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# Children and Women's Nutrition: Current DHS Experience in Data Collection

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ORC Macro


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## History

1972 - 1984	World Fertility Survey (WFS)
1976 - 1984	Contraceptive Prevalence Surveys (CPS)
1984 - 1998	Demographic and Health Surveys (DHS)
1998 - Present	Demographic and Health Surveys (MEASURE DHS+)


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## Changes in DHS Nutrition Data

- **DHS III**
  - Household
    - Anthropometry of women and children
    - Iodized salt testing
- **MEASURE DHS+**
  - Household
    - Anthropometry of women and children
    - Iodized salt testing
    - Hemoglobin (anemia) testing of all women 15-49 years


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## Changes in DHS Nutrition Data

<p>Individual Mothers (who have given birth in past 6 years)</p> <ul style="list-style-type: none"><li>• Heights/Weights</li></ul>	<p>Individual Mothers (who have given birth in past 6 years)</p> <ul style="list-style-type: none"><li>• Heights/Weights</li><li>• Anemia Testing</li><li>• Iron supplementation</li><li>• Night blindness</li><li>• Vitamin A supplementation</li></ul>
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## Measure/DHS+ Nutrition Data


- **DHS III**
  - Individual Child (less than 3 or 5 years)
    - Heights/Weights
    - 24 hr. dietary recall
- **Measure/DHS+**
  - Individual Child (less than 6 years)
    - Heights/Weights
    - 24 hr. dietary recall (expanded)
    - 7 day food frequency
    - Frequency of solids or semi-solids in past 24 hrs.
    - Vitamin A supplementation
    - Hemoglobin (anemia) testing

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## Nutrition Content

- Anthropometry
- Infant Feeding
- Micronutrients
- *Food Security*




Tagoe-Darko, UST/Ghana

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## Anthropometry




**Nutritional Status of Women (15-49 years)**

- Body Mass Index
- Height

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## Anthropometry

DHS Report—All Women

- Height
  - Mean, % below 145cm
- BMI
  - Mean BMI
  - normal (18.5-24.9),
  - thin (<18.5) three levels
  - Overweight ( $\geq 25$ ) three levels
- Age, residence (urban/rural), region, education


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## Anthropometry

- Africa Chartbooks (mothers of children <5 years)
  - Height
  - Chronic energy malnutrition (BMI<18.5)
    - Region
    - Area of residence
    - Education
    - Comparison with other countries in the region
- World-wide comparative report on women's health and nutrition (in process)

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## Anthropometry




**Nutritional Status of Children (under 5 years)**

- Underweight
- Wasting
- Stunting
- Overweight

Abelafa, ORC Macro


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## Anthropometry

- DHS Report Children < 5 years
  - Child's characteristics
    - Age, sex, birth order, birth interval, size at birth (Table 10.10)
  - Mother's characteristics
    - Residence (urban/rural), region, mother's ed., mother's age, *wealth index*, mother's interview status

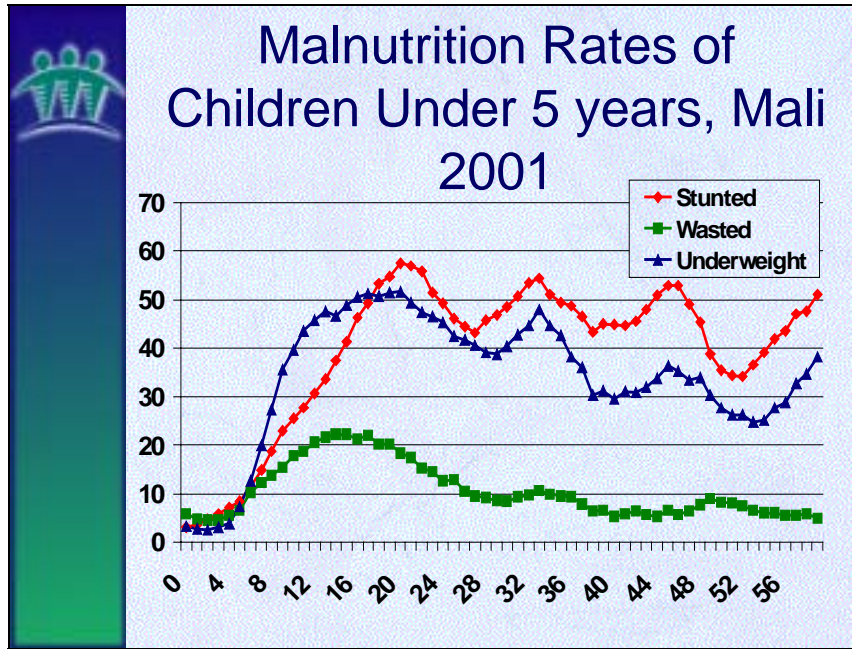
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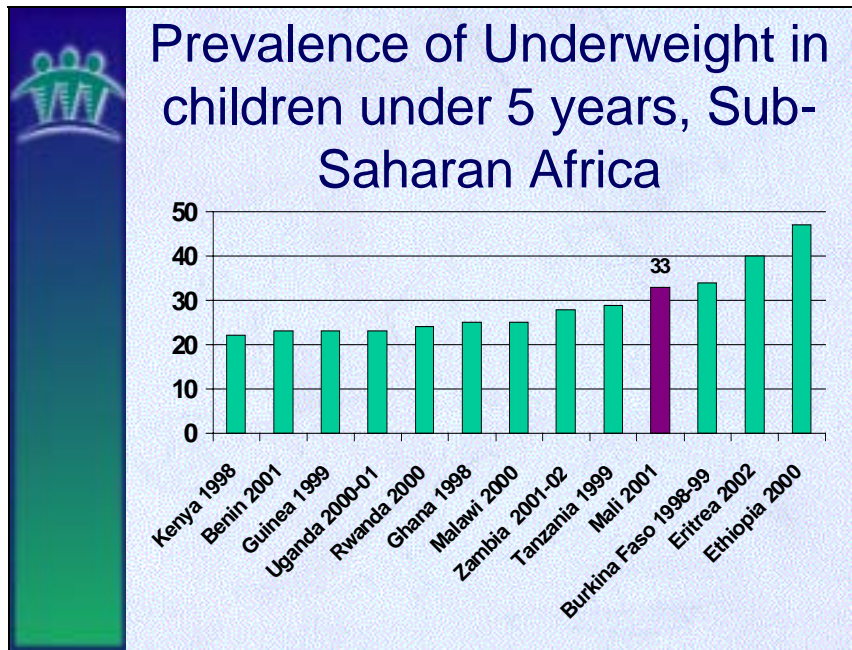
## Anthropometry

- Africa Chartbook Children (<5 years)
  - Stunting, wasting, underweight and overweight (figures 4 and 5)


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## Anthropometry

- Chartbooks:
  - Immediate Influences
    - Diarrhea and Cough with rapid breathing (figure 14)
  - Biological and Behavioral Influences
    - Undernutrition of children (6-23 months) by measles vaccination status (figure 16)
  - Underlying social and economic influences:
    - Mother's education (figure 23)
    - Source of drinking water (figure 24)
    - Type of toilet (figure 25)
  - Basic influences:
    - By region (figure 26)
    - Urban-rural residence (figure 27)

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## Infant Feeding


### Breastfeeding Practices



- Timing of initiation
- Prelacteal feeds
- Exclusive breastfeeding
- Frequency of breastfeeding
- Duration/continuation
- Bottle use

Hugh Rigby, JHU/ICP


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## Changes in Infant Feeding Data

<b>Breastfeeding practices</b> <ul style="list-style-type: none"><li>- timing of initiation</li><li>- frequency</li><li>- exclusive breastfeeding</li><li>- use of bottles</li><li>- duration/continuation</li></ul>	<b>Breastfeeding practices</b> <ul style="list-style-type: none"><li>- timing of initiation</li><li>- frequency</li><li>- exclusive breastfeeding</li><li>- use of bottles</li><li>- duration/continuation</li></ul>
<b>Complementary feeding</b> <ul style="list-style-type: none"><li>- types of foods</li></ul>	<b>Complementary feeding</b> <ul style="list-style-type: none"><li>- types of food</li><li>- frequency of feeding</li></ul>
<b>Colostrum</b>	<b>Prelacteal feeding</b>

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## Early Breastfeeding Practices

Question #440: Breastfeeding Initiation  
Did you ever breastfeed (name)? Y/N

Question #441: Breastfeeding Initiation  
How long after birth did you first put (name)  
to the breast?  
Immediately  
Hours  
Days

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## Early Breastfeeding Practices

Question #442: Prelacteal Feeding  
In the first three days after delivery, was (name) given anything to drink other than breastmilk? Y/N

Question #443: Prelacteal Feeding  
What was (name) given to drink? Anything else?

- Fresh milk (other than breastmilk)
- Plain Water
- Sugar or Glucose Water
- Gripe Water
- Sugar-salt-water solution
- Fruit juice
- Infant Formula
- Tea/Infusions
- Honey

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## Early breastfeeding Practices

- Initial Breastfeeding (table 10.1)
  - % ever breastfed
  - % who started breastfeeding w/in
    - 1 hour
    - 1 day
  - % who received prelacteal feed (no content)
- By sex, residence, region, mother's ed., wealth index, asst. at delivery, place of delivery

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The slide features a vertical decorative bar on the left with a green-to-blue gradient and a logo of three stylized figures. The main content area has a light blue background. At the top center is the title "Infant Feeding" in a large, bold, dark blue font. Below the title is the sub-heading "Feeding Practices" in a smaller, bold, dark blue font. To the left of the text is a photograph of a woman in a red top breastfeeding an infant. To the right of the photograph are two bullet points in dark blue text.

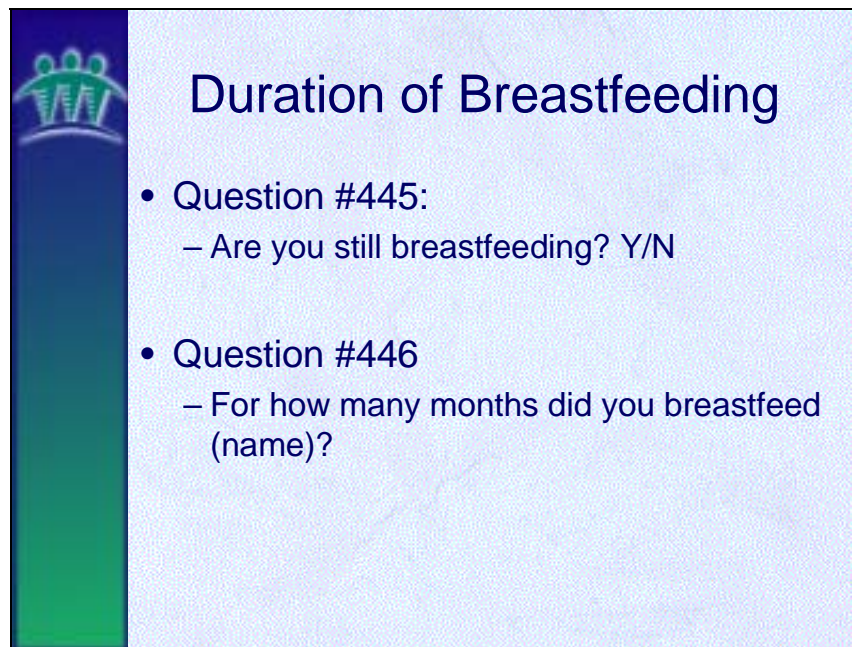
## Infant Feeding

### Feeding Practices



- Continued breastfeeding up to 24 months
- Appropriate complementary feeding 6-9 months

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The slide features a vertical decorative bar on the left with a green-to-blue gradient and a logo of three stylized figures. The main content area has a light blue background. At the top center is the title "Duration of Breastfeeding" in a large, bold, dark blue font. Below the title are two bullet points in dark blue text.

## Duration of Breastfeeding

- Question #445:
  - Are you still breastfeeding? Y/N
- Question #446
  - For how many months did you breastfeed (name)?


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## Duration or Breastfeeding

- Question #446A
  - Why did you stop breastfeeding (name)?
    - mother ill/weak
    - child ill/weak
    - child died
    - nipple/breast problem
    - not enough milk
    - mother working
    - child refused
    - weaning age/age to stop
    - became pregnant
    - started using contraception


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## Frequency of Breastfeeding

- Question #448
  - How many times did you breastfeed last night between sunset and sunrise?
- Question #449
  - How many times did you breastfeed yesterday during the daylight hours?


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## Breastfeeding Practices

- Question #450
  - Did (name) drink anything from a bottle with a nipple yesterday or last night?


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## Breastfeeding Status

- DHS Report Table 10.2 (%)
  - Not breastfeeding
  - Exclusively breastfeeding
  - Breastfeeding and consuming (water, liquids, other milk, complementary foods)
  - Using a bottle with nipple

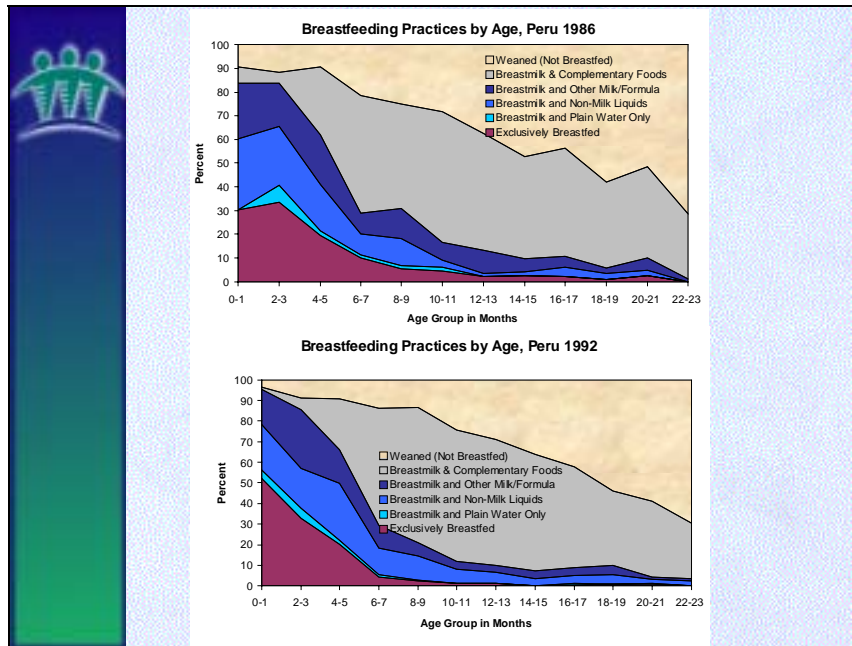
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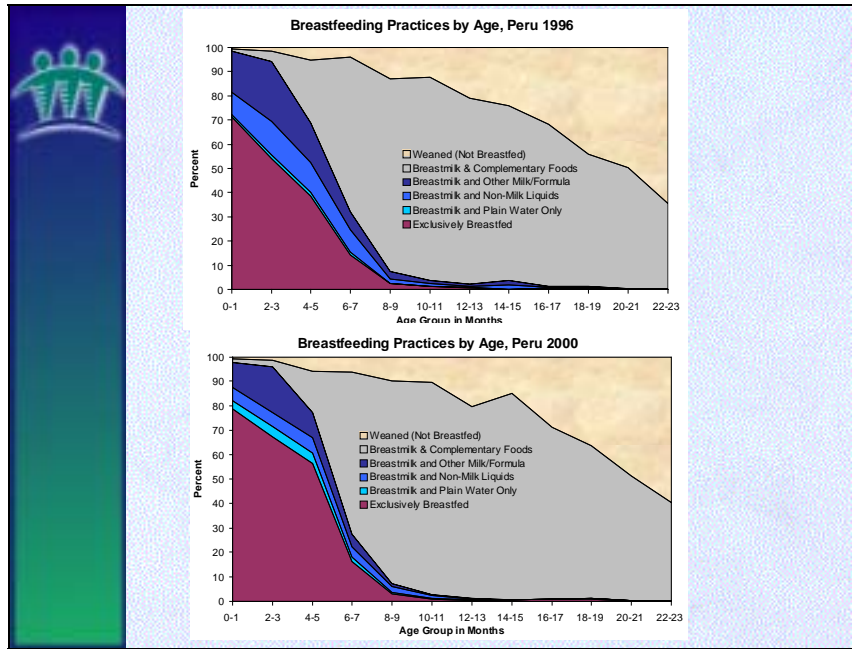
## Median Duration of Breastfeeding

- DHS Report Table 10.3 (months)
  - Any breastfeeding
  - Exclusive breastfeeding
  - Predominant breastfeeding
- Frequency of breastfeeding (< 6 months)
  - % breastfed 6+ times in last 24 hours
  - Mean no. of day feeds
  - Mean no. of night feeds

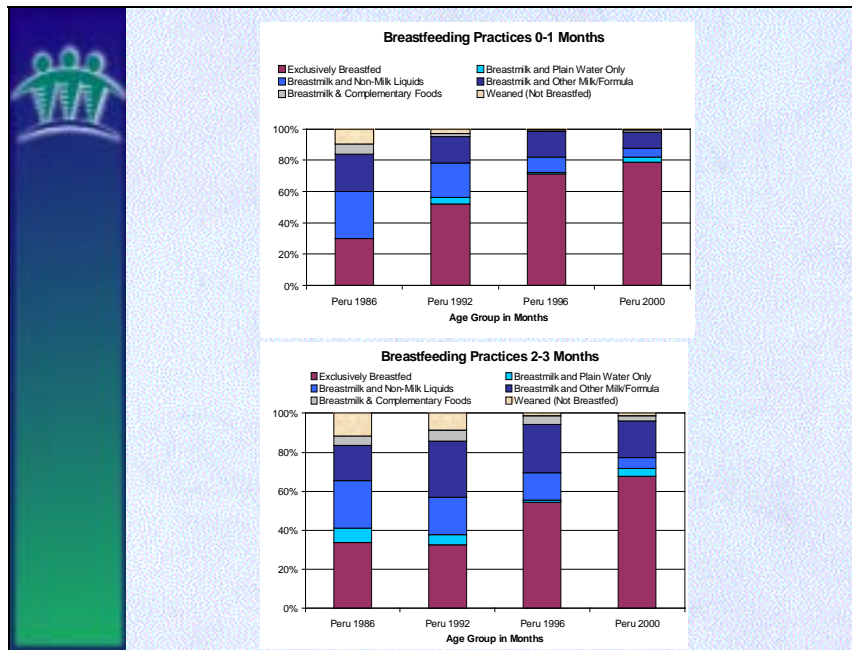
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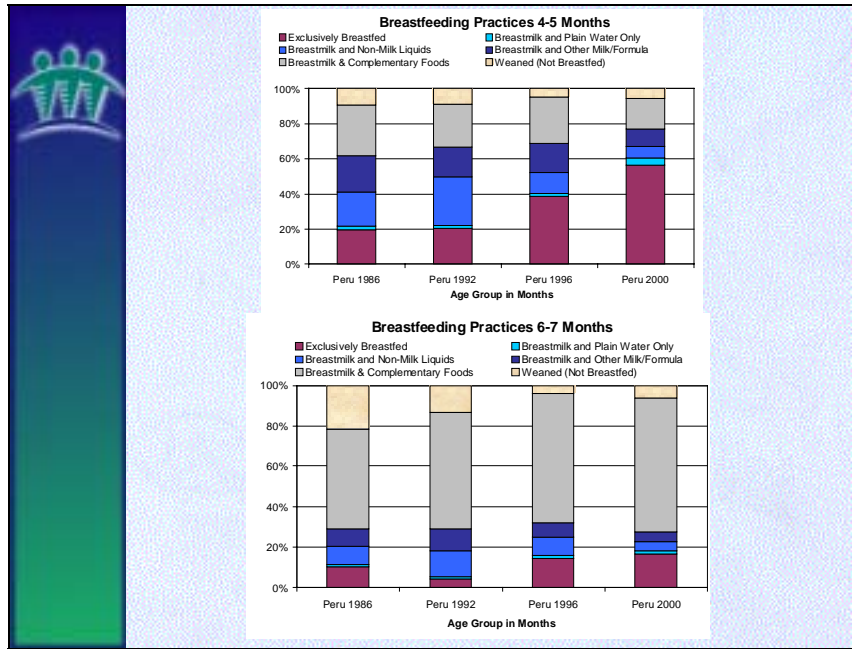
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## Infant Feeding




**Complementary feeding**

Dietary intake (last born child < 3 years)

- 24 hr. dietary recall (expanded)
- 7 day food frequency (expanded)
- Frequency of solids or semi-solids in past 24 hrs

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## Complementary Feeding


Question #451

- Was sugar added to any of the foods or liquids (name) ate yesterday?

Question #452 Frequency of Meals

- How many times did (name) eat solid, semisolid or soft foods other than liquids yesterday during the day or at night?


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## 24 hour recall vs. 7 day food frequency

- 7-day Food Frequency:
  - How many days during the last 7 days including yesterday did (name) drink (eat) each of the following:
- 24 Hour Recall
  - In total, how many times during the last day or at night did (name) eat (drink) each of the following foods either separately or combined with other food?

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**Early 1990's**

- At any time yesterday or last night was Name given any of the following (yes, no)
  - Plain water
  - Water with herbs/sugar water/glucose water/ SSS
  - Juice
  - Baby formula
  - Fresh milk
  - Tinned or powdered milk?
  - Other liquids?

**Late 1990's/2000**

- How many days during the last seven days did Name drink each of the following:
  - Plain water
  - Commercially produced infant formula
  - Any other milk such as tinned, powdered or fresh animal milk?
  - Fruit juice
  - Any other liquids such as sugar water, tea, coffee, carbonated drinks or soup broth?
- How many times yesterday during the day and during the night did Name drink (item)

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**Early 1990's**

- At any time yesterday or last night was Name given (yes, no)
  - Any solid or soft mushy food?

**Late 1990's/2000**

- How many days during the last seven days did Name eat each of the following foods either separately or together:
  - Any food made from grains
  - Pumpkin, red or yellow yams or squash, carrots, or red sweet potatoes
  - Any other food made from roots or tubers
  - Any[dark] green leafy vegetables?
  - Mango, papaya, [or other Vt.A]
  - Any other fruits and vegetables?
  - Cheese or yoghurt?
  - Any food made with oil, fat or butter


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## Complementary Feeding

- DHS Report (24 hours):
  - Table 10.4: Foods consumed in day or night preceding interview (**% kids < 3 years**) by age of child (months) - breastfeeding and non-breastfeeding
  - Table 10.5: Frequency of foods consumed by children in day or night preceding interview (**mean no. of times**) by age of child (months) - breastfeeding and non-breastfeeding

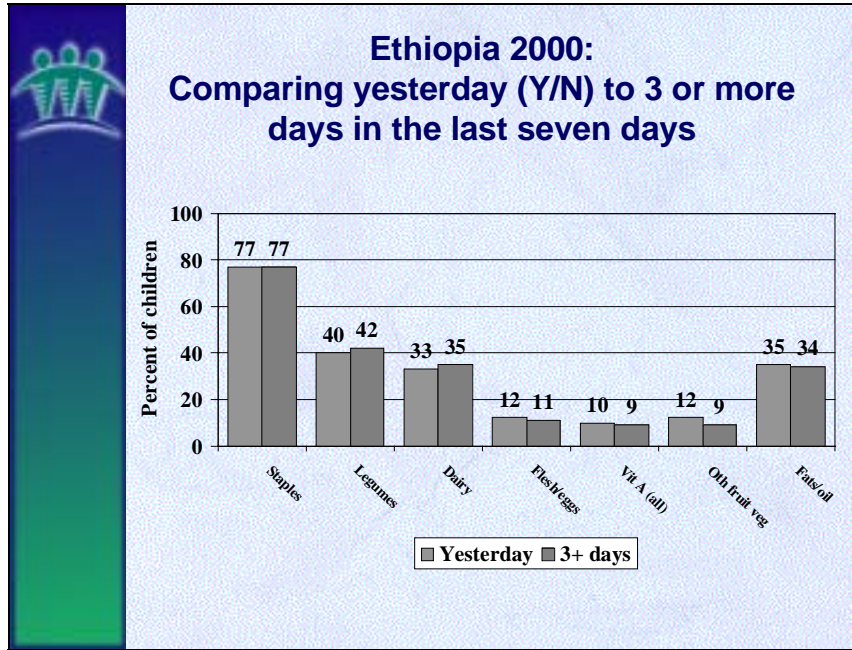
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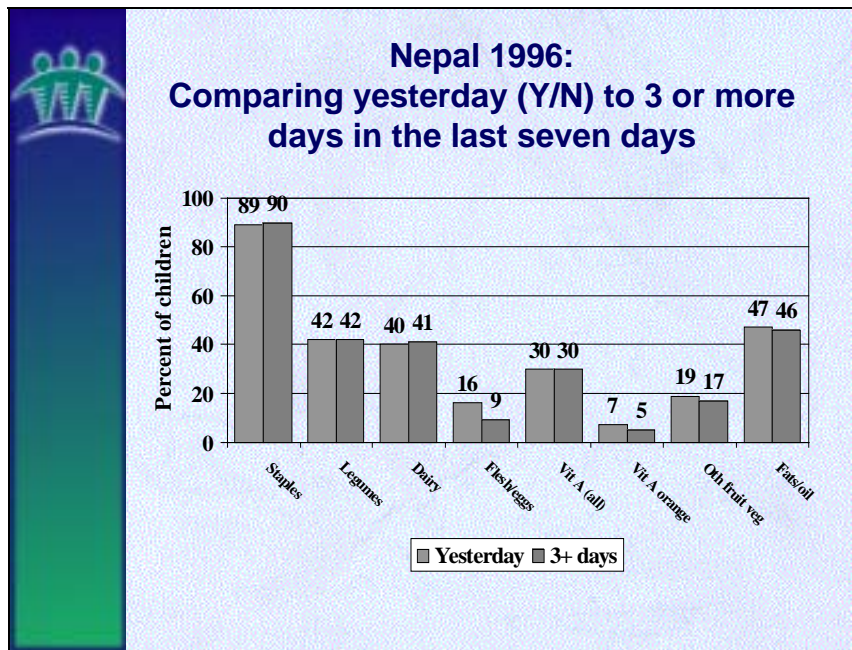
## Complementary Feeding

- DHS Report—7 day
  - Table 10.6: Frequency of foods consumed by children (last born, <3 yrs) in preceding seven days (mean number of days) by age of child in months—breastfeeding and non-breastfeeding

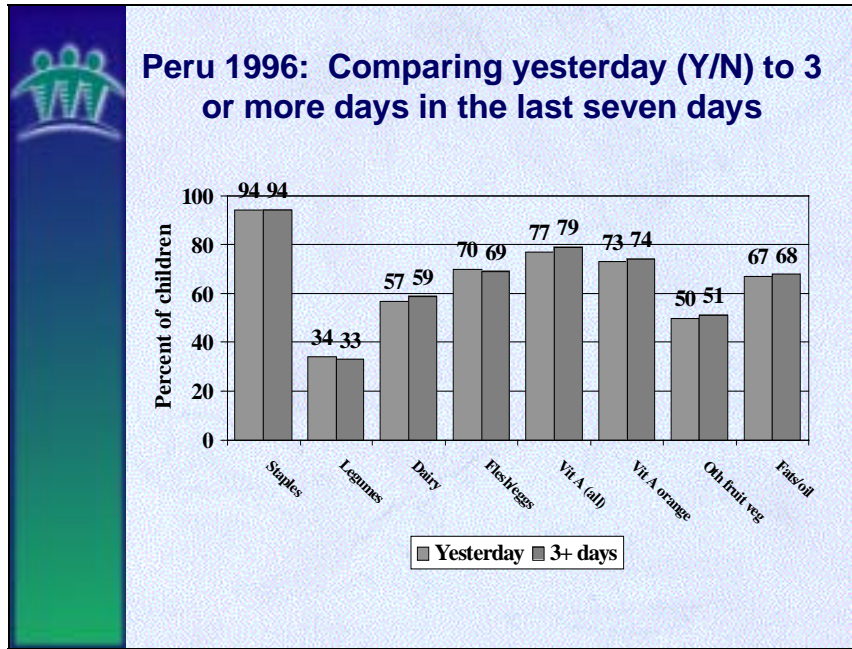
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## Complementary Feeding

**Suggested tabulation (Arimond and Ruel, 2002)**

Table 1a: Frequency and diversity of complementary feeding all children 6-23 months (also by bf and non-bf).

- # of times ate solid foods during day or night
- # of different food groups consumed day or night


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## Complementary Feeding


- Suggested tabulation (Arimond and Ruel, 2002)
- Figure 4a
  - Frequency of complementary feeding according to recommended no. of times per day by age group

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## Micronutrients


### Iron



- Prevalence of anemia in women and children
- Coverage of iron supplementation in pregnancy

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## Micronutrients


### Iodine

- Prevalence of households using iodized salt

Household salt is tested for iodine:

- DHS Report: Table 10.7, three levels by background characteristics: residence, region and wealth index

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## Micronutrients

### Vitamin A

- Night blindness in pregnancy
- Serum retinol levels (Uganda)
- Vitamin A supplementation (mothers and children)
- Sugar, cereal consumption by children < years for consideration of fortification.
- Consumption of vitamin A-rich fruits and vegetables


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## Vitamin A

- Question #451
  - Was sugar added to any of the foods or liquids (name) ate yesterday?
- Question #452B
  - 24 hour/ 7-day food frequency


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## Night blindness

- Question #418
  - During this pregnancy, did you have difficulty with your vision during he daylight?
- Question #420
  - During this pregnancy, did you suffer from night blindness [use local term if there is one]?


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## Vitamin A Supplementation

- Question # 433 (mothers)
  - In the first two months after delivery, did you receive a vitamin A dose like this? Y/N
- Question #457 (children)
  - Did (name) receive a vitamin A dose like this during the last 6 months?
- Question #460 (children)
  - Vaccination card observation:  
Vitamin A (most recent) day, month, year

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## Iron


Question #417

During this pregnancy, were you given or did you buy any iron tablets or iron syrup?

Question #418

During the whole pregnancy, for how many days did you take the tablets or syrup?  
[If answer is not numeric probe for approximate number of days.]


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## Micronutrients

- DHS Report: Table 10.8 Micronutrient Intake among children
  - % last born child < 3 yrs. consumed vitamin A rich fruits and veggies
  - % children 6-59 mos. Who consumed vitamin A supplements in 6 months preceding survey
  - % children <5 yrs living in households using adequately iodized salt


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## Micronutrients

- DHS Report: Table 10.9 Micronutrient intake among mothers
  - % of women with birth in last 5 years who received vit.A dose within 2 mos. after delivery
  - % of same who suffered nightblindness in preg. reported and adjusted.
  - % who took iron tablets during pregnancy by 3 levels of tablets.
  - % of mothers who live in hh using adequately iodized salt

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## Micronutrients

- Other reports:
  - Chartbooks
  - Micronutrient update

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## Nutrition Products

- Data
- Nutrition Chartbooks (Africa only)
- Nutrition Reports (Africa only)
- Comparative Reports
  - Children's nutritional status
  - Women's health and nutritional status

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## New Products

- Wall Charts
- Fact Sheets
  - Country Specific (Ghana, Togo, Uganda)
  - Regional (West and Central Africa, and East and Southern Africa)
- Micronutrient Update
- Qualitative Research on Complementary Feeding
  - Ghana
  - Mali

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## Future Directions

- Women's nutrition beyond child health
- Development of appropriate dietary indicators
- Micronutrient indicators (mainstreaming anemia testing, validating nightblindness question in low VAD prevalent countries, improved question on iron supplementation in pregnancy)
- Nutrition and adult health