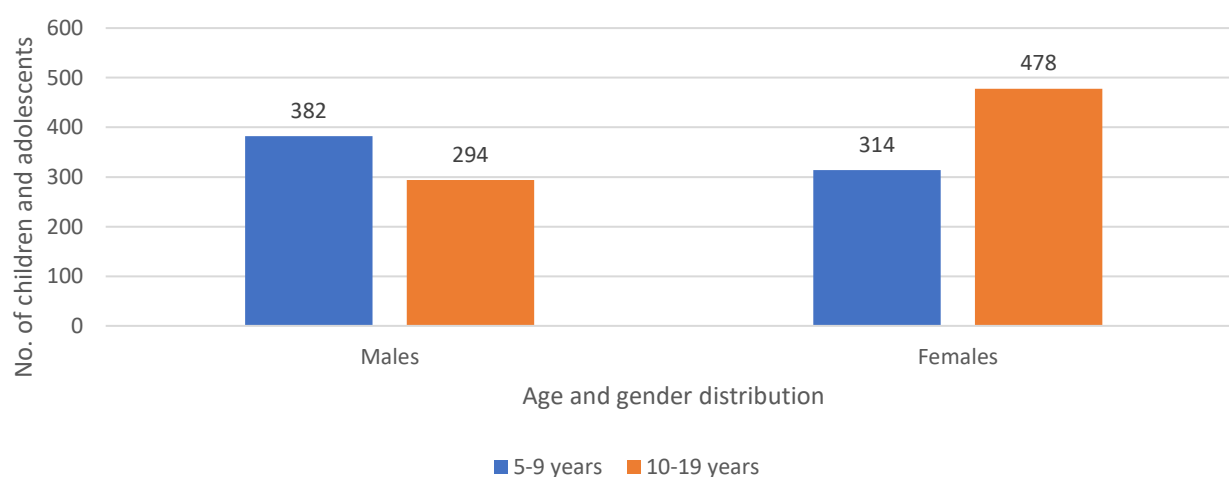
## Prevalence of anemia among different age



**Table II: Age distribution for the prevalence of anaemia among males and females**

| Age group                    | Age criteria | Males             | Females             | Age prevalence of anaemia |
|------------------------------|--------------|-------------------|---------------------|---------------------------|
| Children                     | 5-9 years    | 382 (26% of 1468) | 314 (21.3% of 1468) | 696 (47.4% of 1468)       |
| Adolescents                  | 10-19 years  | 294 (20% of 1468) | 478 (32.5% of 1468) | 772 (52.6% of 1468)       |
| Gender prevalence of anaemia |              | 676 (46% of 1468) | 792 (53.8% of 1468) | 1468 (100%)               |

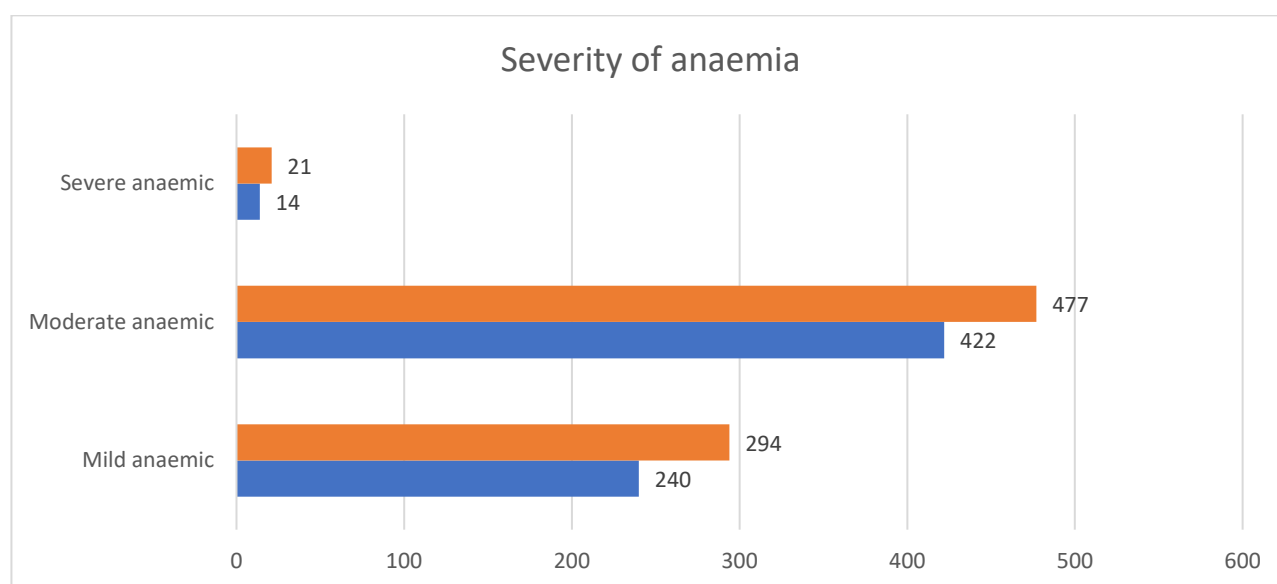
## Anaemia among children and adolescents



It is seen that male children (382) were more anaemic than female children (314). Whereas female adolescents (478) were more anaemic than the male adolescents (294).

| <b>Table III:<br/>Severity<br/>of<br/>anaemia</b> | <b>Males</b> | <b>Females</b> | <b>Total</b> |
|---------------------------------------------------|--------------|----------------|--------------|
| <b>Mild<br/>anaemic</b>                           | 240          | 294            | 534          |
| <b>Moderate<br/>anaemic</b>                       | 422          | 477            | 899          |
| <b>Severe<br/>anaemic</b>                         | 14           | 21             | 35           |
| <b>Total</b>                                      | 676          | 792            | 1468         |

5. Among 5425 screened children and adolescents in the study population, overall prevalence of anemia was found to be 27% ( $n = 1468$ ). Anemia was absent in 73% ( $n = 3957$ ) children and adolescents. Most of these (61.2%,  $n = 899$ ) had a Moderate degree of anaemia. Overall, the mean Hb level was  $10.28 \pm 0.61$  (as shown in the graph below)



**(Part II: To check the effectiveness of food intervention for improving haemoglobin levels)**

When the camp was reorganised, only 152 individuals were re-screened due to some limitations. Out of 152 individuals, 146 showed improvement in their haemoglobin level, and 136 reversed their anaemia.

**Table IV: Re-screening, Improved anaemia and Reversed Anaemia**

| <b>Outcomes</b>                            | <b>Males</b> | <b>Females</b> | <b>Total</b> |
|--------------------------------------------|--------------|----------------|--------------|
| <b>Children and adolescents rescreened</b> | 97           | 55             | 152          |

|                                                               |    |    |     |
|---------------------------------------------------------------|----|----|-----|
| <b>Children and adolescents reversed their anaemia</b>        | 88 | 48 | 136 |
| <b>Children and adolescents improved their anaemia</b>        | 94 | 52 | 146 |
| <b>Children and adolescents did not reverse their anaemia</b> | 9  | 7  | 16  |
| <b>Children and adolescents did not improve their anaemia</b> | 3  | 3  | 6   |

Out of a total of 152 children and adolescents who were re-screened (97 males and 55 females), 136 (88 males and 48 females) successfully reversed their anaemia, reflecting an overall reversal rate of approximately 89.5%. Additionally, 146 children (94 males and 52 females) showed improvement in their anaemia status, indicating a high overall improvement rate of around 96%. Only 16 children (9 males and 7 females) did not reverse their anaemia, while just 6 children (3 males and 3 females) did not show any improvement. These findings suggest that the intervention was highly effective in improving and reversing anaemia among the majority of participants, with a slightly higher response observed among males compared to females.

# Discussion:

Anaemia was commonly observed among adolescent girls and was linked to low socioeconomic status. A comprehensive approach is essential, involving efforts to improve families' socioeconomic conditions—such as enhancing literacy, employment, and income—alongside targeted interventions to enhance the nutritional well-being of adolescent girls (Gore et al., 2024). Verma et al. (1998) found a significant prevalence of anaemia among healthy urban school children from higher socioeconomic backgrounds. The risk was notably higher among vegetarians and girls, particularly those who had reached menarche. In the current study, low-cost private schools (LCPS) were targeted in the slums of Delhi and NCR. 28 LCPS schools participated in this study, with a large number of children and adolescents having anaemia of varying degrees, who had been distributed IFA tablets and Nutrition kits composed of Jaggery, Soya chunks, Halim seeds and Peanuts.

Chauhan et al. (2022) observed an inflated prevalence of anaemia among female adolescents compared to their male complements. Additionally, cases of moderate to severe anaemia were more common among older adolescents, those not attending school, those lacking media exposure, and those residing in rural areas. Similarly, Kamble et al. (2021) indicated 59% of school-age teenage girls (10–19 years old) in Delhi had anemia, with mild and moderate instances being more prevalent than severe cases. In the present study, the prevalence of anaemia among adolescent girls was found to be 14.2% (772 of 5425) [Out of which 294 were anaemia males and 478 were anaemic females] which is almost one-fourth to the reported by NFHS-4 (Paswan et al., n.d.) (54%), DLHS-3 (International Institute for Population Sciences, 2010) (57.9%), Kaur S *et al.* 2006 in Wardha (59.8%) and (Kishore et al., 2020) in Uttarakhand (57.1%). Furthermore, a growth spurt in adolescence is crucial for the prevalence of anaemia among females. Kumar et al. (2018) observed anaemia in 39% of the adolescent girls (10-19 years). Key factors associated with anaemia included following a vegetarian diet and experiencing heavy menstrual bleeding. In our study also, more females (792) are anemic than males (676) in aggregate (Children + Adolescents).

Accurate data on anaemia prevalence among children aged 5–9 years in Delhi is specifically limited, as most national surveys report for broader age ranges (e.g., 6–59 months or 10–19 years). Rahman et al. (2020) showed that almost one-fourth (23.5%) of children aged 5 to 9 years in India were found to be anaemic. The prevalence varied significantly across states, ranging from just 3.1% in Kerala to a high of 41.1% in Tripura. In this study, the prevalence of anaemia among children aged 5-9 years is 12.8% (696 of 5425) in Delhi. It was found in our study that a larger number of male children were anaemic than female children in the 5–9-year age group, specifically 382 anaemic male children versus 314 anaemic female children.

Out of the re-screened anaemic children and adolescents, that is, 152 individuals, 136 individuals had reversed their anaemia with the help of the given treatment of Iron-folic acid tablets and nutrition kit. Also, 146 individuals out of 152 had shown improvement after the iron supplementation and food intervention.

Only 16 individuals were unable to reverse their anaemia. However, they have been motivated to continue with the IFA tablets and iron-rich diet, which is written on the registration slip. Also, these 16 individuals (7 females and 9 males), who remained anaemic, when asked about the reasons, some of them didn't continue



with the treatment due to fear of free medication, and some individual's food was shared with other family members by their mothers, despite saying them not to do so, some individuals were not disciplined with the dosage of IFA tablets and having them intermittently and some experienced fever during the treatment, which did not improve their health.

## Limitations:

Despite efforts, the target for anaemia screenings among children aged 5-9 years was not achieved, and the improvement in haemoglobin levels also fell short of expectations. While, the number of beneficiaries with improved haemoglobin status increased with time, overall progress remained low. The primary reason for this shortfall was the lack of government permission to conduct screenings in schools, which led to re-testing in community settings instead. Unlike schools, where attendance is strict, a community-based re-testing faced challenges such as lower turnout, irregular participation, and difficulties in mobilisation.

- **Government Permissions:** The lack of authorisation to conduct screenings in schools significantly affected outreach and participation.
- **Repeat Testing Challenges:** Conducting follow-up tests in community settings proved to be a major hurdle. Unlike schools, where students are easily accessible, community-based setups make it difficult to trace and re-engage the same beneficiaries for repeat haemoglobin testing, leading to gaps in continuity and monitoring.

Moving forward, engaging with government authorities to secure school permissions and exploring alternative screening locations such as community centres or anganwadis were critical to improving outreach and ensuring the program's continued success.

## Conclusion:

The results of this study demonstrate that anemia is still a major public health issue among school-age children and adolescents attending affordable private schools in Delhi and the National Capital Region, with a large burden even among younger children between the ages of 5 and 9. While the general frequency of anemia among children (12.8%) and adolescent girls (14.2%) was lower than previously reported national estimates, the problem still exists, particularly among certain subgroups like vegetarians, post-menarcheal girls, and households with poor incomes. Encouragingly, the majority of anaemic individuals who received targeted nutritional support and IFA supplementation showed positive health outcomes, underscoring the effectiveness of community-based interventions. However, challenges such as treatment non-compliance, social stigma, and intra-household food distribution practices remain barriers to complete recovery. These

findings reinforce the need for sustained, culturally sensitive, and school-linked strategies that address both nutritional and behavioural aspects to combat anaemia effectively.

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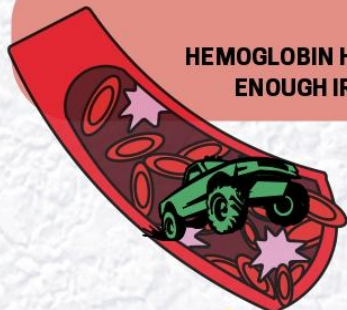
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## PEHEL : ANEMIA PREVENTION PROGRAMME

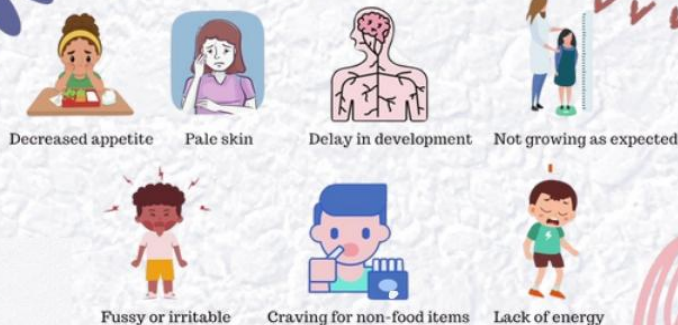
### WHAT IS ANEMIA ?

HEMOGLOBIN HELPS CARRY OXYGEN IN OUR BLOOD TO ALL PARTS OF OUR BODY. IF YOU DON'T HAVE ENOUGH IRON, YOUR BODY CAN'T MAKE ENOUGH HEMOGLOBIN. THIS CAN CAUSE ANEMIA.



IRON IS REQUIRED FOR HEALTHY RED BLOOD CELLS. THESE CELLS ARE LIKE LITTLE DELIVERY TRUCKS THAT CARRY OXYGEN TO ALL PARTS OF THE BODY WITH THE HELP OF HEMOGLOBIN.

### Signs of Iron Deficiency



IF YOU ARE HAVING THESE SYMPTOMS PLEASE CONSULT A DOCTOR

## TO BECOME HEALTHY AND FIT, EAT NUTRITIOUS FOOD

### EAT IRON RICH FOOD



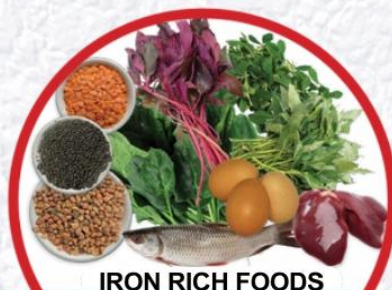
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IFA

**SUPPLEMENT**

**ONE** Pink tablet every week

**"TAKE IRON FOLIC ACID TABLETS DAILY, REGARDLESS OF WHETHER YOU HAVE ANEMIA OR NOT."**



IRON RICH FOODS

**EAT**

VITAMIN C RICH FOODS

For improving absorption of



**+F**  
FORTIFIED FOODS

### EAT VITAMIN- C RICH VEGETABLES



\*

ALBENDAZOLE

**DEWORM**

**ONE** tablet twice a year

**"TAKE ALBANDAZOLE MEDICINE TO KILL STOMACH WORMS, ONE TABLET EVERY 6 MONTHS."**

(\*AS PER DOCTOR'S ADVICE)



## पेहल: एनीमिया जागरूकता कार्यक्रम

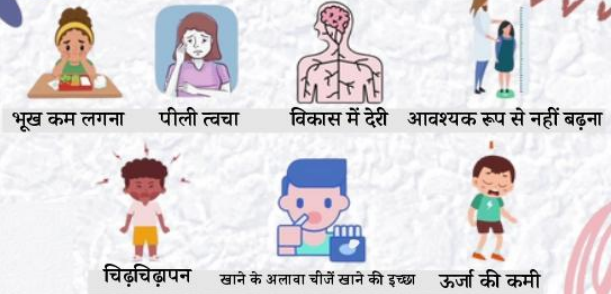
### एनीमिया क्या है?

हीमोग्लोबिन हमारे खून में होता है और यह हमारे शरीर के हर हिस्से में ऑक्सीजन पहुंचाता है। अगर हमारे शरीर में आयरन की कमी हो जाती है, तो हीमोग्लोबिन भी कम बनता है। इससे हमें कमजोरी महसूस हो सकती है, जिसे एनीमिया कहते हैं।



आयरन स्वस्थ लाल रक्त कोशिकाओं के लिए आवश्यक है। ये कोशिकाएँ छोटे ट्रक की तरह होती हैं जो हीमोग्लोबिन की मदद से शरीर के सभी हिस्सों में ऑक्सीजन पहुंचाती हैं।

### आयरन की कमी के लक्षण:



अगर आपको ये समस्याएँ हो रही हैं, तो कृपया एक डॉक्टर से मिलें।

## स्वस्थ और ताकतवर बनने के लिए, पोषणपूर्ण खाना खाओ।

आयरन युक्त  
आहार



आई.एफ.ए.

\*

अनुपूरक

एक गुलाबी गोली  
हर हफ्ते

“हर दिन आयरन फोलिक एसिड की गोलियाँ लें, चाहे आपको एनीमिया हो या नहीं।”



आयरन युक्त आहार

खाने में लें

विटामिन-सी  
युक्त आहार



इनसे शरीर में आयरन का बेहतर सन्तुलन होता है।



पोषाहार

विटामिन - C  
युक्त आहार



एल्बेण्डाजोल

\*

पेट के कीड़े मिटाएं

एक गोली  
साल में दो बार

“पेट के कीड़ों को मारने के लिए, हर 6 महीने में एक अल्बेण्डाजोल टैबलेट लें।”

(\*डॉक्टर की सलाह के अनुसार)



**T4**

परीक्षण, उपचार  
और बातचीत (T3)  
एनीमिया शिविर

## पहल : एनीमिया रोकथाम कार्यक्रम

(प्रिस्क्रिप्शन/रेफरल स्लिप)

राज्य: ..... जिला: ..... ब्लॉक: ..... साइट: .....

नाम: ..... तारीख: .....

वर्ष में उम्र: .....

लिंग: ☐ पुरुष ☐ महिला ऊंचाई: ..... वजन: .....

हीमोग्लोबिन मान: ..... ग्राम/ली

प्रबंध: ☐ नो एनीमिया ☐ रेफरल

रेफरल: .....

चिकित्सा अधिकारी के हस्ताक्षर

नोस शरीर और  
तेज दिमाग?

हरी सब्जियाँ, पालक,  
गाजर, चुकन्दर, फल,  
दूध, दालें, दही, पनीर  
सोयाबीन, मूंगफली,  
गुड़, भुने चने

एनीमिया की निःशुल्क दवा के लिए नीचे दिए गए पते पर आएं

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**T4**

परीक्षण, उपचार  
और बातचीत (T3)  
एनीमिया शिविर

## पहल : एनीमिया रोकथाम कार्यक्रम

(प्रिस्क्रिप्शन/रेफरल स्लिप)

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नाम: ..... तारीख: .....

वर्ष में उम्र: .....

लिंग: ☐ पुरुष ☐ महिला ऊंचाई: ..... वजन: .....

हीमोग्लोबिन मान: ..... ग्राम/ली

प्रबंध: ☐ नो एनीमिया ☐ रेफरल

रेफरल: .....

चिकित्सा अधिकारी के हस्ताक्षर

नोस शरीर और  
तेज दिमाग?

हरी सब्जियाँ, पालक,  
गाजर, चुकन्दर, फल,  
दूध, दालें, दही, पनीर  
सोयाबीन, मूंगफली,  
गुड़, भुने चने

एनीमिया की निःशुल्क दवा के लिए नीचे दिए गए पते पर आएं

पता: मीना देवी जिंदल मेडिकल इंस्टीट्यूट एंड रिसर्च सेंटर, 20, शामनाथ मार्ग सिविल लाइंस, नई दिल्ली -110054  
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Date: 15-03-2025

Respected Sir/Ma'am,

I am writing on behalf of Doctors For You (DFY), a humanitarian organization committed to providing medical care to underserved communities. Established in 2007, DFY has been working across India on various healthcare initiatives, including disaster response, public health, and capacity-building programs. We are guided by the principles of humanity, impartiality, and neutrality, with a mission to ensure "Health for All."

Anemia is a significant public health concern in Delhi, particularly among school-age children (5-9 years). According to recent surveys, nearly 40% of children in this age group suffer from anemia, primarily due to iron deficiency and poor dietary intake. Left untreated, anemia can lead to delayed cognitive development, weakened immunity, and reduced academic performance. Addressing this issue at an early stage is critical for ensuring the health and future of these children.

As part of our Anemia Screening, Awareness, and Nutritional Intervention Program, which began in August 2024, we are working to address anemia among school-age children (5-9 years) in Delhi. The program has already conducted awareness sessions, screenings, and nutritional interventions in several schools and communities and we aim to extend these benefits to more schools in the district. This initiative focuses on improving health outcomes and academic performance by ensuring early detection and treatment of anemia, alongside raising awareness among children and their families.

We seek your kind permission to implement this program at your school. Our team will conduct awareness sessions, pamphlets distribution, free anemia screening, and referral to our network hospital for free medicines and nutritional supplement for affected students. We assure you that all activities will be planned to minimize disruptions to academic schedules.

We look forward to your support in making this initiative a success.

Warm regards,

Dr. Rohini Wadhawan  
Doctors For You





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