Assessment of Dietary diversity among pregnant and lactating women and 6 to 23 months age children, in rural areas of western Gojjam, Amhara Region

Addis Ababa, Dessalegn Hotel
By: Abel Ahmed
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Introduction

- The dietary diversity score (DDS) is a tool providing a more rapid, user-friendly and cost-effective approach to measure changes in dietary quality at the household and individual level.

- DDS is a qualitative measure of food consumption that reflects household access to a wide variety of foods, and is also a proxy of the nutrient adequacy of the diet for individuals.

- It is created by summing the number of food groups consumed over a 24 hours period.
HDDS is reflecting the economic ability of a household to consume a variety of foods.

IDDS aims to capture nutrient adequacy of individuals.

Many studies have shown that an increase in IDDS is related to increased nutrient adequacy of the diet.
Objectives

To measure the nutrient adequacy of children (6 - 23 months age) and pregnant & lactating women based on 8 and 9 food groups, respectively
Methodology

- **Survey**: Community based cross-sectional survey design was used

- **Data**: collected for children between the ages of 6 - 23 months in three rural kebeles, from August 21 to 28, 2014.

- **Sampling**: systematic random sampling; a total sample size of 117 children and women were involved.

- **IDDS**: collected as the sum of the number of different food groups consumed by the children and mother 24 hours prior to the assessment.
Methodology…

- **Scoring**: IDDS was calculated using a score of "1" for those who consumed the food item; "0" for who did not consume over the past 24 hours.

- **IDDS category**: It was categorized into three subgroups: if 6 and more food groups consumed (high), 4 - 5 (medium) and less than 4 (low)

- **Data analysis**: done using SPSS; Descriptive statistics with frequency and percentiles were used
Methodology…

Study area

- **The study site**: Amhara Region, West Gojjam zone specifically in South Achefer Districts of Abchikili, Ahurie and Lalibela Kebeles

- **Location**: about 505 km away from Addis Ababa

- **Site characterization**: altitude (1500 - 2500m); rainfall (1450 - 1594 mm); and temperature (15 - 23 °C)
## Food Groups

### For Children (6 – 23 m)

#### Score: 0-8

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains, roots or tubers</td>
<td>- Eggs</td>
</tr>
<tr>
<td>Vitamin A-rich plant foods</td>
<td>- Meat, poultry, fish, seafood</td>
</tr>
<tr>
<td>Other fruits or vegetables</td>
<td>- Milk and milk products</td>
</tr>
<tr>
<td>Pulses/legumes/nuts</td>
<td>- Foods cooked in oil/fat</td>
</tr>
</tbody>
</table>

### For women (WDDS)

- Starchy staples
- Dark green leafy vegetables
- Other Vitamin A rich fru and vgs
- Other fruit and Vegetables
- Milk and milk products
- Organ meat
- Meat and Fish
- Legumes, nuts and seeds
- Eggs
Result and Discussion

❖ Only 10% of children consumed food group of six and more

❖ Majority of the children (78.6%) consumed cereal based foods (maze, finger millet, teff, wheat, sorghum, barley and oat)

❖ Large proportion of women (98.3%) relay on monotonous food group

❖ Only 10.2% women found in the high dietary diversity score (DDS ≥6)
Result and Discussion…

Food groups consumption pattern by children (%)

- Grains, root tubers: 78.6%
- Vit A PFR: 97.4%
- Other fruits & veges: 56.4%
- Meat, Poultry & Fish: 43.6%
- Eggs: 83.8%
- Milk products: 11.1%
- Legumes & nuts: 62.4%
- Foods cooked in oil: 64.1%
- Proportion of foods consumed by children (%)
- Proportion of foods not consumed by children (%)
Result and Discussion…
Dietary diversity score terciles for children less than two years old age

![Bar chart showing dietary diversity score terciles for children less than two years old age.](chart.png)
Result and Discussion…

Micronutrient rich foods consumption level

- The consumption of essential micronutrients rich foods such as Vit A and Iron was very low.

- Plant based Vit A rich foods = 10.3%
- Animal based Vit A rich foods = 43.6%

- Iron rich foods consumed by children = 16%
Result and Discussion…

Food groups consumption pattern by women (%)

![Graph showing food groups consumption pattern by women (%)](image-url)
Mostly our dish are full of same content in different forms!!
Result and Discussion…

DDS terciles of women

- Low (< 4): 53
- Medium (4 - 5): 37
- High (≥ 6): 10
Result and Discussion…

Knowledge and attitude of women??

Nearly all women in Amhara breastfeeding, .... so what is the problem?

The practices are sub-optimal
## Result and Discussion

<table>
<thead>
<tr>
<th>Practices</th>
<th>%</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babies start eating foods in addition to BM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- At six months</td>
<td>60</td>
<td>Minimum early start = at 3 months</td>
</tr>
<tr>
<td>- Don’t know</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>- Before six months</td>
<td>7</td>
<td>Maximum late start = at 18 months</td>
</tr>
<tr>
<td>- After six months</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Minimum early start = at 3 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum late start = at 18 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why is important foods in addition to BM from the age of six</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Baby needs more food + BM</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>- Don’t know</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>- Specific response</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Mothers prepare porridge or gruel for babies</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Ingredients used for porridge or gruel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cereal</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>- Animal source foods</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>- Pulses and nuts</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>- Fruits</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>- Vegetables</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>- Oil or butter</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>- Root and tuber</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>- Sugar</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>
Result and Discussion...

**BF practice**

- Almost all (96.4%) of the children were ever breastfed
- 58% initiated the breastfeeding within 1st hour
- 22% initiated the breast feeding within 1 - 4 hours
- 10.5% initiated the breast feeding within 4 - 24 hours
- Among respondent mothers who ever breastfed (38.4%) fed colostrum to the baby while the remaining (61.6%) discarded it.
Conclusion

Large proportion (43%) of the children and 53% women were categorized in the **lowest dietary diversity score**.

While 10.3% children and 10.2% women were categorized in **high DDS**.

Majority of children (78.6%) and women (98.3%) relaying on monotonous food group.

The **micronutrient intake** (**vit-A and iron**) of both children and women were very low.
Recommendation

- The feeding habit of nutritious foods for children and women were poor and it needs a great effort to change their attitude.

- Nutrition sensitive interventions such as home gardening, improved poultry production along with nutrition education are the potential measures to alleviate malnutrition.

- Synergy between agriculture, health and education sector is highly fundamental.

- Mainstreaming nutrition objectives in to Gov’t routine activity
Recommendation…

- Exploiting and promoting indigenous untapped nutritious foods
- Promoting small scale processing
- Introduce bio fortified crops
- Marketing of nutritious agricultural products
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Our Future is on your Hand!!

Thank You!