

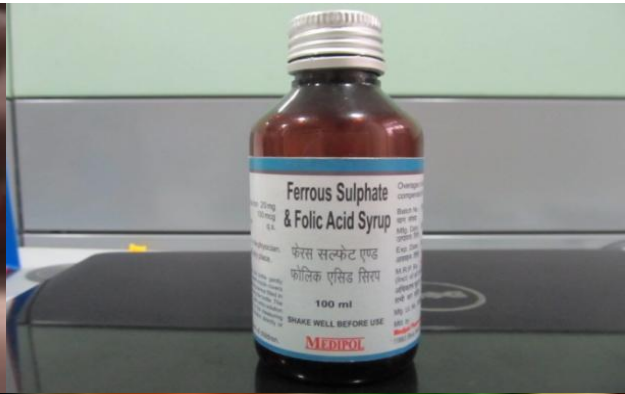
# ADOLESCENT ANEMIA



**National Health Mission**  
**Deptt. of Health & Family Welfare**  
**Govt. of Odisha.**

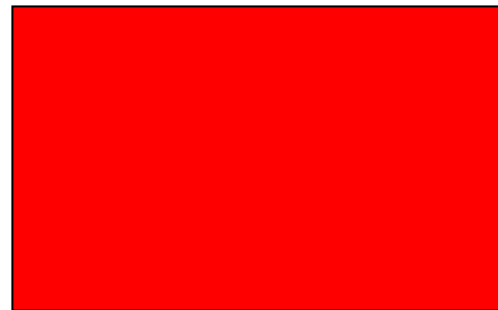


# Is Anaemia A Public Health Importance?

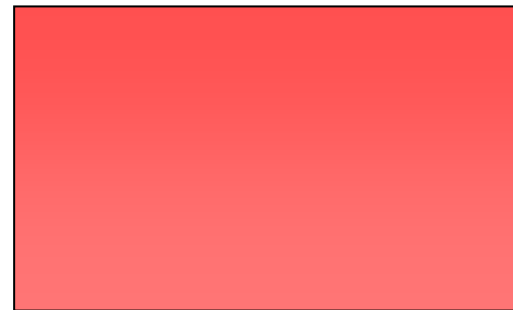


# What is Anaemia?

Anaemia is a condition in which the number of RBCs, and consequently their oxygen carrying capacity, is insufficient to meet the body's physiological needs.




Normal blood




Pale blood

# What is the meaning of anemia?

- ▶ In its broadest sense, anemia is a functional inability of the blood to supply the tissue with adequate  $O_2$  for proper metabolic function.
  - ▶ Anemia is not a disease, but rather the expression of an underlying disorder or disease.
- 



# What happens in anemia?

- ▶ Anemia is usually associated with decreased levels of hemoglobin and/or a decreased packed cell volume (hematocrit), and/or a decreased RBC count.
  - ▶ Occasionally there is an abnormal hemoglobin with an increased O<sub>2</sub> affinity resulting in an anemia with normal or raised hemoglobin levels, hematocrit, or RBC count.
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# What is normal Hemoglobin value in Blood ?

Hemoglobin concentration in grams/deciliter -

- At birth the normal range is 13.5-20 g/dl\
- The normal range for
  - males is 13.5-17.5 g/dl
  - females is 12-16 g/dl


RBC indices – these utilize results of the RBC count, hematocrit, and hemoglobin.

- At birth the normal range is 98-123
- In adults the normal range is 80-100

# When we call one Anemic?

Age Groups	No Anaemia	Mild	Moderate	Severe
Children 6–59 months	$\geq 11$	10 – 10.9	7 – 9.9	$< 7$
Children 5 – 11 years of age	$\geq 11.5$	11 – 11.4	8 – 10.9	$< 8$
Children 12 – 14 years of age	$\geq 12$	11 – 11.9	8 – 10.9	$< 8$
Non pregnant women (15 years and above)	$\geq 12$	11 – 11.9	8 – 10.9	$< 8$
Pregnant Women	$\geq 11$	10 – 10.9	7 – 9.9	$< 7$
Men	$\geq 13$	11 – 12.9	8 – 10.9	$< 8$

# What are the Sign & symptoms of

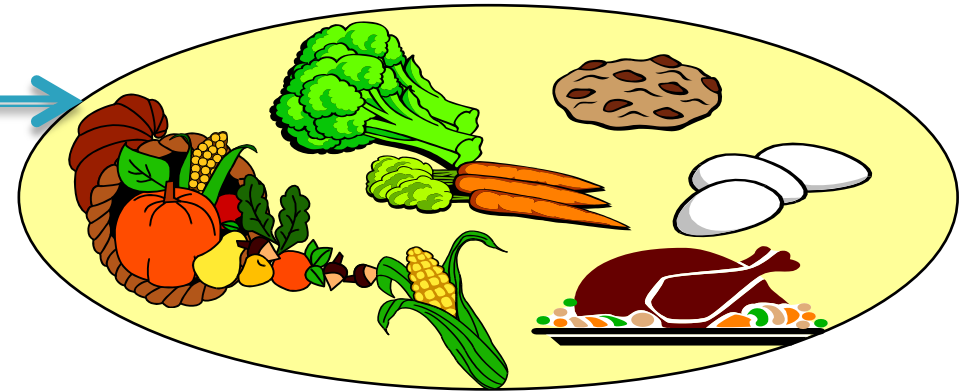
- ▶ Easy fatigue and loss of energy.
  - ▶ Unusually rapid heart beat, particularly with exercise.
  - ▶ Shortness of breath and headache, particularly with exercise.
  - ▶ Difficulty concentrating.
  - ▶ Dizziness.
  - ▶ Pale skin.
  - ▶ Leg cramps.
  - ▶ Insomnia.
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# What Causes Anemia ?

a) Nutritional: deficiency of these nutrients due to

**Low Dietary intake of iron**



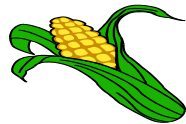
and

**Low bio-availability**

**Tea with meal**

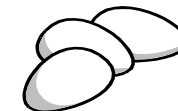


**Phytic acid and fibre  
in bran of cereals**



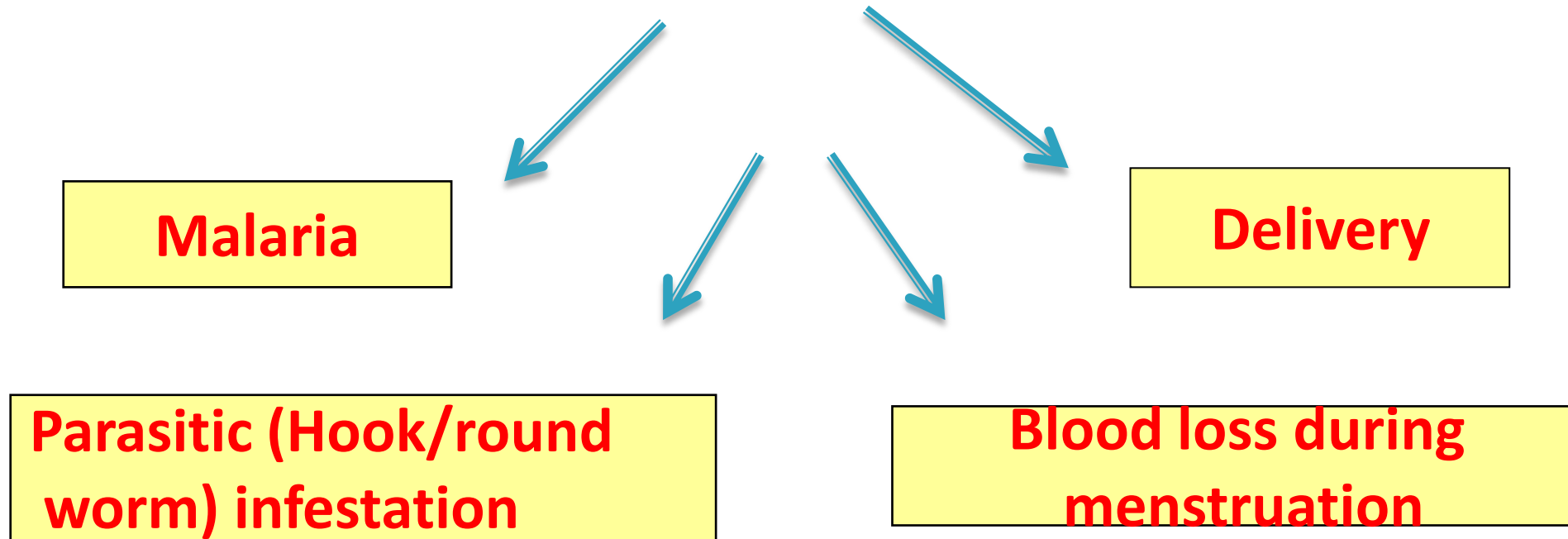
**Calcium phosphate  
supplement with meal**

**Phosphvitin in egg**



# Causes of Anaemia.....continued

b) Blood loss or destruction of blood cells due to:



In addition: **During adolescence & pregnancy iron needs are very high**

**50% of Anaemia is due to Iron deficiency**

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# What are the Consequences of Anaemia

- Reduced Immunity
- Decreased level of concentration and lack of interest in work
- Poor school performance
- Poor work capacity, low energy & fatigue
- Poor productivity

# How to Control Iron Deficiency Anaemia?

- ▶ Food-Based Approach
  - Diversification of Food
  - Fortification of food
- ▶ Prevention of malaria
- ▶ IFA Supplementation
- ▶ Deworming



# What are the foods prevent Anemia?

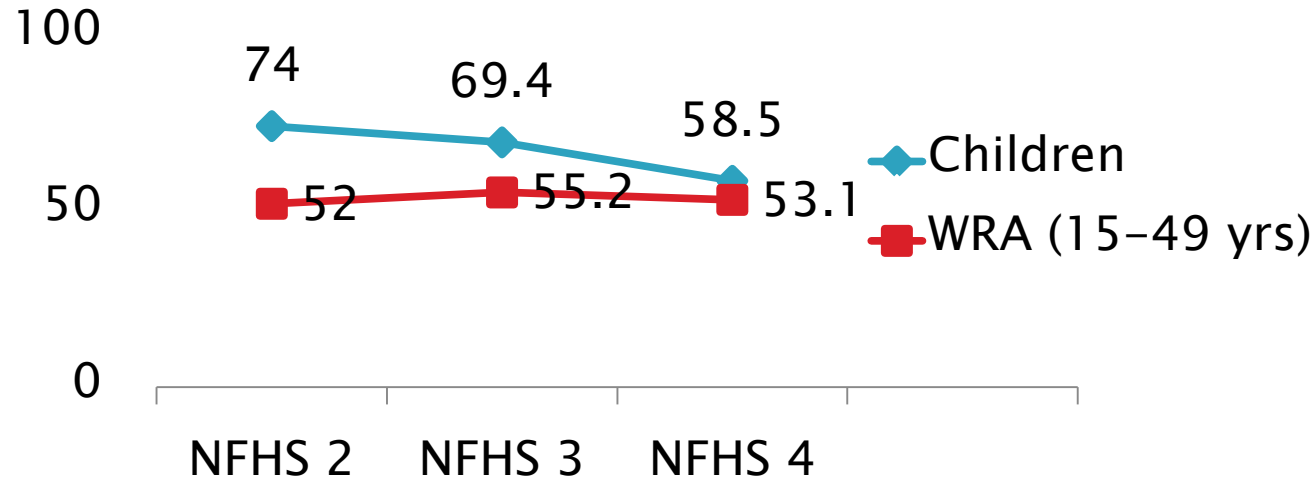
- ▶ Green leafy vegetables and fruits
- ▶ Liver, egg, fish, meat
- ▶ Grains-wheat, jowar, bajra, sprouted pulses, ground nut, sesame , jaggery ,dried fruits
- ▶ Vitamin C rich foods help in absorption of iron. Citrus fruits (oranges, lemon), Indian gooseberry (Amla), apple, pear are rich in vitamin C.





# A Snapshot of Anemia in India

## Trend in Prevalence of Anemia among Children and Women



High Prevalence across all ages

Slow progress in most of the States



**58%**  
of children  
(6-59 months)



**54%**  
of adolescent girls  
(15-19 years)



**29%**  
of adolescent boys  
(15-19 years)



**53%**  
of women in their  
reproductive age




**50%**  
of pregnant women



**58%**  
of breastfeeding  
mothers

# What are the Anemia Control Program in India ?

- Anemia control efforts in India started in 1970 with supplementation of Iron and folic acid across age groups
- Anemia level in various population groups remained high
- IFA coverages remained less than 30% 
- More than 50% cases of anemia attributed to Iron deficiency

**1970**

60 mg Iron supplementation for PW and 20 mg for 1-5 yr X100 days

**1991**

60 mg Iron changed to 100mg

**2007**

5-10 yrs age group added

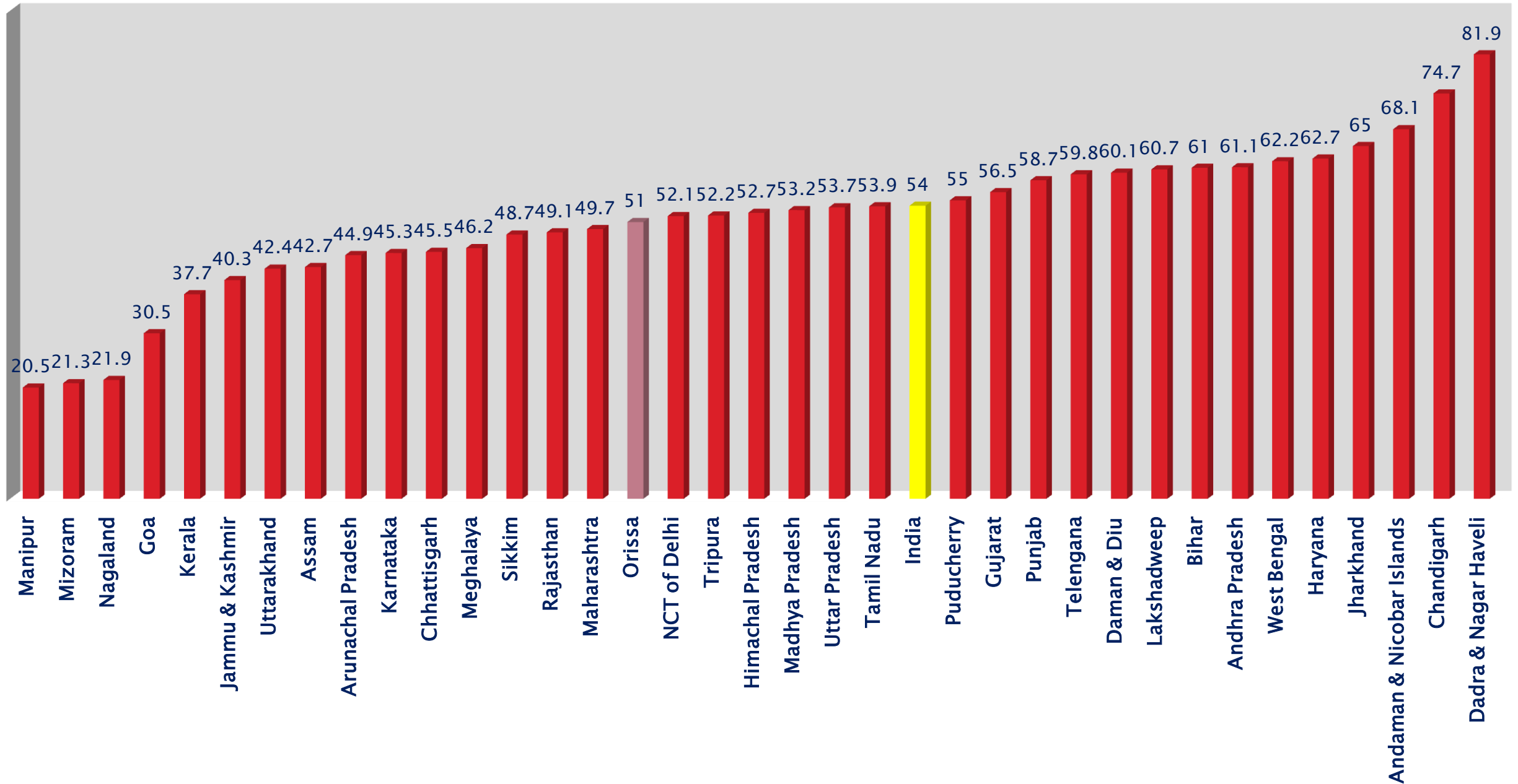
**2013**

Wkly and biwkly supplementation.  
Test and treat (NIPI)  
**Life cycle approach**

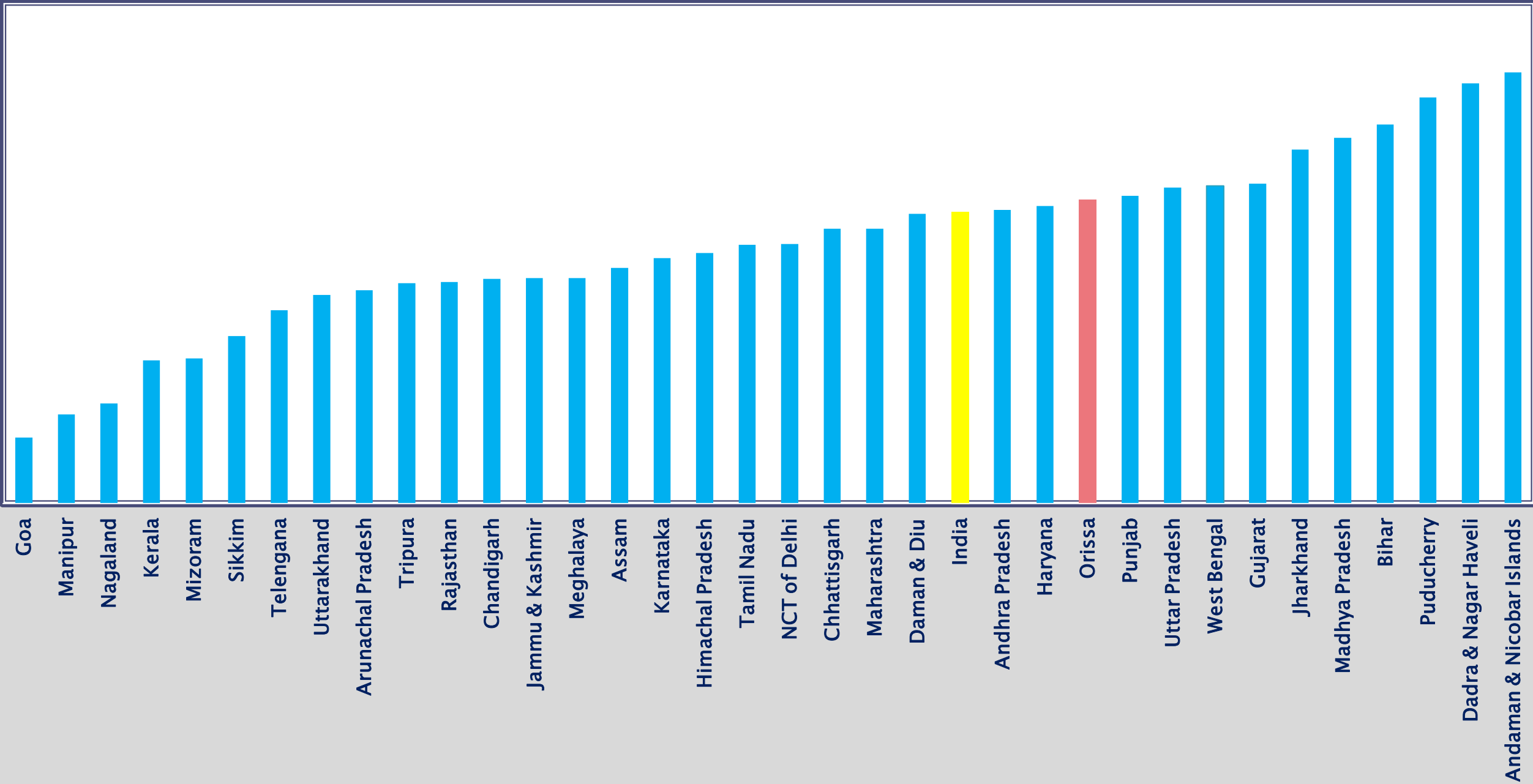
**2018**

I-NIPI Program intensification (Anemia Mukt Bharat)  
PLW 60mgX180 days, IFS for WRA  
**Life cycle approach**

# Anemia Among adolescent Girls (10–19 years)



# Anemia Among adolescent BOYs (10–19 years)



# What are the IFA Supplementation Program ?

Age group	Dose
6 – 59 months of age at VHND ensure by ASHAs	<ul style="list-style-type: none"><li>• Biweekly, 1 ml Iron and Folic Acid syrup</li><li>• Each ml of Iron and Folic Acid syrup containing 20 mg elemental Iron + 100 mcg of Folic Acid</li><li>• Bottle (50ml) to have an ‘auto-dispenser’</li></ul>
5– 10 years children at schools on Monday	<ul style="list-style-type: none"><li>• Weekly, 1 Iron and Folic Acid tablet</li><li>• Each tablet containing 45 mg elemental Iron + 400 mcg Folic Acid</li><li>• Sugar-coated, pink colour</li></ul>
Adolescent girls and boys, 10–19 years of age at schools in Monday (Out of school girls at AWCs)	<ul style="list-style-type: none"><li>• Weekly, 1 Iron and Folic Acid tablet</li><li>• Each tablet containing 60 mg elemental iron + 500 mcg Folic Acid</li><li>• Sugar-coated, blue color</li></ul>
Pregnant women and lactating mothers	<ul style="list-style-type: none"><li>• Daily, 1 Iron and Folic Acid tablet starting from the fourth month of pregnancy (that is from the second trimester), continued</li><li>• Throughout pregnancy (minimum 180 days during pregnancy)</li><li>• To be continued for 180 days, post-partum</li><li>• Each tablet containing 60 mg elemental Iron + 500 mcg Folic Acid</li><li>• Sugar-coated, red colour</li></ul>

# Known Side effects of IFA

1. Epigastric discomfort
  - Nausea, diarrhoea or constipation
2. Dark stools
  - Body excretes the iron it does not need
3. Metallic taste

These effects gradually reduce when IFA is taken on full stomach and taken regularly.



# To reduce/avoid side effects what?

## Do's and Dont's

### How to take IFA tablet –Do's and Don'ts

#### Do's

- Take single tablet
- Swallow the tablet
- Eat on full stomach
- Take one glass of water after having the tablet

#### Don'ts

- Don't chew
- Don't crush
- Don't break
- Don't take on empty stomach
- Don't take with milk

# Thank You



ରାଜ୍ୟ କିଶୋର ସ୍ୱାସ୍ଥ୍ୟ କାର୍ଯ୍ୟକ୍ରମ  
 ସ୍ୱାସ୍ଥ୍ୟକ ଆଇରନ୍ ଓ ଫଲିକ୍ ଏସିଡ୍ ବିତରଣ କାର୍ଯ୍ୟକ୍ରମ



ଆମ ସଭିଏଁ ମନେ ରଖିବା  
 ପ୍ରସାଦରେ ଥରେ ଆଇରନ୍ ବଟିକା ଖାଇ  
 ରକ୍ତହୀନତାକୁ ଦୂରେଇ ଦେବା

ମୁଁ ସ୍କୁଲରେ ନିୟମିତ  
 ଆଇରନ୍ ବଟିକା ଖାଉଛି ।  
 ତୁମେ ଖାଉଛ କି ?

ହଁ, ନିୟମିତ ଆଇରନ୍ ବଟିକା  
 ଖାଇ ମୁଁ ସଚେତ ଅନୁଭବ କରୁଛି !

ହଁ, ଏହି ବଟିକା ଔଷଧ ନୁହେଁ, ଏହା  
 ପୂର୍ଣ୍ଣ ଅନୁପୂରକ ଅଟେ

ଆଇରନ୍ ବଟିକା ଖାଇଲେ  
 ମାନସିକ, ଶାରୀରିକ ବିକାଶ ପଡ଼ିବ ଯେଉଁ  
 ପ୍ରତିରୋଧକ ଶକ୍ତି ବୃଦ୍ଧି ପାଏ । ଆହୁରି ମଧ୍ୟ  
 ଶିକ୍ଷାଗତ ଓ ଜାତୀୟତାକୁ ବୃଦ୍ଧି ପାଏ ।

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ଆଜ୍ଞାନବାଦରେ ଏହି ବଟିକା  
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ଖାଦ୍ୟ ଖାଇସାରିଲା ପରେ ଆଇରନ୍ ବଟିକା ଖାଇବା ଓ ଯଥେଷ୍ଟ ପାଣି ପିଇିବା ଉଚିତ୍ ।



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 ଓଡ଼ିଶା ସରକାର



ରାଜ୍ୟ କିଶୋର ସ୍ୱାସ୍ଥ୍ୟ କାର୍ଯ୍ୟକ୍ରମ  
 ରକ୍ତହୀନତା



## ରକ୍ତହୀନତା

(ରକ୍ତରେ ଲୌହସାରର ଅଭାବ)

ଆଖି ଲସତ୍ ହଳଦିଆ ଦେଖାଯିବା



### ପରିଣାମ



ପଢ଼ାପଢ଼ିରେ ମନ  
 ଲାଗେ ନାହିଁ  
 ଦୁର୍ବଳ ଲାଗିବା  
 ଓ ଥକି ପଡ଼ିବା  
 ବାରମ୍ବାର ରୋଗରେ  
 ଆକ୍ରାନ୍ତ ହେବା

“ ନିଜ ଶରୀରରେ ରକ୍ତର ଅଭାବ ଅଛି କି ନାହିଁ  
 କିଶୋରୀ ଓ କିଶୋରମାନେ ନିଜେ ଜାଣିପାରିବେ”



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 ଓଡ଼ିଶା ସରକାର



ଆଇରନ୍ ବଟିକା ଖାଅ  
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“ ଈଥ ହଉ ବା ପୁଅ,  
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 କୁନିନାଶକ ଖାଅ  
 ପ୍ରତି ୬ ମାସରେ ଥରେ

ଆଇରନ୍ ବଟିକାର ଉପକାରଣତା

- ଶାରୀରିକ ଓ ମାନସିକ ବିକାଶ
- ରୋଗ ପ୍ରତିରୋଧକ ଶକ୍ତି ବୃଦ୍ଧି
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