

# Improving Dietary Practices of Adolescent Girls in Ethiopia

## KEY FINDINGS FROM IMPLEMENTATION RESEARCH

### Background

Adolescent health and nutrition interventions, particularly for girls, are key to achieving the 2030 Sustainable Development Goals. In Ethiopia, over one-fourth (29%) of 15–19-year-old girls are underweight, and one-fifth (20%) are anaemic (DHS, 2016). Among 15–19-year-olds, 13% have already had children (DHS, 2016). Malnutrition among young Ethiopian women of reproductive age affects not only their health and education but also the survival and health of future generations.

The policy and programmatic landscapes are favourable for addressing adolescent nutrition in Ethiopia. National nutrition policy and strategy documents recognize the importance of adolescent nutrition interventions for improved health of adolescent girls, mothers and children. To identify and address implementation knowledge gaps, it is critical to develop and test the feasibility of adolescent nutrition interventions integrated in schools, health, and community platforms.

Alive & Thrive's (A&T) implementation research (2019–2021) applied the socio-ecological model of social and behavior change (SBC); identified schoolteachers and principals, peers, and parents as most influential persons; and assigned specific roles to them for enabling improved dietary practices among adolescent girls. A&T's package of adolescent nutrition interventions addressed gaps in knowledge, beliefs, and social norms, and empowered adolescent girls to improve their nutrition practices. A&T and stakeholders co-designed and implemented the interventions in the identified contact points, primarily through school systems.

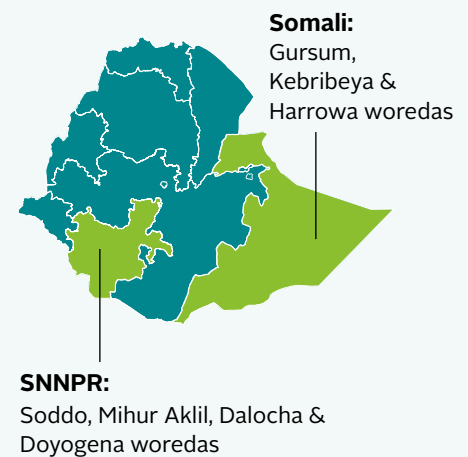
### Evaluation Design

The study was designed and implemented by the International Food Policy and Research Institute (IFPRI) and used a two-arm cluster-randomized, non-masked trial, consisting of cross-sectional surveys at baseline and endline in the Somali and Southern Nations Nationalities and Peoples' (SNNP) regions. The baseline survey was used to check comparability between the intervention and comparison groups. The endline survey evaluated the impacts by comparing the two groups. The study was designed to answer the following research questions:

- What is the program's impact on the diets of adolescent girls (dietary diversity, meal frequency, and consumption of unhealthy foods)?
- What is the exposure to adolescent nutrition interventions delivered through school-based platforms?
- What factors influenced the integration of adolescent nutrition interventions into school-based platforms and their outcomes?

This brief summarizes some of the notable highlights from the adolescent nutrition implementation research endline findings.

### STUDY LOCATION



**54** schools were randomly assigned:

**27** to the intervention group  
**27** to the comparison group

### ABOUT THE SAMPLE

Data were collected at primary schools and households. The endline sample included:



**536 Adolescents**  
(270 intervention, 266 Comparison)



**536 Parents**  
(270 intervention, 266 Comparison)



**54 Principals**  
(27 Intervention, 27 Comparison)



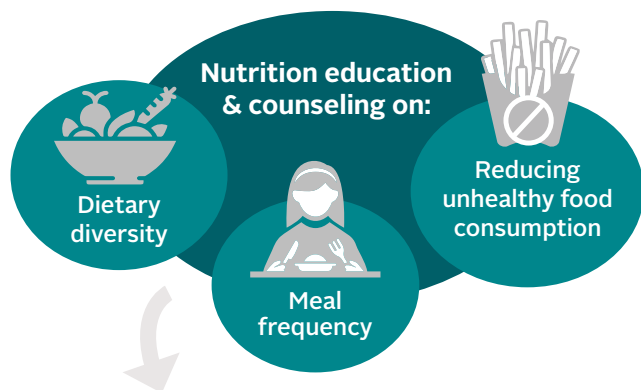
**53 Teachers**  
(27 Intervention, 26 Comparison)



**53 Health Extension Workers**  
(27 Intervention, 26 Comparison)

# INTERVENTION OVERVIEW

## THE ADOLESCENT NUTRITION PACKAGE



The intervention aimed to empower adolescent girls to improve their nutrition practices, strengthen school capacity to support them, and ensure repeated exposure of adolescents, parents and influential persons to key messages.



## DELIVERY OF THE INTERVENTION Six core school-based contacts



## SYSTEM STRENGTHENING INPUTS

1. Protocols for each key actor to deliver the intervention
2. Capacity building training for school, health and community actors
3. User-friendly communication materials
4. Data review sessions
5. Links strengthened between health workers and parents
6. Ongoing program adjustments to respond to changing environments in schools, to fill gaps identified through monitoring and supervision, and to work around unexpected events (i.e. emergencies, pandemic)

## REINFORCING CONTACTS



### Parent follow-up

Take-home materials/ messages delivered to parents by adolescents



### Health extension contacts

Integrated service delivery during facility and home visits



### Community-based contacts

Community meetings used to motivate parents and teachers and reinforce key messages



### Other school-based contacts

Posters displayed at schools to reinforce key messages

## CHARACTERISTICS OF THE SAMPLE

Most of the parent respondents were mothers. Except for household size, there were no major differences between the intervention and comparison groups.

### Age of adolescent girls

- ◆ Girls were 10-14 years old from grades 4-8.

### Household information

- ◆ Most households were male headed (83% intervention; 87% comparison).
- ◆ Household size was  $6.3 \pm 2.2^*$  in intervention areas;  $7.0 \pm 2.3$  in comparison areas.
- ◆ Household food insecurity was lower in intervention areas than in comparison areas.



### COVID-19 effect



**18%** households reported difficulty accessing health services, on average.



**30%** reported difficulty buying food, on average.

## TIMELINE



\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Values are mean  $\pm$  SD.

# Results

## IMPACT ON ADOLESCENT GIRLS' DIETS

### Dietary diversity

- ◆ Significant impact on dietary diversity among adolescent girls was achieved, with a difference of 1.4 food groups between intervention and comparison groups (5.4 vs. 4.0 out of 10).
- ◆ Girls in the intervention areas also had significantly higher odds of achieving the minimum dietary diversity compared with those in comparison areas (67% vs. 29%).

### Number of food groups consumed by adolescent girls



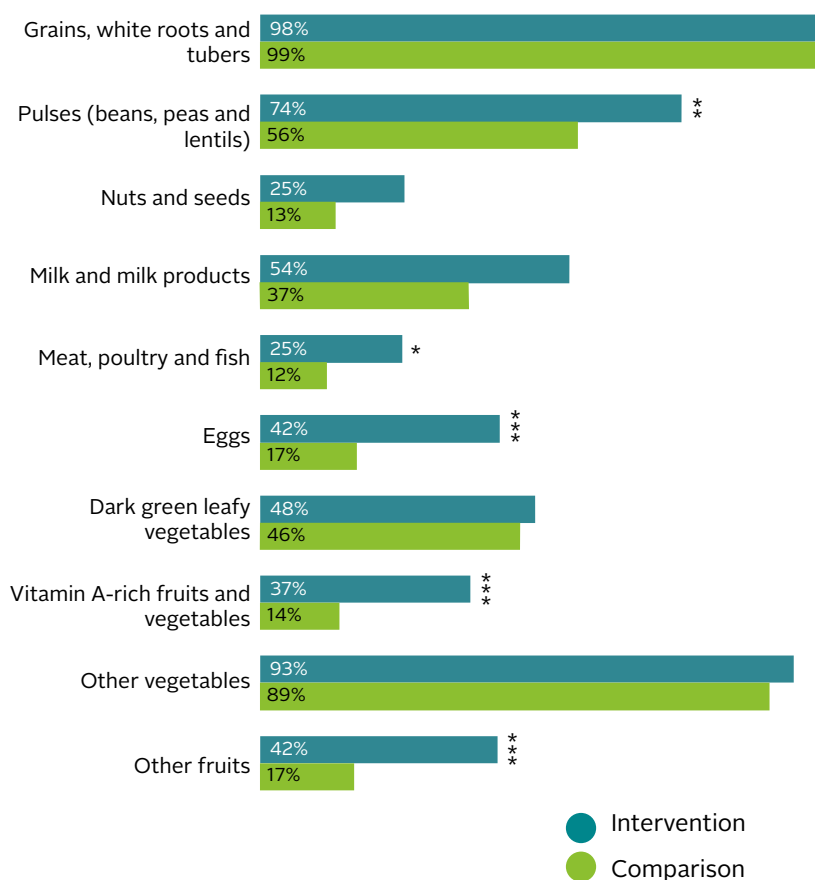
### Adolescent girls who consumed at least 5 food groups in the last 24 hours



### Types of foods consumed

- ◆ Among the food groups, there was significantly higher consumption of 5 food groups in intervention areas (pulses, meat, poultry and fish, eggs, vitamin A-rich fruits and vegetables, and other fruits).

### Foods consumed by adolescent girls in last 24 hours



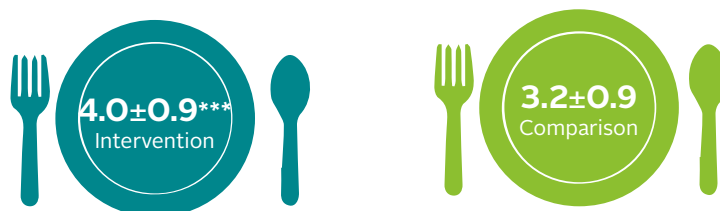
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# IMPACT ON ADOLESCENT GIRLS' DIETS

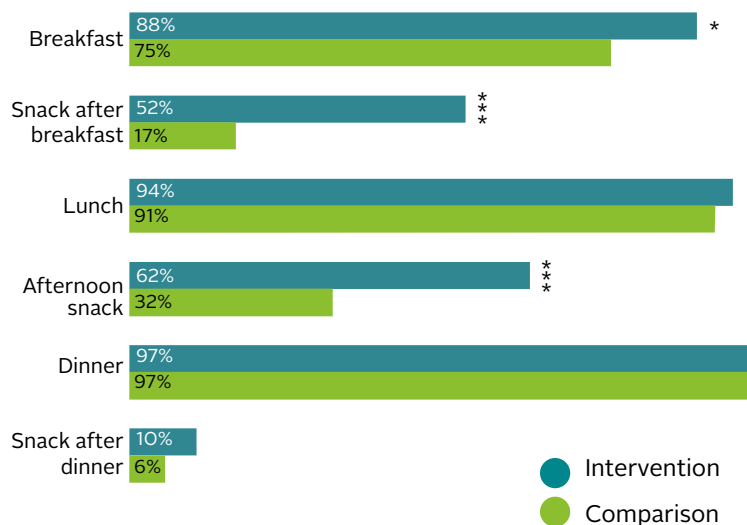
## Meal frequency

- ◆ Adolescent girls in intervention areas ate 4 times on average during a school day, significantly higher than the 3.2 times reported in comparison areas.
- ◆ A significantly higher number of girls in intervention areas consumed breakfast, mid-morning and afternoon snacks than those in comparison areas.

## Meal frequency the last school day



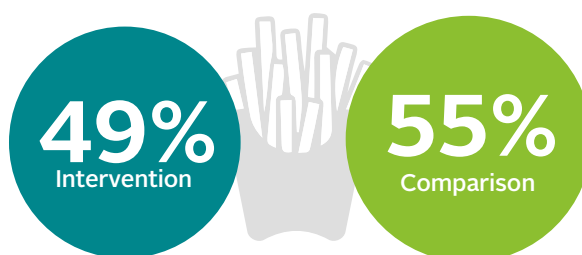
## Meals consumed by adolescent girls during last school day



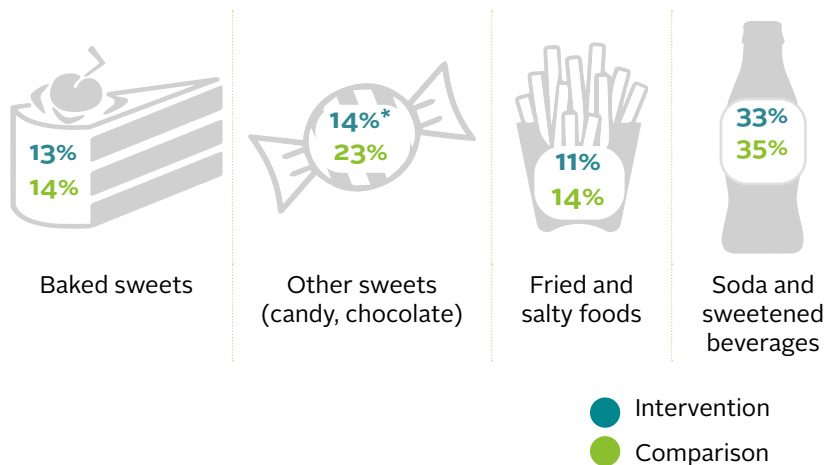
## Unhealthy foods

- ◆ No impact was observed on adolescent girls' consumption of unhealthy foods in the past 24 hours except other sweets.
- ◆ Consumption of other sweets such as candies and chocolates was lower in intervention areas than in comparison areas.

## Consumed unhealthy foods in past 24hrs



## Unhealthy foods consumed by adolescent girls

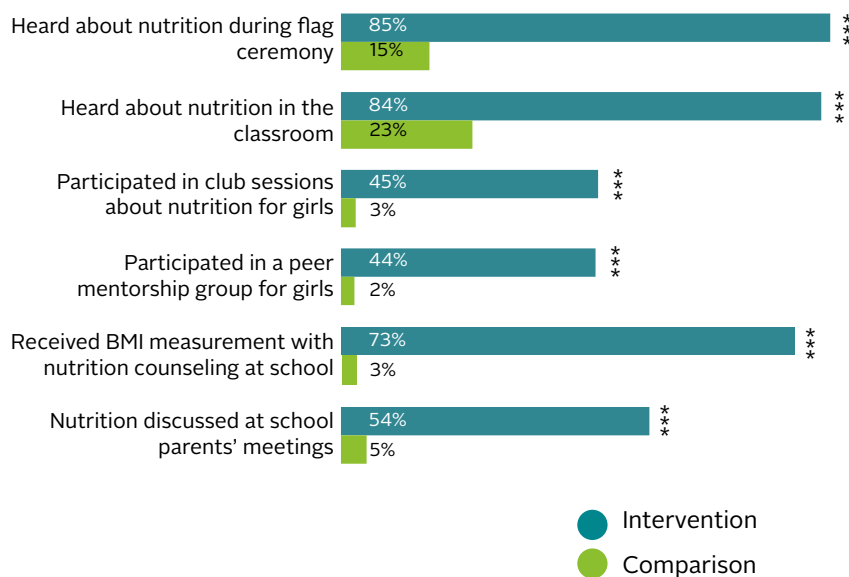


# EXPOSURE TO INTERVENTIONS

## Exposure through school-based activities

- ◆ Exposure to the adolescent nutrition interventions in the 6 core school-based contacts was significantly higher in program areas, ranging from 44-85% among adolescent girls.

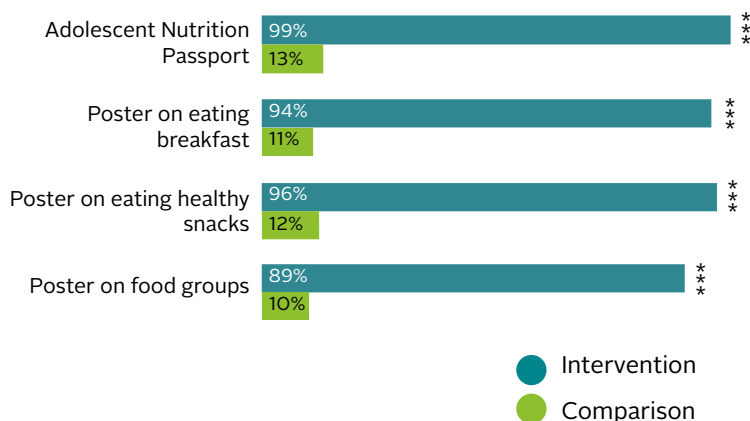
## Adolescent girls' exposure to nutrition interventions during the 6 core school-based contacts



## Exposure to program materials and job aids

- ◆ Most adolescent girls in intervention areas had seen the program materials compared to 13% or less in comparison areas.

## Adolescent girls' exposure to A&T materials



\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Values are mean  $\pm$  SD or %.

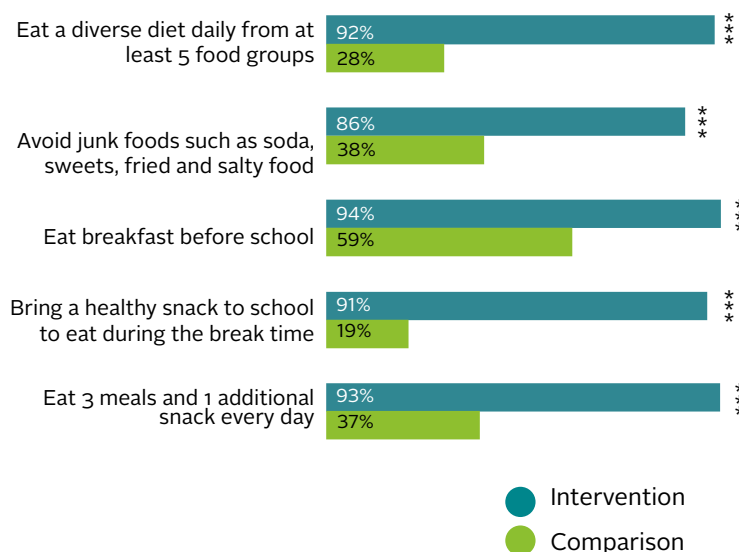


# EXPOSURE TO NUTRITION MESSAGES

## Adolescent girls' exposure to messages

- ◆ Most adolescent girls in the intervention areas correctly recalled the main messages they received.

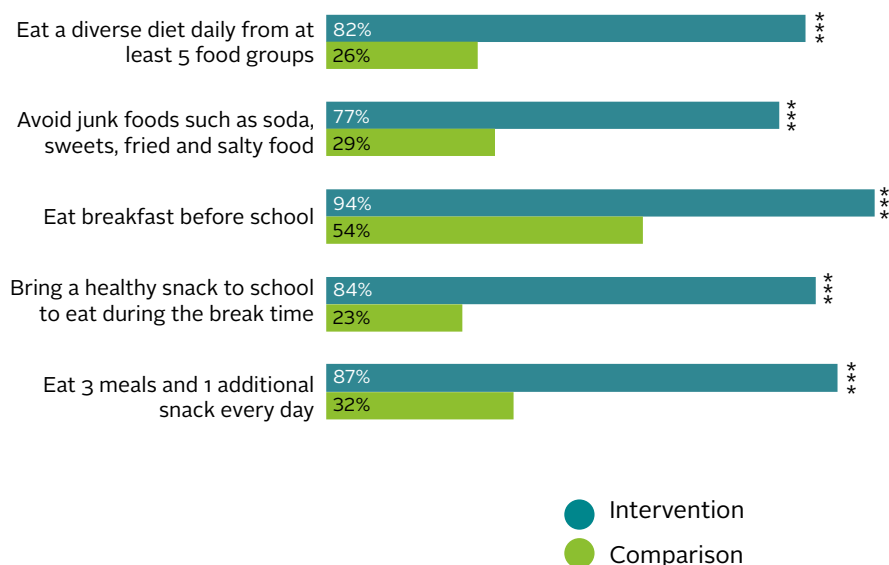
## Adolescent girls' recall of key nutrition messages



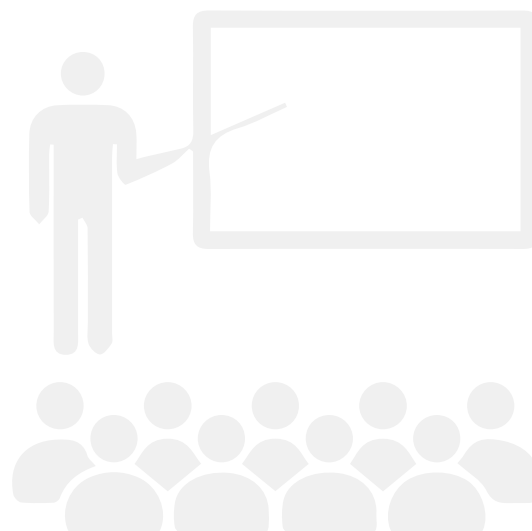
## Parents' exposure to messages

- ◆ Most of adolescent girls' parents had heard the key program messages in program areas.

## Parents' recall of key nutrition messages



\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Values are mean  $\pm$  SD or %.



# Conclusion

## KEY FINDINGS AND OPPORTUNITIES FOR ACTION

1. What are the notable impacts of adolescent nutrition interventions on **adolescent girls' dietary practices** (dietary diversity, meal frequency, and consumption of unhealthy foods/junk foods)?

- **Significant impacts** were observed on adolescent girls' dietary diversity, consumption of several food groups, and improved meal frequency, but no impact was observed on the consumption of unhealthy foods/junk foods, except other sweets (candies, chocolates).
- The study demonstrated the **feasibility of implementing** social and behavior change interventions to improve adolescent dietary practices through schools even within a relatively short period of time.

2. What is the exposure to adolescent nutrition interventions delivered through school-based platforms?

- **High exposure to interventions** was achieved through mobilizing multiple existing channels including flag ceremonies and classroom lessons (84-85%) and moderate exposure through school clubs, student mentorship, and parents' meetings (44-54%).
- **Quality of interventions** was improved through assigning do-able tasks to various school actors, basic and refresher training, supervision and follow up, use of data, and materials provided to key actors (school principals, teachers, and health extension workers); interventions were designed to improve knowledge, beliefs in benefits, self-efficacy and social norms through empowering adolescent girls, engaging peers, parents, health workers and school authorities.

3. What factors influenced the integration of **adolescent nutrition interventions** into school-based platforms and their outcomes?

- Integration was supported by **strong national policies** on adolescent nutrition, pre-existing high levels of **adolescent nutrition knowledge** among school actors and parents, their motivation to make improvements, and a focus on building capacity to execute streamlined and feasible actions assigned to different actors. Outcomes were facilitated by addressing determinants of dietary practices, using multiple channels, building confidence among adolescent girls, improving the food environment at household level, and increasing parent engagement with adolescents on nutrition topics .
- Interventions had no impact on adolescent girls' consumption of unhealthy/junk foods. Hence the need to address **food environment** issues in and around schools to discourage the practice.





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