

Adolescent Nutrition

Interventions Through School-Based and Community Platforms

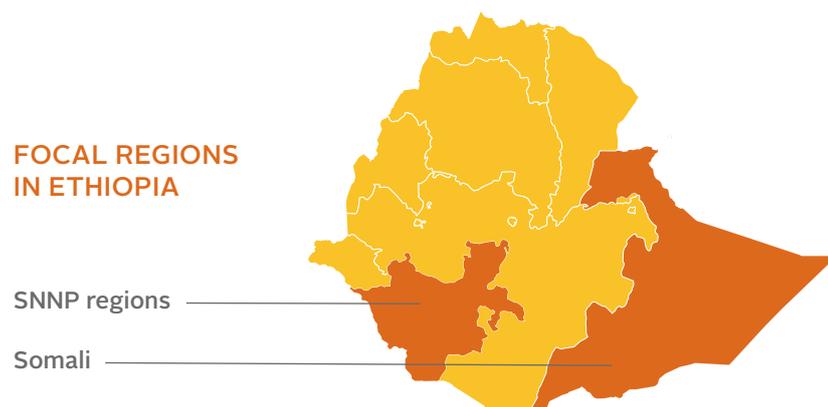
FINDINGS FROM A BASELINE SURVEY IN ETHIOPIA

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 anemic. 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 the next generation.

The policy and the programmatic landscapes are favorable for addressing adolescent nutrition in Ethiopia. The federal government has recently developed adolescent nutrition strategies and programs such as the National Guideline on Adolescent, Maternal, Infant and Young Child Nutrition (2016), which recommends a mix of delivery platforms, including schools and communities, to address adolescent nutrition. The National Nutrition Program (2016-2020) addresses adolescents as a strategic objective and recognizes that nutrition is important to adolescent girls' health and maternal health.

The International Food Policy Research Institute (IFPRI) and Alive & Thrive are conducting implementation research in Ethiopia to test the feasibility of integrating adolescent nutrition interventions into school- and community-based platforms and their impact on the quality of adolescents' diets. The interventions include: in-class education, extracurricular, and parent-teacher activities, community nutrition education by health extension workers (HEW), workshops on adolescent nutrition for principals, teachers, HEWs, and their supervisors, and supportive supervision on adolescent nutrition.

The study uses 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 People (SNNP) regions. This document presents highlights from the baseline survey conducted in late 2019 across the two regions.



About the Survey and Sample

The data consisted of self-reported information from questionnaires conducted with a small sample of adolescent girls, their parents, school teachers, principals, health extension workers (HEWs), and a school observation checklist.

	162 Adolescent girls (93 SNNP; 69 Somali)
	162 Parents (93 SNNP; 69 Somali)
	54 Schools (31 SNNP; 23 Somali)
	54 Principals (31 SNNP; 23 Somali)
	54 Teachers (31 SNNP; 23 Somali)
	90 HEWs (60 SNNP; 30 Somali)

Adolescents

- Adolescent girls were on average 12.8 years old, and in grades 4-8. Nearly all lived with their mothers and fathers.
- In the SNNP region, nearly all (90%) spoke Amharic. In the Somali region, 99% spoke Somali.
- Literacy was high.

Families

- 84% of the parents were mothers; 16% were fathers.
- 52% of mothers were housewives; 73% of fathers were farmers or daily laborers.
- 51% of mothers and 15% of fathers had no schooling or formal education.

Baseline Findings

1. ADOLESCENTS' DIET

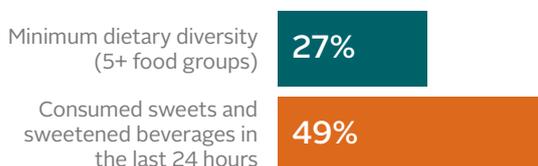
Diet diversity

- Dietary diversity was low among adolescent girls. Minimum dietary diversity requires women of reproductive age to eat from 5 or more of the 10 food groups. In both regions, most of the girls did not achieve this target.
- Consumption of sweets and sweetened beverages was high, possibly displacing higher quality foods.

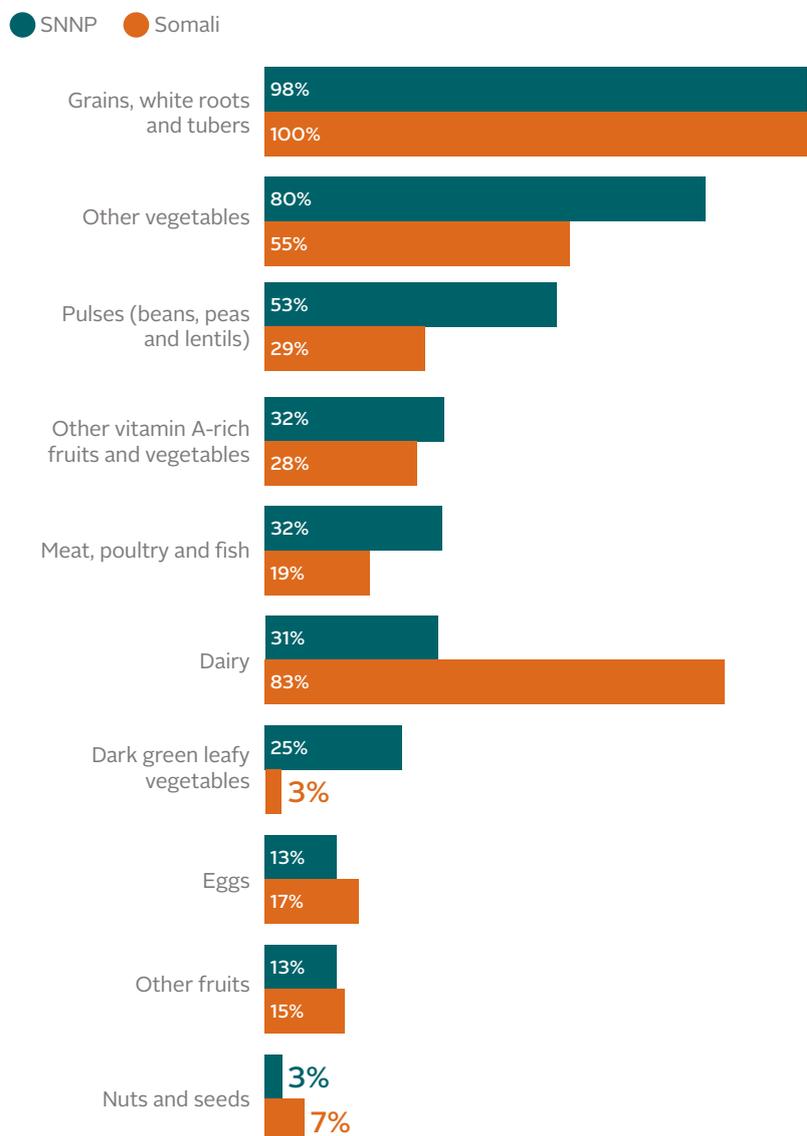
Types of foods consumed

- The adolescents' diets in both regions were mainly plant-based, from grains, roots, and tubers.
- Consumption of animal source foods--eggs, meat and poultry--was low, however milk/dairy was commonly consumed in Somali region.

Adolescents ate from **3.7 of 10** food groups



FOODS CONSUMED BY ADOLESCENTS



1. ADOLESCENTS' DIET (CONTINUED)

Availability of food

- There was limited availability of diverse foods at home.
- In both the SNNP and Somali regions, more than half of the households were food insecure.
- Over one-third of households in the Somali region received food or social assistance in the past year. In the SNNP region, very few households did.

Parents reported that only

3.2 food groups out of 9

were available, some, most, or all of the time at home.



56%

of households were **food insecure**
(56% SNNP and 57% Somali)



4% of SNNP households **received food or social assistance** in the past year

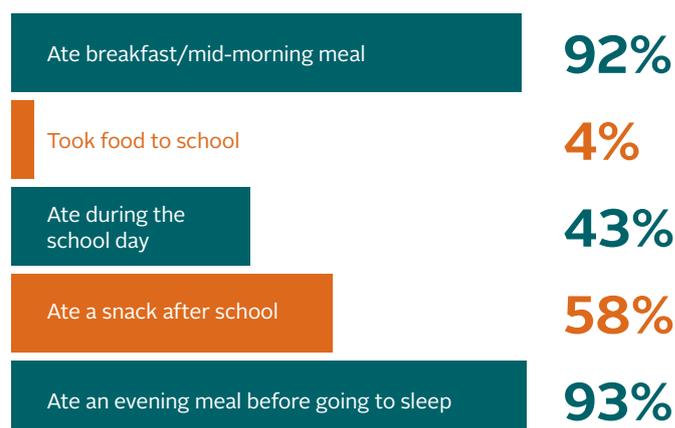


38% of Somali households **received food or social assistance** in the past year

Meal habits

- Across both regions, most adolescent girls ate breakfast or a mid-morning meal nearly every day before school. While very few took food to school, about half ate during the school day, and/or ate a snack after school. Almost all ate an evening meal before going to sleep during the school week.

DURING THE PAST SCHOOL WEEK (5 DAYS) ADOLESCENTS...*



*who ate at these times at least one day during the school week

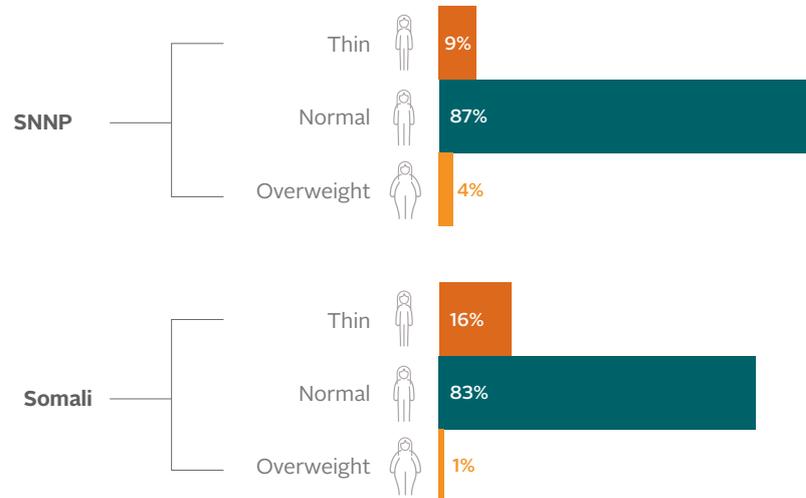
2. ADOLESCENTS' NUTRITIONAL STATUS

Body mass index (BMI) of adolescent girls

- Across both regions, most of the adolescent girls were of normal weight.
- A higher proportion of adolescents in Somali were underweight than in the SNNP region.

ADOLESCENTS' BMI

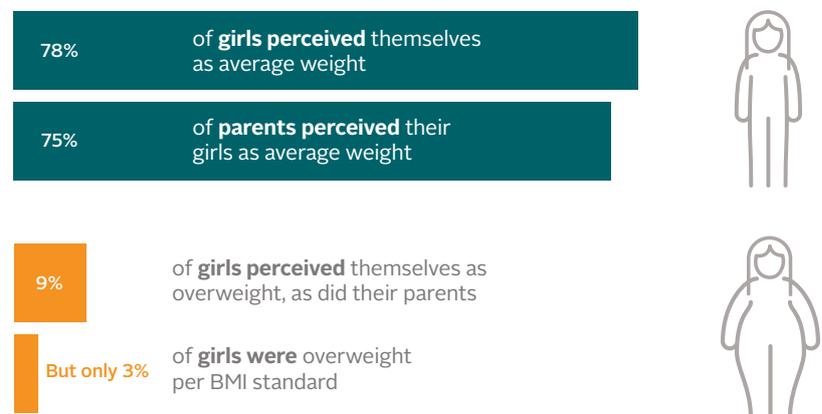
- Thin (BMI-for-age <-2 SD)
- Normal (BMI-for-age -2 SD to +1 SD)
- Overweight (BMI-for-age >+1 SD)



Perceptions of weight

- Most adolescents perceived themselves as average weight. Most parents also thought their daughters were of average weight.
- Adolescent girls perceived themselves as overweight more often than BMI results indicated.

PERCEPTIONS OF WEIGHT COMPARED TO ACTUAL BMI

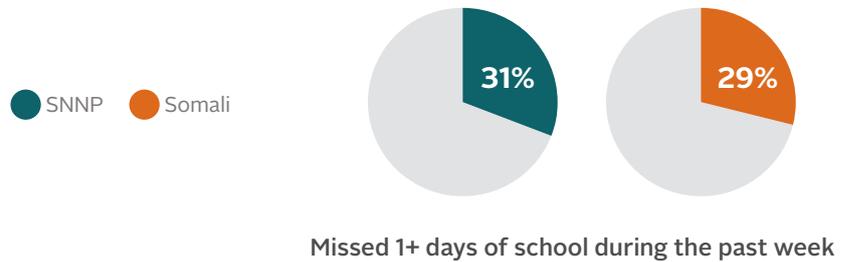


3. SCHOOL SERVICES FOR ADOLESCENT NUTRITION

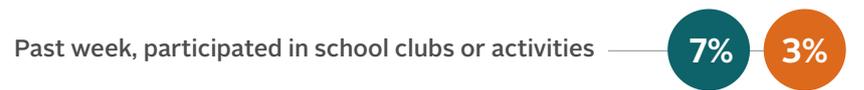
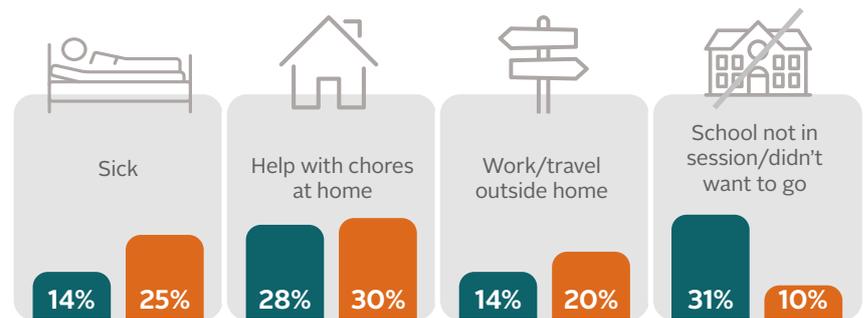
Adolescents' attendance and participation in school

- Almost one-third of the girls in both the SNNP and Somali regions reported missing at least one day in the previous school week, mostly to help with chores at home.
- Adolescents' participation in school clubs or activities was minimal, as was the parents' involvement in their daughters' schools.

ADOLESCENTS' ATTENDANCE AND PARTICIPATION IN SCHOOL



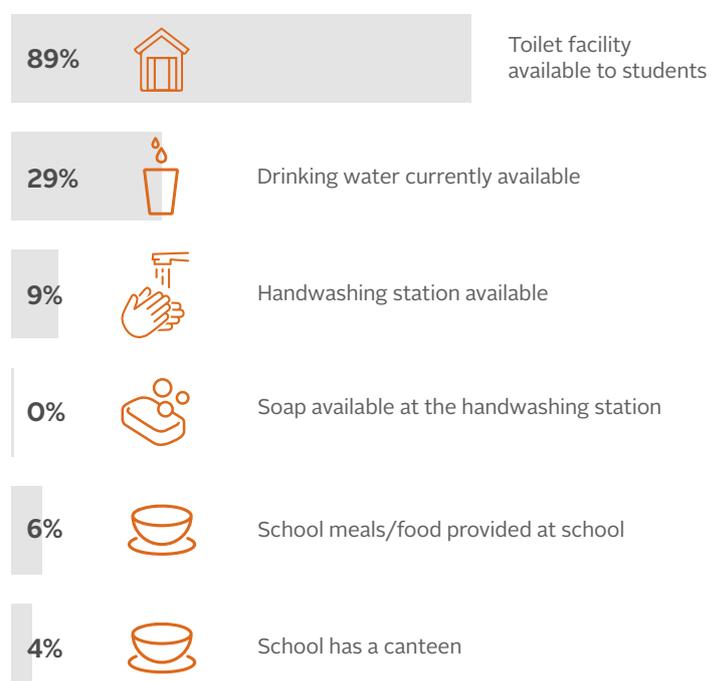
Reasons missed school



Availability of resources

- In both regions, many schools did not have basic WASH equipment and supplies, including drinking water, handwashing stations, and soap.
- Hardly any schools provided food at school, though several had food vendors immediately outside the schools, which mostly sold unhealthy snack foods and drinks.

AVAILABILITY OF RESOURCES IN SCHOOLS

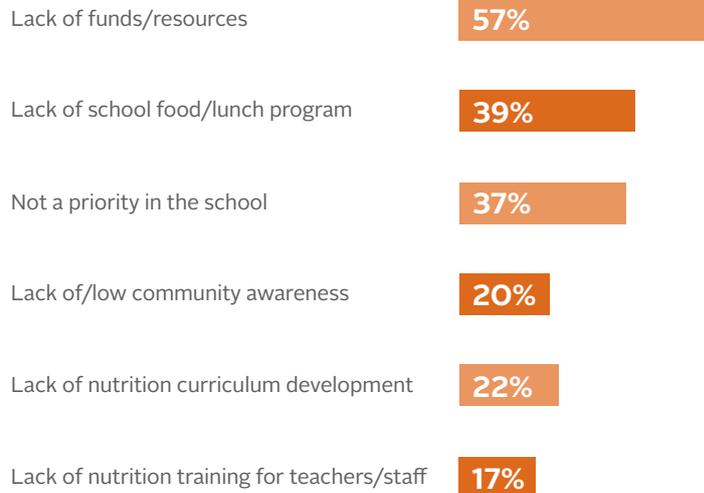


3. SCHOOL SERVICES FOR ADOLESCENT NUTRITION (CONTINUED)

- According to principals and teachers, the biggest barriers to improving nutrition for adolescent girls in schools, were a lack of resources, that it was not a priority in the school, and not having a school feeding program.

BIGGEST BARRIERS TO IMPROVING NUTRITION FOR ADOLESCENT GIRLS THROUGH SCHOOLS

According to principals



3. SCHOOL SERVICES FOR ADOLESCENT NUTRITION (CONTINUED)

Nutrition activities in school

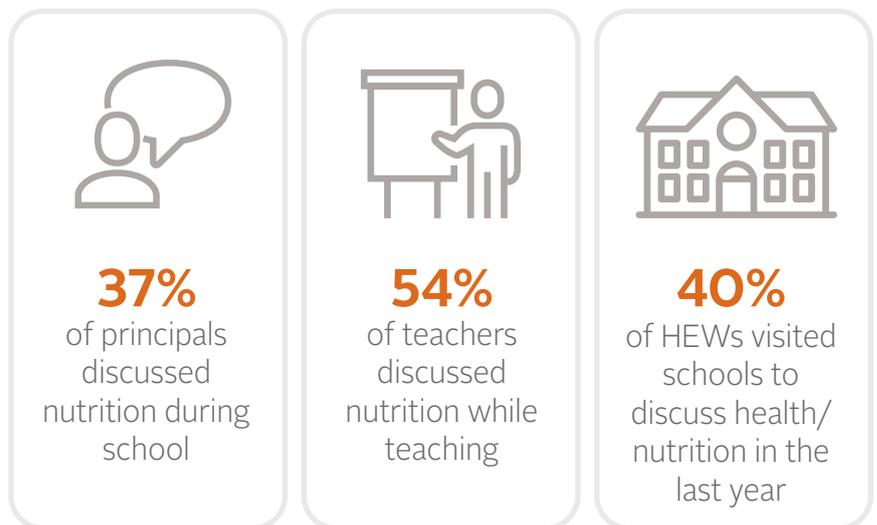
- Though principals, teachers and HEWs were very knowledgeable about adolescent nutrition, anemia, IFA, and WASH, many did not discuss these topics at school.

NUTRITION KNOWLEDGE SCORES¹ AMONG PRINCIPALS, TEACHERS, AND HEWS

	Principles	Teachers	HEWs
 Nutrition knowledge score (0-7)	6.3	6.3	6.5
 Anemia-iron knowledge score (0-4)	3.0	3.2	4.0
 WASH knowledge score (0-3)	2.7	2.8	3.0

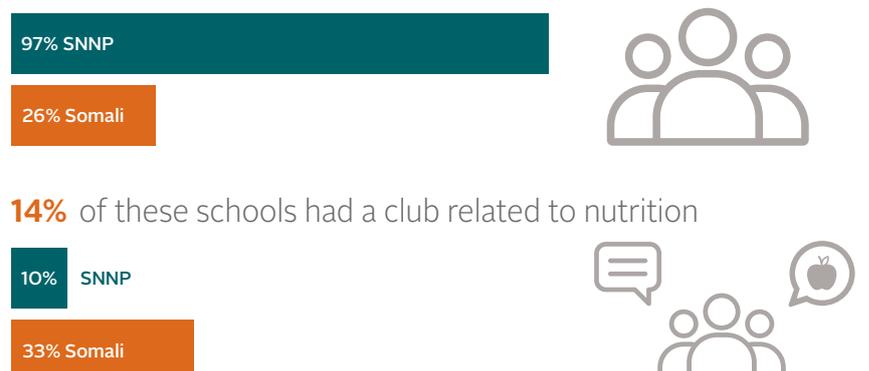
¹Score reflects whether respondent accurately answered a series of questions on these topic areas.

DISCUSSED NUTRITION DURING SCHOOL



- Nearly all schools in the SNNP region had school clubs or extracurricular activities, but very few did in the Somali region. Hardly any schools had clubs related to nutrition.

SCHOOLS THAT HAD CLUBS OR EXTRACURRICULAR ACTIVITIES



4. KNOWLEDGE OF ADOLESCENT NUTRITION AND WASH

Nutrition

- Knowledge about different food groups and examples of nutrients in different types of foods was moderate among adolescents and parents in both regions. Many had specific knowledge gaps, particularly about nutrients in different foods.

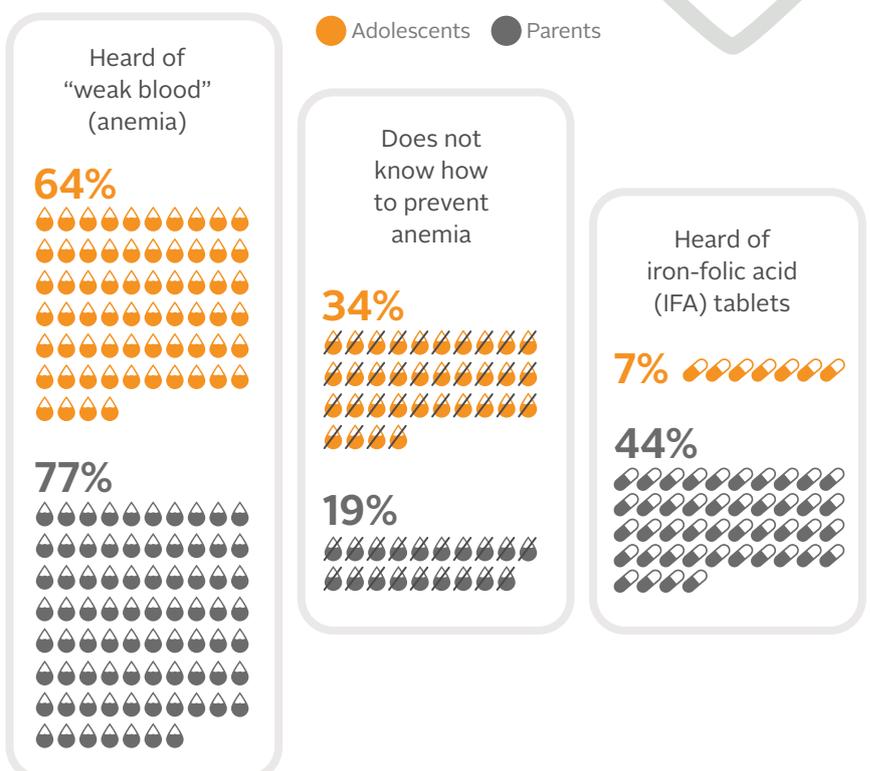
NUTRITION KNOWLEDGE GAPS AMONG ADOLESCENTS AND PARENTS

	Adolescents	Parents
Did not know about food groups in a diverse diet	23%	20%
Could not name examples of iron-rich foods	57%	54%
Could not name examples of protein-rich foods	28%	30%
Could not name examples of vitamin A-rich foods	40%	36%
Could not name examples of calcium-rich foods	41%	35%
Did not know why it was important to consume fruits and vegetables	22%	21%

Anemia

- Adolescents had relatively poor knowledge about anemia and iron and folic acid (IFA) supplements. Though more than half of the adolescent girls had heard of anemia, very few had heard about IFA supplements. Results were similar in both the SNNP and Somali regions.
- Parents' understanding of anemia and IFA was slightly better than their daughters. More parents had heard of anemia and IFA supplements, compared to adolescents. Results were similar in both the SNNP and Somali regions.

ADOLESCENTS' AND PARENTS' KNOWLEDGE ABOUT ANEMIA



4. KNOWLEDGE OF ADOLESCENT NUTRITION AND WASH (CONTINUED)

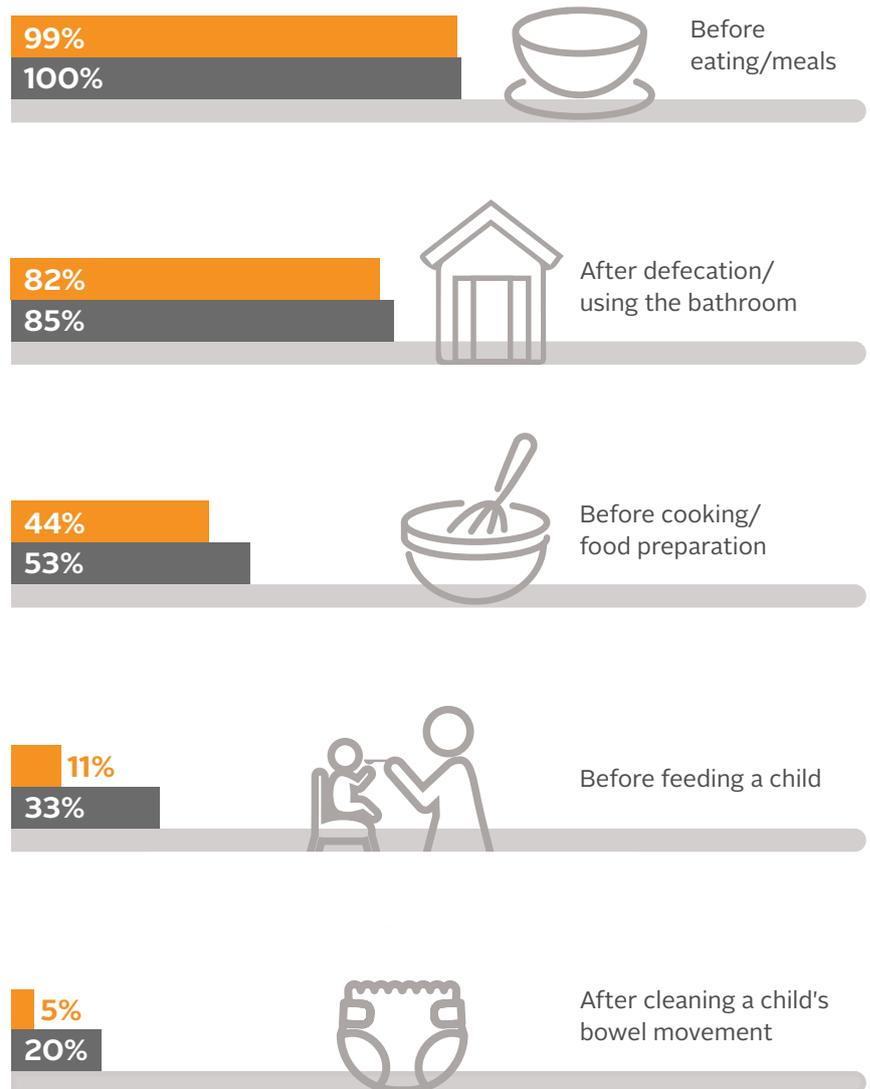
Water, Sanitation, and Hygiene (WASH)

- Nearly all adolescents and parents in both regions named two critical moments when to wash hands (before eating and after defecation) and knew to use soap. About half mentioned washing hands before food preparation.
- Few named other critical moments – before feeding a child, after cleaning a child's bowel movement.

ADOLESCENTS' AND PARENTS' KNOWLEDGE OF WHEN TO WASH HANDS



● Adolescents ● Parents



5. NUTRITION MESSAGES THROUGH SCHOOLS

Adolescents' exposure to messages in schools

- Across both regions, few adolescents had ever seen or heard messages about nutrition at school.



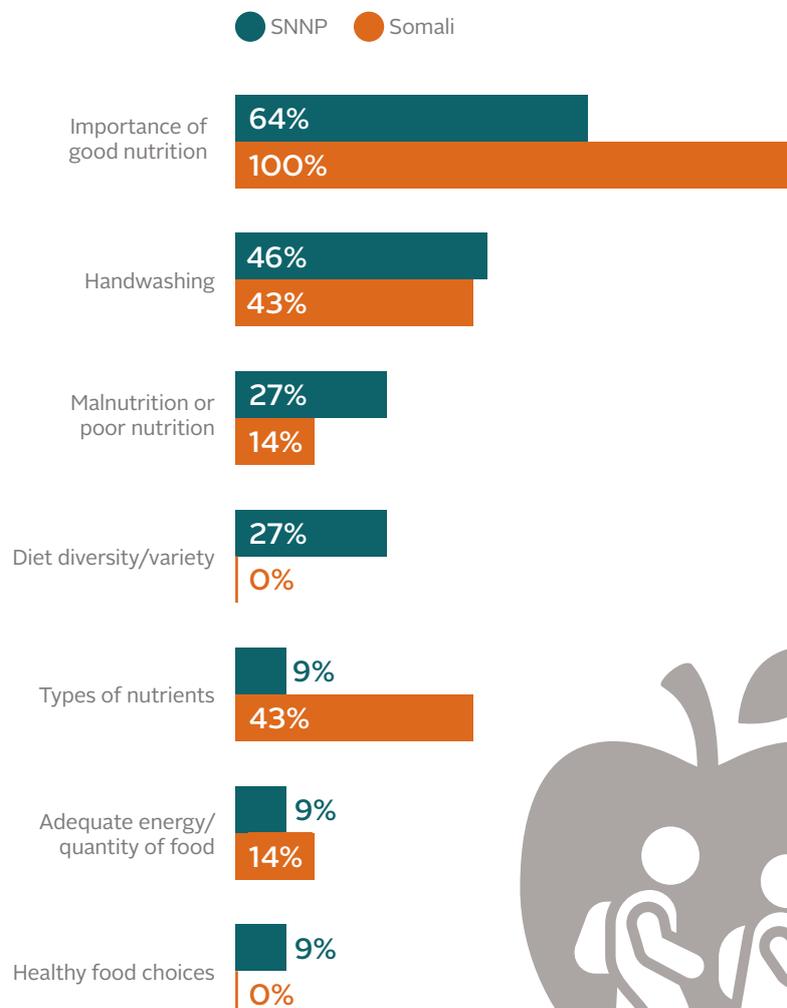
Only

25%

of adolescents were exposed to nutrition messages in schools (24% SNNP and 26% Somali)

- The top messages heard were about the importance of good nutrition and handwashing.
- Very few heard messages about healthy food choices, adequate energy/quantity of food, diet diversity, types of nutrients, or malnutrition/poor nutrition.

MESSAGES HEARD



6. NUTRITION MESSAGES OUTSIDE OF SCHOOLS

Adolescents' exposure outside of schools

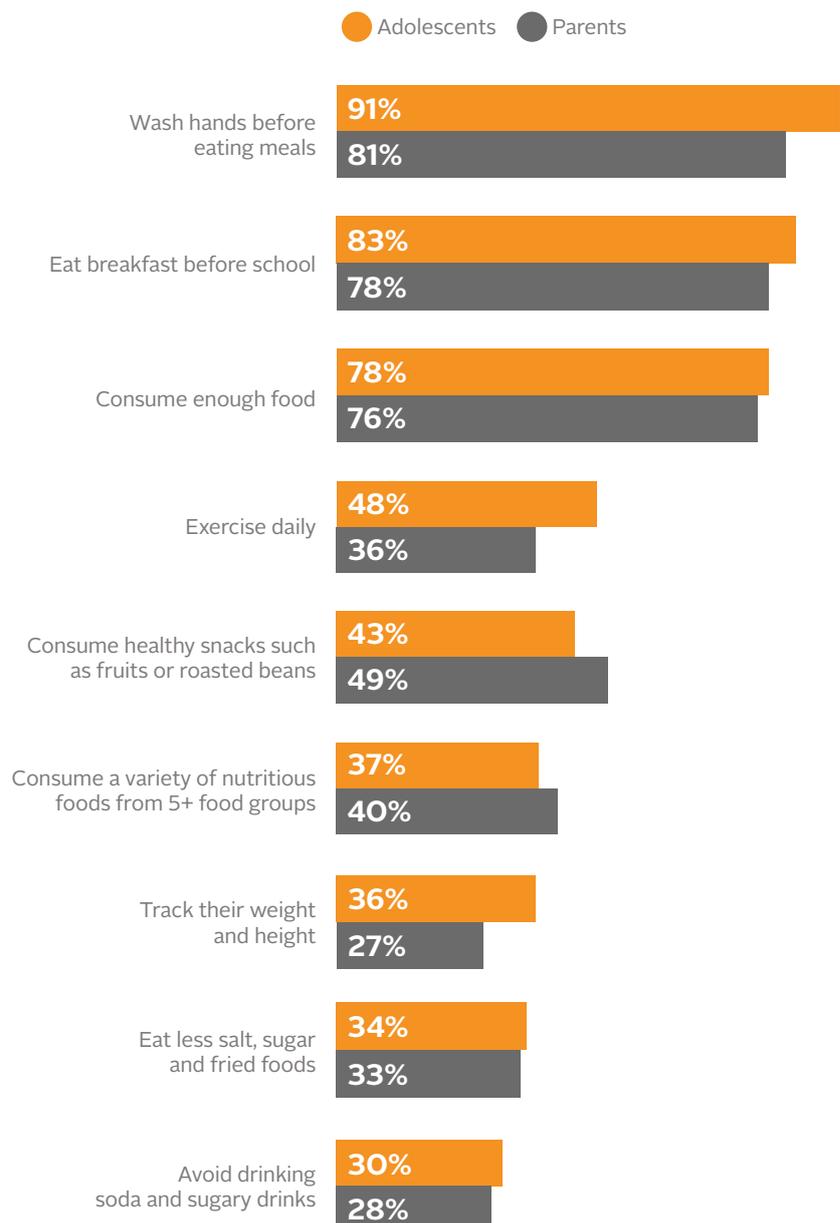
- Few adolescents had heard messages about nutrition outside of schools. Fewer heard messages in the SNNP region than in Somali.
- Similarly, like their daughters, few parents had ever seen, heard, or received messages about adolescent nutrition.
- In both regions, the top three messages both adolescents and their parents heard were to wash hands before eating, eat breakfast before school, and eat enough/adequate amounts of food.
- Few had heard messages about avoiding drinking soda and sugary drinks, eating less salt, sugar and fried foods, or consuming nutritious food from 5+ food groups.

Only

15% of adolescents were exposed to nutrition messages outside of schools (8% SNNP; 25% Somali)

29% of parents were exposed to nutrition messages (27% SNNP; 32% Somali)

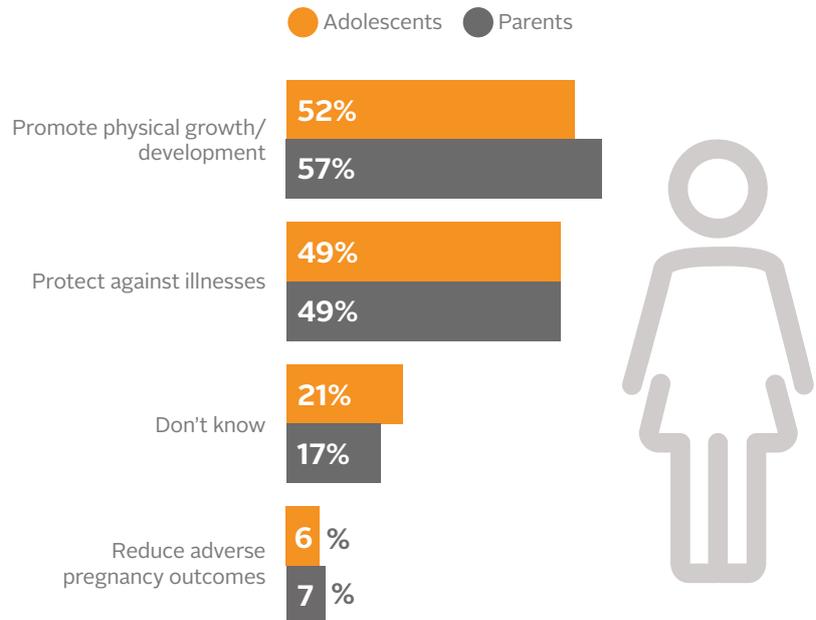
MESSAGES RECEIVED BY ADOLESCENTS AND THEIR PARENTS:



6. NUTRITION MESSAGES OUTSIDE OF SCHOOLS (CONTINUED)

- In both regions, many adolescents and their parents associated the importance of adolescent nutrition with promoting physical growth and development, and protecting against illnesses. Several did not know why the nutrition of adolescent girls is important. Few knew the importance of adolescent nutrition in reducing adverse pregnancy outcomes.

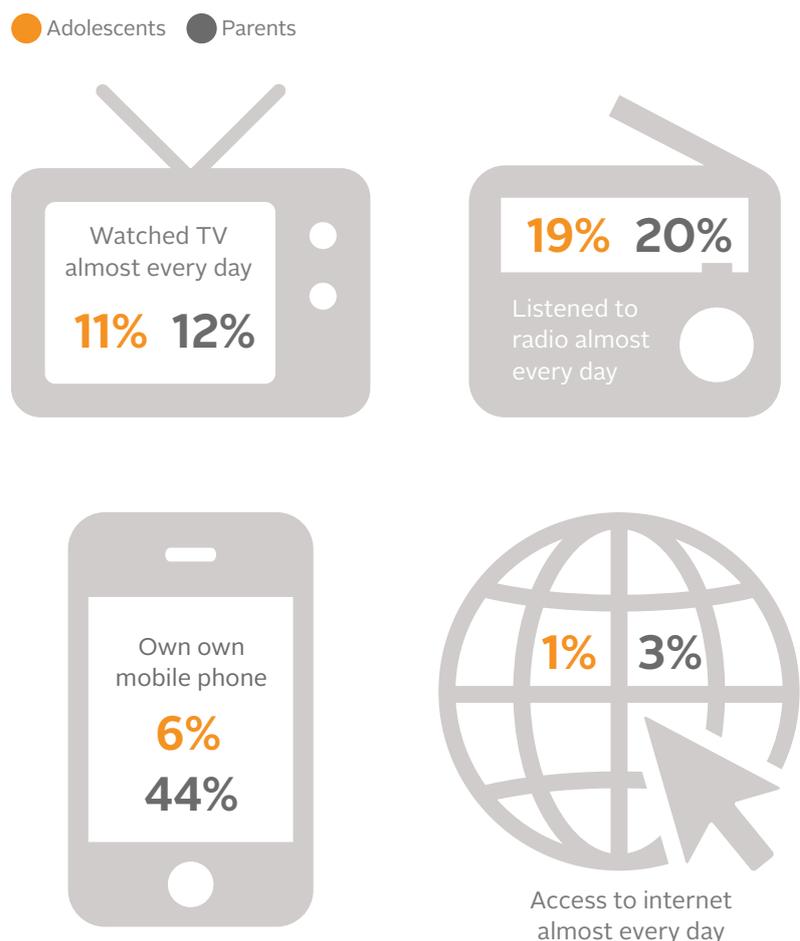
IMPORTANCE OF PROPER NUTRITION FOR ADOLESCENT GIRLS



Sources of Information

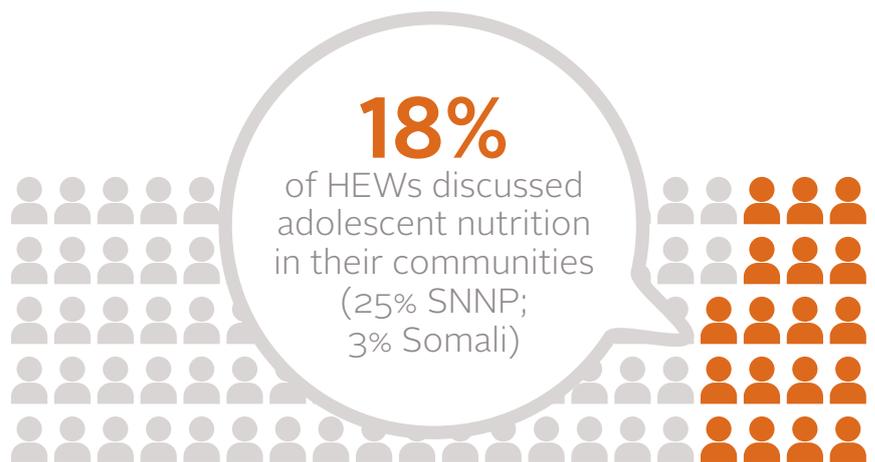
- Parents were the adolescents' primary sources of information.
- Parents' main sources of information were HEWs, their children, and other family members, friends, or neighbors.
- Very few adolescent girls or their parents heard nutrition messages on the TV or radio, probably because few have access to mass media.

ADOLESCENTS' AND PARENTS' MASS MEDIA EXPOSURE



7. COMMUNITY NUTRITION ACTIVITIES

- Few HEWs discussed adolescent nutrition outside of schools, mostly during community gatherings or meetings, especially in the SNNP region.



Training and supervision in adolescent nutrition

- Training in adolescent nutrition was rare among principals, teachers, and HEWs.

Only 7% of principals

had received training on adolescent nutrition in the previous year (3% SNNP; 13% Somali).

Only 2% of teachers

had received training on adolescent nutrition in the previous year (0% SNNP, 4% Somali).

Only 12% of HEWs

had received any training related to nutrition or adolescent health (12% SNNP; 13% Somali).

- Most principals, teachers and HEWs met frequently with their direct supervisors.
- Few were supervised on nutrition services or activities.

63% of principals and 87% of teachers

met with their supervisor during the last week.

19% of last supervisory visits for principals and 25% for teachers included anything related to health or nutrition.

89% of HEWs were supervised 0-3 months ago.

15% of reported that their last supervision visit included supervision of nutrition services/activities.

Conclusion

OPPORTUNITIES FOR ACTION

1. The baseline found that while adolescents ate at least two full meals a day, their diet diversity was low. About half consumed unhealthy foods. There was no data on the amount of food consumed, and further information would be helpful. Intervention strategies to improve adolescents' dietary diversity and the quality of foods eaten are needed.

2. The survey showed that thinness was an issue in the Somali region.

DIET TAKEAWAYS

- ▶ The data showed that dietary diversity was low in both the SNNP and Somali regions. Only one-fourth (27%) of the adolescent girls ate from at least five food groups. More than half of the households in both regions were food insecure. Almost no households received food or social assistance in the SNNP region, while just over one-third of households in Somali did. Food security could be a significant challenge for addressing dietary diversity, especially in SNNP. Social protection programs might be an opportunity in Somali regions to focus on supplying and promoting the consumption of diverse foods in these households.
- ▶ Diets were mainly plant-based in both regions, and few in the SNNP region ate animal source foods. Most adolescent girls in the Somali region consumed milk but not other animal source foods. About one-third in the SNNP region consumed meat, poultry, or fish. Consumption of some vegetables was common in the SNNP region. However, dark green vegetable consumption was low for both regions. Half of the adolescents in both regions ate unhealthy foods in the last 24 hours. Strategies for promoting and supporting dietary diversity will need to be different for each region, however, both need to address low dietary diversity and quality of foods.
- ▶ The baseline did not collect information on the quantity of food consumed, but meal patterns suggest that most of the adolescents consumed meals three times a day, although the times of these meals varied. Almost half consumed food while at school, but hardly any took food to schools. They probably bought their food from one of the nearby food points since only 5 of the 54 schools offered food. Exploring sources of food available to girls at schools, ensuring their nutritional quality, and targeting food vendors with nutritional messages could be an opportunity for improving dietary choices.

NUTRITION STATUS TAKEAWAYS

- ▶ The baseline data found that the majority of the adolescent girls were of normal weight. In Somali, almost twice the proportion of adolescents were thin, compared to the SNNP region (16% vs. 9%). Overweight was not a problem among them. Most adolescents and their parents perceived the girls as average weight. The sample was very small – making it difficult to draw major conclusions about BMI in this population. However, data shows that thinness is an issue to address in the Somali region.

3. According to the baseline data, many schools were not adequately equipped with basic amenities and supplies for WASH or canteens that supply food. Concerning school attendance, about one-third of the adolescent girls reported missing at least one day in the previous school week, mostly to help with chores at home.

4. The findings showed that while principals and teachers were generally knowledgeable about adolescent nutrition and WASH, their knowledge did not translate into adolescent nutrition education. Nutrition was not often discussed at school.

SCHOOL ENVIRONMENT TAKEAWAYS

- ▶ This baseline survey was comprised of adolescent girls who attended school. Most adolescents in both regions attended school fairly regularly. However, about one-third missed one or more days of school in a week. The reasons included household chores among about one-third of the adolescents in both regions, illness among one-fourth in the Somali region, or the adolescent not wanting to go/ the school not being in session among about one-third in the SNNP region.
- ▶ In this sample, most schools had toilet facilities, but less than one-third had drinking water available. There were even fewer handwashing stations and no soap. Virtually no schools offered school meals or had a school canteen. Promotion of practices to address WASH, BMI, and low dietary diversity through schools needs to account for the lack of facilities at schools and the context in which the students live. There may be opportunities to improve adolescents' diets by encouraging them to bring food to school or by promoting healthy food choices at local vendors if they buy a snack during school.

SCHOOL NUTRITION AND WASH ACTIVITIES

- ▶ When principals and teachers in this sample were asked about the most significant barriers to improving nutrition for adolescent girls in schools, the barriers mirrored the potential solutions: funding to address lack of WASH resources and amenities, awareness-building among school administrators to address its lack of priority in the school, training of school staff on adolescent nutrition, and school food/feeding program to address the lack of school food. The data showed that knowledge of nutrition and WASH was already high for principals and teachers. However, nutrition is infrequently discussed at school. About one-third of principals and half of the teachers in the sample reported discussing nutrition at school.
- ▶ Virtually all schools in SNNP had school clubs or other extracurricular activities. Only one-quarter of schools did in the Somali region. While the sample was very small, in the Somali region where there were clubs, one-third of them were related to nutrition. In the SNNP region only 10% of clubs were related to nutrition. Given low access to clubs and extracurricular activities in all schools, these currently do not offer ready opportunities for addressing adolescent nutrition.

5. The baseline study found gaps in knowledge about adolescent nutrition among adolescents and their parents, particularly related to diverse diets and food nutrients. Their knowledge about anemia and how to prevent it was poor, and knowledge about some WASH behaviors could be improved. These knowledge gaps could be addressed through improved nutrition and WASH education.

6. The findings showed that adolescent nutrition information is not readily available to adolescents or their parents within schools or communities in both the Somali and SNNP regions. Schools and communities have great potential to reach adolescents and their parents with nutrition messages, but these platforms are not being maximized in the two regions.

KNOWLEDGE OF NUTRITION AND WASH TAKEAWAYS

- ▶ The data show that the adolescent girls and their parents lacked information on which foods comprised a diverse diet and the nutrients in different foods.
- ▶ One-fourth (24%) of women of reproductive age (WRA) in Ethiopia and 20% of adolescents ages 15-19 are anemic. Rates among WRAs in the Somali are much higher (60%) (DHS, 2016). Prevention and control of iron deficiency and iron deficiency anemia is important in the study regions, especially in the Somali region. The survey found that while more than half of adolescents and their parents across both regions had heard of anemia, many could not name examples of iron and vitamin A-rich foods, did not know how to prevent anemia, and hardly any had heard of IFA. This lack of knowledge, coupled with adolescents' diet not containing many iron-rich foods, calls for improved education on preventing and managing iron-deficiency anemia, what foods contain iron, and the importance of IFA supplementation.
- ▶ Knowledge and awareness of WASH practices were high for washing hands before meals and after using the bathroom among both the adolescents and their parents. About half of the sample also knew to wash hands before cooking food. The adolescents and their parents were much less aware of the need for washing hands at other times, for example, before feeding a child. School and community-based interventions can be useful in reaching adolescents and their parents to improve nutrition and WASH knowledge and practices.

EXPOSURE TO NUTRITION INFORMATION TAKEAWAYS

- ▶ Only 25% of adolescents were exposed to nutrition messages in school across both regions, and 15% of adolescents and 29% of parents heard nutrition messages outside of school. Messaging in school centered around good nutrition and handwashing. Few heard messages about healthy food choices, dietary diversity, and adequate amounts of food. In communities, information centered mainly around washing hands before eating, eating breakfast before school, and consuming enough food.
- ▶ Parents were a primary source of information for adolescents in the sample. Parents got information from HEWs and friends and neighbors. In this sample, very few adolescents or parents in either region had exposure to mass media. Less than half of parents owned a mobile phone, and virtually none of the adolescent girls did. Mass media and digital media will not offer opportunities to reach this population. Schools and community-based communication channels are the best routes to reaching adolescents and their parents.
- ▶ Less than one-quarter of HEWs in this sample reported visiting schools to discuss nutrition. Likewise, outside of schools, for example, through community gatherings or meetings, few HEWs discussed adolescent nutrition, especially in the Somali region. HEWs already provide multiple health tasks in communities. Increasing HEW-led, locally-tailored community adolescent nutrition interventions is currently one of the interventions being tested in this study.



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