National Family Health Survey-2
1998-99
Bihar

Nutrition
Contents of Presentation

- Food Consumption
  - Nutritional Status of Women and Children
  - Infant Feeding Practices
  - Anaemia Prevalence
**Items Women Consume at Least Once a Week**

- **Other vegetables**: 96%
- **Green, leafy vegetables**: 96%
- **Pulses, beans**: 89%
- **Milk, curd**: 47%
- **Eggs**: 22%
- **Chicken, meat, fish**: 22%
- **Fruits**: 18%
Women’s Consumption of Milk/ Curd

- Daily: 21%
- Weekly: 25%
- Occasionally: 45%
- Never: 9%
Women’s Consumption of Chicken/Meat/Fish

- Occasionally: 65%
- Weekly: 20%
- Daily: 1%
- Never: 13%

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Women’s Food Consumption Differs by Standard of Living

**Percent (at least weekly)**

<table>
<thead>
<tr>
<th></th>
<th>Milk/Curd</th>
<th>Fruits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Medium</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>51</td>
<td></td>
</tr>
</tbody>
</table>

National Family Health Survey - 2
Contents of Presentation

• Food Consumption

Nutritional Status of Women and Children

• Infant Feeding Practices

• Anaemia Prevalence
Measuring Equipment

- Solar-powered digital scale with an accuracy of ± 100 grams
- Adjustable wooden measuring board specially designed for use in the field (accurate to nearest 0.1 centimetre)
Women’s Height

- Standard “nutritionally at health risk” height is less than 145 cm, with a range of 140-150 cm
- NFHS-2 mean height for women in Bihar is 150 cm
- 20 percent of women in Bihar are nutritionally at health risk
Body Mass Index (BMI)

- **Definition:** Weight in kilograms divided by height in metres squared (kg/m²)

- Chronic energy deficiency if BMI less than 18.5

About two-fifths of Bihari women (39%) have chronic energy deficiency.

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Percent of Women With Chronic Energy Deficiency by State

Arunachal Pradesh: 11%
Delhi: 12%
Punjab: 17%
India: 36%
Rajasthan: 36%
Madhya Pradesh: 38%
Bihar: 39%
Maharashtra: 40%
West Bengal: 44%
Orissa: 48%

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Indices of Children’s Nutritional Status

• Height-for-age (stunting): measure of “chronic” undernutrition

• Weight-for-height (wasting): measure of “acute” undernutrition

• Weight-for-age (underweight): composite measure of both “chronic” and “acute” undernutrition
Malnutrition Among Children

Children under age 3

- Underweight: 54%
- Stunted: 54%
- Wasted: 21%

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Underweight and Severely Underweight Children (NFHS-1 and 2)

**Underweight**
- NFHS-1: 63%
- NFHS-2: 54%

**Severely Underweight**
- NFHS-1: 32%
- NFHS-2: 26%

Children under age 3

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Percent of Children Underweight by State

- Madhya Pradesh: 55%
- Bihar: 54%
- Orissa: 54%
- Uttar Pradesh: 52%
- Rajasthan: 51%
- Maharashtra: 50%
- India: 47%
- Andhra Pradesh: 38%
- Tamil Nadu: 37%
- Nagaland: 24%
- Sikkim: 21%

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Percent of Children Underweight by Region

- South Bihar Plain: 58%
- Jharkhand: 54%
- BI HAR: 54%
- North Bihar Plain: 52%

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Malnutrition Is a Critical Problem

- Over half of children under three years of age are underweight. This proportion is one of the highest in the country.

- The proportion of underweight children declined from 63% in the early 1990s to 54% in NFHS-2.

- In addition, the proportion of severely underweight children (26%) is the highest of any state in India, although it has declined from 32% since NFHS-1.
Contents of Presentation

- Food Consumption
- Nutritional Status of Women and Children
- Infant Feeding Practices
- Anaemia Prevalence
WHO Feeding Recommendations

- Breastfeed children for at least 2 years
- No bottle feeding
- Start breastfeeding immediately after birth
- Exclusive breastfeeding for first 6 months
- Introduce solid/mushy foods at 6 months together with breastfeeding
Duration of Breastfeeding

• Median duration of any breastfeeding is more than 36 months

• Median duration of any breastfeeding is about 12 months shorter in urban areas, as compared to rural

• Boys and girls are breastfed for an equal duration, ≥ 36 months
Bottle Feeding for Children Under 12 Months

Less than 13 percent of breastfeeding children in any age group are bottle fed.
Initiation of Breastfeeding

• Only 6 percent of newborns are breastfed within one hour of birth, and 21 percent are breastfed within the first day

• 42 percent of mothers do not feed the first milk (colostrum) to their infants
Are Mothers Following Exclusive Breastfeeding Recommendations?

Here is how children under the age of 4 months are fed:

- Breast milk only (55%)
- Breast milk and supplements (17%)
- Breast milk and plain water (26%)
- Not breastfeeding (3%)
Percent of Breastfed Children Given Solid/ Mushy Food

Should begin solid/mushy food at 6 mos.
Summary of Infant Feeding Practices

- Prolonged breastfeeding is quite common
- Initiation of breastfeeding is late
- Bottle feeding is not common
- About half of infants below 4 months are breastfed exclusively, as recommended
- Introduction of solid or mushy food is much later than recommended for a majority of children
Contents of Presentation

• Food Consumption
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• Infant Feeding Practices

Anaemia Prevalence
Iron deficiency anaemia is the most widespread form of malnutrition in the world, affecting more than 2 billion people.
Method of Testing Anaemia

• Used portable, battery-operated HemoCue instrument in the field
• Health investigators trained by AIIMS and IIPS
• Test requires a single drop of blood from a finger prick
• In less than one minute, haemoglobin level indicated on a digital read-out
• Results given to women at the time of the test
Anaemia Among Women in Bihar

- In all, 88% of women surveyed were tested. Of these women, 63% were found to have some degree of anaemia.

- Anaemia levels were substantial for all population groups.
Anaemia in Women

<table>
<thead>
<tr>
<th>Residence</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Rural</td>
<td>64</td>
</tr>
<tr>
<td>Urban</td>
<td>60</td>
</tr>
<tr>
<td>Low</td>
<td>69</td>
</tr>
<tr>
<td>Medium</td>
<td>60</td>
</tr>
<tr>
<td>High</td>
<td>50</td>
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Anaemia in Pregnancy (Moderate and Severe Levels)

<table>
<thead>
<tr>
<th>Status</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Pregnant</td>
<td>28</td>
</tr>
<tr>
<td>Not pregnant/not breastfeeding</td>
<td>19</td>
</tr>
</tbody>
</table>
Anaemia Among Children
Age 6-35 Months

- Any anaemia: 81%
- Mild anaemia: 27%
- Moderate anaemia: 50%
- Severe anaemia: 4%

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Anaemia Among Children by Mother’s Anaemia Status

<table>
<thead>
<tr>
<th>MOTHER’S ANAEMIA STATUS</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No anaemia</td>
<td>78</td>
</tr>
<tr>
<td>Mildly anaemic</td>
<td>80</td>
</tr>
<tr>
<td>Moderately anaemic</td>
<td>88</td>
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</tbody>
</table>
Anaemia Among Children by State

<table>
<thead>
<tr>
<th>State</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haryana</td>
<td>84</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>82</td>
</tr>
<tr>
<td>Bihar</td>
<td>81</td>
</tr>
<tr>
<td>Punjab</td>
<td>80</td>
</tr>
<tr>
<td>INDIA</td>
<td>74</td>
</tr>
<tr>
<td>Goa</td>
<td>53</td>
</tr>
<tr>
<td>Manipur</td>
<td>45</td>
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<tr>
<td>Kerala</td>
<td>44</td>
</tr>
<tr>
<td>Nagaland</td>
<td>44</td>
</tr>
</tbody>
</table>

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Percent of Children With Severe Anaemia by State

- Rajasthan: 10
- Karnataka: 8
- Sikkim: 8
- Haryana: 7
- India: 5
- Bihar: 4
- Manipur: 1
- Kerala: 1
- Assam: 0

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Summary of Anaemia

• Two-thirds of women tested were anaemic

• 28 percent of pregnant women suffer moderate to severe anaemia, compared to 19 percent of non-pregnant, non-breastfeeding women

• Four-fifths of children 6-35 months have some form of anaemia -- the third-highest level among all states

• Even when mothers are not anaemic, half of children have moderate or severe anaemia