Nutrition for adolescent girls and women
What do we know about what works?
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Introduction: What is the issue?

• Undernutrition in adolescent girls and WRA:
  • A widespread and neglected problem
  • A symptom of gender inequality that prevails
  • Affects their well-being and the nutritional status of their children
• Children of underweight mothers are more likely to be stunted
Introduction: What is the issue?

Adolescents 10-19 years of age:

- Largest segment of the total population in East and Southern Africa (25%)
- Most underserved segment of the population
- Key to breaking the cycle of intergenerational transmission of malnutrition, poverty and food insecurity
- Adolescent girls are identified as a critical vulnerable group and a key target population of USAID’s Multi-Sectoral Nutrition Strategy.

*Investing in adolescents will ensure longer-term sustainable results for reduced poverty, food insecurity, fertility, and malnutrition*
Introduction: What is the issue?

- Adolescent girls are more malnourished compared to their adult peers
- A significant proportion begin childbearing during adolescence
- First births born to adolescent girls in Sub-Saharan Africa are 33% more likely to be stunted compared to babies born to mothers who are older than 19 years of age
- Trends in adolescent fertility show no significant reduction

Introduction: Why does it matter?

- Current efforts and investments in the 1000 days that focus on preventing stunting in children will be more effective and sustainable if the nutrition of adolescent girls and women improves.

- Addressing women’s and girls’ nutritional status is critical to protect the nutritional status of their children and ultimately reduce the prevalence of stunting and other forms of malnutrition.

- Poor nutrition during adolescence can negatively influence educational attainment – hurting future productivity and income potential.
## Contribution of Adolescent Nutrition to WHA Targets

<table>
<thead>
<tr>
<th>WHA Target</th>
<th>Contribution of Adolescent Nutrition to Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% reduction globally in U5 stunting</td>
<td>Adolescent pregnancy increases the risk of: LBW, SGA and preterm births and more childhood stunting</td>
</tr>
<tr>
<td>50% reduction in anemia in WRA</td>
<td>Adolescence: highest prevalence of anemia, increased risk of maternal anemia during pregnancy, less likely to access services and receive IFA supplements</td>
</tr>
<tr>
<td>30% reduction in LBW</td>
<td>Adolescent pregnancy increases risk of LBW</td>
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<tr>
<td>No increase in childhood overweight</td>
<td>Obesity is increasing in adolescents</td>
</tr>
<tr>
<td>Increase EBF for 6 months to at least 50%</td>
<td>Adolescents less likely to BF or receive support for BF</td>
</tr>
<tr>
<td>Reduce and maintain wasting to &lt;5%</td>
<td>Infants of adolescent mothers may be at increased risk of wasting</td>
</tr>
</tbody>
</table>

Source: Save the Children, 2015
Four key reasons to invest in adolescents and women

• Prevent the intergenerational transmission of malnutrition, food insecurity and poverty
• Accelerate the fight against poverty, inequity, food insecurity and gender discrimination

For adolescents:

• Consolidate global gains in early and middle childhood (health, nutrition, and universal primary education)
• Fulfill child rights

Source: UNICEF SOWC 2011
Overview of Adolescent Nutrition

Adolescence is a time of increased nutritional needs and when lifelong health habits are established:

- Rapid physical growth, second only to the first year of life.
- Greatest nutrient needs - failure to obtain adequate nutrition during this time period can lead to delayed sexual maturation and poor linear growth.
- Children gain up to 50% of their adult weight and more than 15% of their adult height during adolescence.
- Behaviors around food, physical activity, drug and alcohol use, and sexual health are formed – therefore a key time to act!

Source: Story 1992, Spear 2002
Key Issues

- Undernutrition
- Overweight/obesity
- Adolescent nutrition
- Adolescent pregnancy
- Vulnerabilities

Source: Story 1992, Spear 2002
Undernutrition

• Adolescents are highly susceptible to malnutrition and nutrient deficiencies due to increased energy and protein needs to support rapid growth—particularly iron deficiency anemia.
• Adolescent girls are more likely to be malnourished than other members of the household - gender inequality distorts the intra-household distribution of food with adolescent girls eating less and last.

Overweight/Obesity

- Overweight and obesity has been rising in developing countries and obesity in children aged 2-19 years has increased from around 8% in 1980 to around 13% in 2013.
- Overweight/obese adolescents are also more likely to become overweight/obese adults and are at increased risk of the poor health outcomes in adulthood (e.g. chronic disease and cancer).
- Adolescent pregnancy and post-partum weight retention may be contributing to significant increases in adolescent overweight/prevalence.

Adolescent Pregnancy

• About 30% of girls in developing countries are married before age 18 and about 16 million adolescent girls give birth each year – 95% occur in LMIC

• Pregnancy during adolescence is associated with maternal mortality and 50% increased risk of stillbirths and neonatal deaths, increased risk of preterm birth, low birthweight and small for gestational age births compared to older mothers

• Pregnancy during adolescence, particularly when the adolescent girl is undernourished, can slow and stunt growth, leading to shorter mothers and an intergenerational cycle of malnutrition.

Vulnerabilities

Factors that Influence Poor Adolescent Health and Nutrition

- Early marriage and subsequent pregnancy
- Lack of educational attainment
- Poor access to water and sanitation
- Lack of health services targeted for adolescents
- Lack of knowledge of existing services that adolescents could utilize
- Exploitative work
- In certain cultures, married adolescents are often far more isolated than their older peers because they are newlyweds and strict social norms restrict their movement outside the home reducing their chance of participating in program activities, seeking health-care and nutrition services
- They are also least likely to use family planning methods because of the pressure to establish their ability to bear children for their marital home
Problem Pathway

High lifetime fertility

Early and frequent childbearing in adolescence

Poor adolescent nutritional status

Inadequate:
- Food access, dietary diversity, and dietary intake
- Access to health services and WASH

Poor women’s nutritional status

Child stunting
Nutritional Status of Adolescent Girls and Women of Reproductive age, Underweight and Overweight

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Percent</th>
<th>Thin, Adolescent girls 15-19 years</th>
<th>Thin, Women aged 15-49 years</th>
<th>Overweight/Obese, Adolescent girls 15-19 years</th>
<th>Overweight/Obese, Women aged 15-49 years</th>
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</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>2010</td>
<td>21</td>
<td>16</td>
<td>18</td>
<td>6</td>
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<tr>
<td>Ethiopia</td>
<td>2011</td>
<td>36</td>
<td>27</td>
<td>27</td>
<td>36</td>
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<tr>
<td>Kenya</td>
<td>2014</td>
<td>17</td>
<td>9</td>
<td>12</td>
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<tr>
<td>Malawi</td>
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<tr>
<td>Mozambique</td>
<td>2011</td>
<td>15</td>
<td>7</td>
<td>11</td>
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<tr>
<td>Rwanda</td>
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<td>16</td>
<td>13</td>
<td>11</td>
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<tr>
<td>Tanzania</td>
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<td>18</td>
<td>16</td>
<td>16</td>
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<tr>
<td>Uganda</td>
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<td>22</td>
<td>14</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Zambia</td>
<td>2013-14</td>
<td>19</td>
<td>16</td>
<td>10</td>
<td>10</td>
<td>9</td>
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<tr>
<td>Zimbabwe</td>
<td>2010-11</td>
<td>23</td>
<td>13</td>
<td>7</td>
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Childhood Stunting by Maternal Nutritional Status

Percent Childhood Stunting (-2SD)

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Thin</th>
<th>Normal</th>
<th>Overweight/Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>2010</td>
<td>63</td>
<td>59</td>
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<tr>
<td>Ethiopia</td>
<td>2011</td>
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<tr>
<td>Kenya</td>
<td>2014</td>
<td>31</td>
<td>28</td>
<td>19</td>
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<tr>
<td>Malawi</td>
<td>2010</td>
<td>52</td>
<td>49</td>
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<tr>
<td>Mozambique</td>
<td>2011</td>
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<tr>
<td>Rwanda</td>
<td>2010</td>
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<td>31</td>
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<td>25</td>
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<td>Zambia</td>
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<td>41</td>
<td>32</td>
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<tr>
<td>Zimbabwe</td>
<td>2010-11</td>
<td>40</td>
<td>32</td>
<td>27</td>
</tr>
</tbody>
</table>
Risk Ratio for Stunting by Maternal Age

Source: Fink et al. 2014
Prevalence of Stunting in Children under Age 5 by Maternal Age

![Bar chart showing prevalence of stunting in children under age 5 by maternal age across different countries and years.](chart.png)

- Ethiopia 2011: 54% (43% <18 years, 11% >23 years)
- Kenya 2014: 43% (37% <18 years, 6% >23 years)
- Malawi 2010: 42% (31% <18 years, 11% >23 years)
- Mozambique 2011: 51% (39% <18 years, 12% >23 years)
- Tanzania 2010: 45% (29% <18 years, 16% >23 years)
- Uganda 2011: 49% (30% <18 years, 19% >23 years)
- Zambia 2013/14: 51% (33% <18 years, 18% >23 years)
- Zimbabwe 2010/11: 36% (24% <18 years, 12% >23 years)

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Trends in Adolescent Childbearing

Percent of adolescent girls 15-19 years of age who have begun childbearing by age 19

- Ethiopia 2000: 40%
- Ethiopia 2005: 41%
- Kenya 1998: 34%
- Kenya 2003: 45%
- Kenya 2008-09: 46%
- Kenya 2014: 36%
- Malawi 2000: 40%
- Malawi 2004: 66%
- Malawi 2010: 68%
- Mozambique 1997: 64%
- Mozambique 2003: 67%
- Mozambique 2011: 71%
- Rwanda 2000: 21%
- Rwanda 2005: 13%
- Tanzania 1999: 54%
- Tanzania 2004/5: 52%
- Tanzania 2010: 44%
- Uganda 2000-01: 59%
- Uganda 2006: 58%
- Zambia 2001-02: 57%
- Zambia 2007: 55%
- Zambia 2013-14: 58%
- Zimbabwe 1999: 46%
- Zimbabwe 2009/10: 48%

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Invest in reducing total number of births by expanding access to family planning

Invest in:
- Delaying early marriage and childbearing
- Providing adolescent-friendly family planning services to delay and space births
- Keeping girls and boys in secondary school

Invest in improving:
- Food access, dietary diversity, and dietary intake
- Expand access to micronutrient supplements and deworming

Reduce women’s undernutrition
Reduce child stunting
Reduce adolescent undernutrition

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Lack of education and life skills for girls

- Early marriage and childbearing
- Lack of employment opportunities and lower wages
- Fewer life skills to care for children
- Least decision-making authority and least assets

Higher maternal and child mortality

Poor health and nutrition for mother and child

Higher fertility

Unable to meet household food security needs

Less caring capacity and less stimulation impacting cognitive development

Unable to capitalize on resources for their own well-being or that of their children

Child Stunting

- Stunting
Example

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Reduced child stunting

Providing education and life skills for girls

- Delayed marriage and childbearing
- Lower maternal and child mortality

- More employment opportunities and higher wages
- Better health and nutrition for mother and child
- Lower fertility

- More life skills to care for children
- More capable of meeting household food security needs
- Greater caring capacity and stimulation impacting cognitive development

- More decision-making authority and greater access to assets
- More able to capitalize on resources for their own well-being and that of their children
What works?

**MCHN**

- Delaying marriage and childbearing
- Working with husbands to support married adolescent girls
- Life skills for married and unmarried adolescent girls on sexual and reproductive health and maternal and child nutrition
- Care groups for adolescent girls
- Training, guides, and peer-to-peer approaches for pregnant adolescents
- Weekly iron-folate supplementation and anemia prevention

**Livelihoods**

- Savings-led microfinance for adolescents and youth
- Life skills to strengthen knowledge, skills, and employability

Delaying marriage and childbearing

**Context**
Four strategies to delay marriage of adolescent girls in Ethiopia, Tanzania, and Burkina Faso

**Activity**
The four strategies tested were:
- Community conversations
- Supporting girls’ education with cost-effective efforts
- Providing conditional economic incentives to families for keeping girls unmarried
- Combining all these approaches

And alongside, girls’ mentoring groups, including non-formal education

**Result**
Combination of all three strategies worked best at delaying marriage

Each individual strategy was also effective at delaying marriage – but not as effective as when the three approaches were combined.

Source: Population Council 2014
Programmatic Examples

Working with husbands to support married adolescent girls

Context
Undertaken with men and youth, and newly married adolescent girls in Ethiopia, focused on preventing HIV transmission

Activity
Life skills training for adolescent boys and married young men
Mentors were trained and then formed groups of about 25-30 men and boys to create a safe space to discuss inequitable gender norms, HIV transmission etc. (Reached more than 135,000 boys)
Another arm of the project focused on married adolescent girls (reached more than 230,000 girls)

Result
Adolescent boys/male youth reported change in behaviors and attitudes including improved self-esteem, better financial management, reduced gender-based violence
Married adolescent girls were more likely to use family planning, to be able to go for voluntary HIV counseling and testing, and receive more assistance from husbands with domestic chores

Source: Population Council 2013
Programmatic Examples

Life skills for married and unmarried adolescent girls on sexual and reproductive health and maternal and child nutrition

Context
Undertaken in India and Nepal among adolescent girls and young women 15-26 years of age

Activity
9-month life skills training program that focused on training married and unmarried adolescent girls on reproductive health, nutrition, family planning, HIV prevention

Result
Girls in India reported more self-esteem, self-confidence, more ability to obtain health services and better health-seeking behaviors; greater economic empowerment, decision-making and improved reproductive health and child survival practices

Source: CEDPA 2001
Care Groups for adolescent girls

Context: Undertaken in Nigeria among married adolescent girls

Activity: Increase inclusion of married adolescent girls in Care Groups

Result: Improved knowledge among married adolescent girls; married adolescents are less able to participate, more isolated and face restrictions in participating.

Key recommendations included working with community and family stakeholders and creating adolescent-only Care Groups to improve participation and provide more tailored information.

Source: IMC/TOPS 2015
**Programmatic Examples**

**My First Baby guide for pregnant adolescent girls**

**Context**
Undertaken in Nepal, and previously in Bolivia

**Activity**
Created groups of pregnant adolescent girls who met weekly to discuss health and nutrition issues related to pregnancy, childbirth, breastfeeding, safe motherhood etc.

Led to the development of a *My First Baby* guide that could be adapted for other settings

**Result**
Increased knowledge and understanding of reproductive health, maternal and child health and nutrition issues for pregnant adolescent girls

Source: Save the Children 2012

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Programmatic Examples

Effectiveness trial of weekly iron-folate supplementation to adolescent girls and life-skills training

**Context**
- Undertaken in Maharashtra, India through the government health system targeting adolescents aged 14-18 years of age
- Period of implementation was 2 years

**Activity**
- Weekly iron folate to adolescent girls provided through the state government health system
- Girls received life skills training 3x a week on:
  - Nutrition during adolescence
  - Family and gender differences
  - Changes during adolescence
  - Pregnancy

**Result**
- Baseline anemia was 65.3% (n=342)
- At final evaluation anemia was 54.3% (n=308) (p<0.001)

Source: Deshmikh, Garg & Barambe 2008
Programmatic Examples

Using Girl Guides to promote prevention of anemia, using peer-to-peer approach

**Context**
Undertaken in Rwanda, Uganda, Swaziland among Girl Guides aged 7-18 years

**Activity**
Developed an anemia prevention badge program that had key messages for adolescents on anemia prevention:
- Eat well to prevent anemia
- Prevent and treat malaria
- Prevent hookworm
- Take IFA as directed by health worker
Used a peer-to-peer approach

**Result**
Program was popular and had community support
GGs were an effective communication channel
Program expanded by GGs
Adapted in Uganda

Source: FANTA
Savings-led microfinance for adolescents and youth

**Context**
Undertaken with adolescent OVC affected by PLHIV in Rwanda

**Activity**
- Vocational training
- Youth inclusive financial services
- Savings-led microfinance

**Result**
Improved livelihoods through increased income
- Gave youth purposefulness and an ability to contribute to their families
- Youth had a greater voice, were more respected by family and had greater participation in decision-making.

Source: CRS 2009
Life skills training to strengthen knowledge and skills, employability

**Context**
Undertaken in Mexico and India among adolescents aged 14-18 years

**Activity**
Life-skills training focused on:
- Personal competencies
- Problem-solving
- Effective work habits
- Healthy lifestyle
- Community and environmental awareness
- Diversity
- Service learning

**Result**
97% of graduates in Mexico and 86% of graduates in India were either in school or employed 6 months after the training.

- Gave youth purposefulness and aspirations
- Helped youth re-enter school or join the workforce
- Strengthened self-esteem and other life-skills
- Gave teens an alternative to getting in trouble

Source: International Youth Foundation 2006
Challenges

• Significant lack of research on adolescent nutrition and how to improve it
• Lack of policy attention, resources, and targeted activities to address adolescent health and nutrition
• Lack of sex- and age-disaggregated data to understand adolescent nutritional status
• Need for more empirical evidence on what works
• More research on how to best reach adolescents and tailor activities to fit their needs
• Existing programmatic experiences are small-scale program efforts – none have been scaled up
Considerations at the National Level

• Expand and tailor nutrition and health service delivery to specifically address adolescent needs
• Enact policies that delay the legal age of marriage – helping to change social norms that lead to adolescent marriage and subsequent pregnancy
• Expand access to family planning – with programs specifically targeted and designed to reach adolescents
• Strengthen legislation to mandate secondary school completion for boys and girls
Considerations for the Community Level

- Involve adolescents, parents, and the community
- Undertake advocacy and social mobilization at the community level to promote changes in norms towards adolescent girls
- Youth friendly services – embedded within existing services or free standing
- School based programs – school feeding/gardens, anemia control, after school programs
- Community based programs – peer-to-peer efforts, life skills programs, youth groups, faith-based communication
- Mass media – health, social media, edutainment
Lessons Learned

• Reducing adolescent marriage and/or childbearing and keeping girls in school has to be a priority to sustainably reduce the prevalence of stunting in young children in the next generation

• The lack of a sustained downward trend in adolescent fertility is a cause for concern

• Limited but promising knowledge of what works to improve adolescent nutrition
Recommendations

In line with USAID’s Multi-Sectoral Nutrition Strategy:

• Invest multi-sectoral resources in adolescence and youth with the aim of preventing adolescent pregnancy and keeping girls in school to protect adolescent nutrition and ultimately women and children’s nutrition

• Adopt a multi-sectoral legislative and policy framework to allocate resources to meet the unique needs of adolescents comprising both nutrition-specific and nutrition-sensitive approaches

• Action across sectors—health, education, family planning, gender, water and sanitation, and social welfare
Key Takeaways

• Invest in adolescent nutrition now to improve women and children’s nutrition and protect and sustain investment in the 1000 days

• Focus on multi-sectoral efforts including WASH, health, and education but prioritize investment in and expand access to adolescent friendly family planning services