Scaling Up Action on Adolescent Nutrition, Diets, Services, and Practices in India
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Programming Objectives:
Accelerate partnerships and evidence-driven programming to improve diets, services, and practices that protect, promote, and support good nutrition among adolescents.

UNICEF India’s Approach:
Develop continuity, efficiency, and effectiveness at scale in how adolescent nutrition is understood, addressed, and managed across India.

Context
The Government of India has long recognized the importance of addressing poor nutrition, and has enacted far-reaching legislation to improve child and adolescent nutrition with positive results. Malnutrition levels, however, remain alarmingly high, especially in populations experiencing intergenerational cycles of malnutrition and deprivation.

For instance, pregnant adolescent girls who are under-nourished are prone to giving birth to low birth-weight babies with a higher risk of infections and growth failure. To break such cycles, in the past two decades, the government and UNICEF as a key partner have increasingly focused on improving adolescent nutrition as studies showed that a high number of adolescents in India are undernourished or anemic (see box). In doing so, they prioritized knowledge generation and dissemination in programming especially that studies showed that increased knowledge about positive nutrition practices can improve outcomes.

More than 29% of adolescent boys and 19% of adolescent girls are undernourished. In India in 2018, 18% of boys and 40% of girls in the age group of 10-19 years were anemic, more than 69 million adolescents.
Improving the nutrition of India’s 244 million adolescents has been a complex undertaking. Early adolescence is a critical time in a person’s lifecycle, where they can ‘catch up’ with childhood deficits in weight or height through proper diet and nutrition. This is especially important for girls who have attained menarche or who become pregnant at a young age⁵ (see box).

Research on adolescents’ diet and nutrition in India⁶ in 2019 found that malnutrition in several forms is higher and/or peaks in early adolescence. The study showed that half of the adolescent population suffers from at least two of the six micronutrient deficiencies, almost all adolescents have unhealthy diets, there is a growing burden of overweight adolescents, and more than a third are affected by anemia. Anemia is particularly concerning in the adolescent development stage as it can leave adolescents feeling weak and tired, which can affect their ability to pay attention in school. The intersection of malnutrition and anemia can also exacerbate maternal risks during childbirth such as the low birth weight of babies or long-term cognitive and physical deficits.⁷

UNICEF Response: Key Programmes and Outcomes

UNICEF India began advocating with the national government to address the unique nutritional needs of adolescents over 20 years ago. Starting in 1995, UNICEF India supported the Government of India in applying a knowledge-centred framework that acted as a pathway for scaling up adolescent nutrition programming. The approach prioritized conducting and disseminating research and identifying lessons learnt as instrumental for improving programming outcomes.⁸ The knowledge-centred approach included five phases (see graphic) that were applied in developing, piloting, replicating, and scaling programmes that aimed to reduce the prevalence of anemia. Programming initially focused on girls due to their higher rate of anemia, and additional risks during pregnancy and for infants born to anaemic mothers, and then widened to include boys when the programme scaled nationwide (see page 3).

This case study will describe the outcomes on adolescent nutrition in India between 1995-2020, lessons learnt, and UNICEF’s role. It will do so by highlighting the evidence-gathering phase 1995-2000, the Adolescent Anemia Control Programme (AACP) 2000-2010,⁹ the Weekly Iron and Folic Acid Supplementation (WIFS) programme 2012-2020,¹⁰ and Anemia Mukt Bharat (AMB)/WIFS programme 2018-2020.

As part of these programmes, UNICEF India supported the design of policy frameworks and operational guidelines; strengthened partnerships and coordination among line ministries and state departments; developed the capacity of service providers, including teachers and community workers; oversaw and strengthened supply forecasting and procurement, programme monitoring, and reporting; helped find ways to keep costs low; and provided seed funding to academic...
centres that technically assist the government in policy and guideline development, training and monitoring, and systems strengthening for better delivery of adolescent nutrition services.\textsuperscript{12}

**Evidence: 1995-2000**

In the 1998, the second National Family Health Survey measured the nutritional deficits facing adolescent girls for the first time, as previous studies focused only on adult women and young children. The survey found that 56 percent of girls aged 15-19 had a high prevalence of anemia (69 percent in tribal communities), with 20 percent of this population at moderate to severe levels.\textsuperscript{13} These findings created an urgency within the government to respond. Recognizing that long-term, scalable programming outcomes would be stronger with evidence, they focused on discovering what approaches work best and why.

During this time, UNICEF supported two research studies in Delhi and Mumbai on iron and folic acid supplementation. This research—along with emerging evidence in Latin America, Africa and Asia—showed that supervised iron and folic acid supplementation delivered weekly (rather than unsupervised and/or daily supplementation) was effective in reducing the prevalence of anemia in adolescents.\textsuperscript{14}

This led to the Government of India researching the cost effectiveness of the programme, determining its viability, and partnering with UNICEF India for technical support on a pilot programme using schools as the delivery channel. With affordability important for scale, they determined they could offer the weekly Iron and Folic Acid Supplementation in 2000 at a $.50/USD per enrolled adolescent. (In 2020, the cost has increased to approximately $1/USD per participant).

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Adapted from Anemia Mukt Bharat and the report: *Forging an Anemia Free Future: The path to India’s nationwide adolescent anemia programme*\textsuperscript{9}
Innovation and Evaluation: 2000-2005

The Adolescent Anemia Control Programme in Schools

In 2000, the Government of India launched AACP as an innovation to deliver low-cost weekly iron and folic acid supplementation, awareness materials on nutrition and health, and a bi-annual deworming prophylaxis in 2,000 public schools in 20 districts across five of India’s 29 states. The programme aimed to reach a large population of adolescent girls through operating in schools, in partnership with teachers and frontline healthcare workers. The model included:

- Fixed day/fixed site delivery of the weekly iron and folic acid supplementation to adolescent girls by trained teachers and healthcare workers;
- Detailed instructional materials and accurate, age-appropriate nutrition communication materials;
- Advocacy messaging and training for workers and adolescent leaders on the importance of weekly iron and folic acid supplementation and good nutrition to convince adolescent girls, families, and communities of its importance;
- Quality assurance protocols, such as clearly defined roles and responsibilities, and
- Simple monitoring tools, such as personal compliance cards and school registers showing which girls received the weekly iron and folic acid supplementation.

A first-year evaluation found that AACP was successful in reducing the prevalence of anemia for girls in school (see box). Aspects of the programme that were highlighted as strengths included supervision of the weekly supplementation intake by those delivering it at the schools (rather than expecting individual compliance); support and counselling to the girls to encourage their participation and healthy diets; involving multiple stakeholders such as parents, community leaders, policymakers, media, teachers, and others; and monitoring supplies to ensure availability. Gaps identified included the need for more adolescent-friendly communication on healthy diets and its limited reach to all adolescent girls. The knowledge gained by the evaluation prompted the government to explore how they might also reach the one-in-four adolescent girls out of school in India, especially those in rural areas and from vulnerable social groups (i.e., internal migrants, Scheduled Castes and Tribes, Muslim adolescents, and others).

Replication and Expansion: 2005-2011

Replication: Adolescent Anemia Control Programme in Community Centres

In 2005, based on evidence from the schools in delivering the AACP, the Government of India introduced the weekly iron and folic acid supplementation programme in Anganwadi Centres (AWCs) to reach out-of-school (OOS) adolescent girls. AWCs are village centres operated by India’s Integrated Child Development Services (ICDS). Expanding to the AWCs proved vital for reaching OOS adolescent girls in rural areas. Because the centres serve as a resource for maternal health, AWC staff could identify and provide knowledge and iron and folic acid supplementation to pregnant girls and adolescent mothers that they likely would not be reached through schools.

Evidence in first year of AACP in 2000

- 31% Prevalence of anemia in 1st year
- 43% Prevalence of moderate-to-severe anemia
- 80% Of female participants, most reported feeling less fatigued, healthier and more alert
Responding to Stakeholder Concerns

In supporting AACP as it grew, UNICEF India found that responsive, regular communication helped to build trust in the programme. They and their partners actively communicated about the benefits of adolescent nutrition and prioritized identifying concerns expressed by stakeholders throughout implementation so they could respond with information. For instance:

- Co-creating a manual with training materials on how school and AWC staff delivering iron and folic acid supplementation could address any adverse side effects (this responded to a request by the workers to address fears of this occurring);

- Supplying evidence-based information to parents on the benefits of investing in adolescent nutrition, especially the link between school productivity and anemia; and

- Sharing costing details with local and state budgeting offices so they could include AACP funding in their plans helped leverage government resources for the programme.

Expansion: AACP in Schools and AWCs

After a decade of programming, in 2011 AACP doubled its presence in AWCs and in additional public schools, which increased the programme threefold in 11 years. In 2000, the AACP reached 8.8 million girls a week. With the replication and expansion, the reach grew to 14.5 million girls 2010—with 70 percent enrolled in public school and 30 percent out of school—and more than 27 million girls by 2011. This proved to the government it could be scaled up nationwide, as well as expanded to reach both girls and boys.
Universalization: 2012-2020

National Weekly Iron and Folic Acid Supplementation (WIFS) programme

In 2012, the Ministry of Health and Family Welfare (MOHFW) took on a leading role in rolling out AACP nationwide, renaming it as the WIFS programme. Using the learnings from the AACP model, WIFS expanded its operations into additional schools nationwide and included boys in delivering the Weekly Iron and Folic Acid Supplementation in schools (noting that the programme did not expand to include out-of-school boys until 2018).

WIFS was also incorporated into a new Ministry of Women and Child Development (MWCD) programme: the Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (the SABLA scheme). SABLA implemented the WIFS nutrition package in 250,000 AWCs across India. As part of its girls’ empowerment programme, SABLA also offered adolescent-friendly nutrition information and services, life skills training, peer group support, and other targeted services to out-of-school adolescent girls through the AWCs.

During the programme universalization, UNICEF India advocated for budgeting, supported the roll-out of standardized training packages, and conducted a bottleneck analyses with partners to strengthen WIFS implementation. The analysis—combined with feedback loop reviews—in 14 states provided evidence of bottlenecks inhibiting system strengthening in the areas of supplies, training, financing, governance, reporting, monitoring and evaluation, service delivery, and demand generation. For example, incomplete stock reporting in the WIFS programme led to lack of supplies (iron and folic acid supplements, deworming tablets, and awareness materials) in the delivery platforms.

The study findings led to several concrete actions being implemented. For example, integrated biannual and external review processes that ensured a structured feedback loop led to improved stocks management, which in turn improved the overall supply chain and forecasting capacity of the programme. In reporting, UNICEF helped develop standard reporting formats and integrated programme reporting into the routine management information systems of all three responsible line ministries (MOHFW, MWCD, and Ministry of Education/MOE). This helped to improve the performance monitoring process and allowed for corrective actions to be taken in a timely manner. Building and strengthening alliances between state-level sectoral departments also proved valuable in developing more coordinated state-level nutrition policies that could better serve the needs of adolescents in the respective communities.

Anemia Mukt Bharat/WIFS

In 2018, India’s Prime Minister launched the Overarching Scheme for Holistic Nutrition, POSHAN Abhiyaan, which aims to significantly reduce adolescent malnutrition by 2022. As one effort to reach this target, the MOHFW launched the nationwide nutrition programme Anemia Mukt Bharat (Anemia Free India) in 2018 with the target to reduce prevalence of anemia by three percentage points per year among children, adolescent girls and boys, and women in the reproductive age group (15-49 years) by 2022. Anemia Mukt Bharat includes the Iron and Folic Acid Supplementation in its implementation, along with other efforts focused on deworming, communication, care, and other areas.

A core component of AMB is its ranking and monitoring dashboard that is strategically designed to
provide evidence for innovation and outcomes. UNICEF supported the dashboard development to provide systemic, timely information of AMB strategies, distribution and programme targets, resources, and achievements. The dashboard includes a scorecard feature so that state and union governments can regularly review and assess progress against their targets. Since launching in 2018, the AMB Dashboard usage has been growing at multiple levels from school administrators to health workers to programme managers. Media also use it to report about the programme, which helps to improve community awareness on anemia.

In its supporting role, UNICEF India also worked with MOHFW, MWCD, and the National Rural Livelihood Mission (NRLM) in developing Centres of Excellence housed at national- and state-level academic institutions. The Centres provide technical assistance to the government in developing policy and guidelines, training and monitoring, and systems strengthening for better delivery of nutrition services.

**The Gender Dimensions of Adolescent Nutrition**

As the government scaled up the WIFS nationwide, they considered age- and gender-disaggregated data on the prevalence of anemia, as well as the gender-dimensions of adolescent nutrition. For instance, a 2016-2018 nationwide nutrition survey found that approximately one in five boys age 15-19 identified as anemic (18%). This accelerated efforts to reach all adolescents, including out-of-school boys who were added to the programme’s reach in 2018. The government also recognized that boys and men often have caregiver role in households that can determine the nutritional health of the whole family. For instance, at home, inequality can exist in the quality, quantity, and availability of food for boys versus girls due to income, cultural beliefs, stigma, or other factors. Addressing gender in nutrition thus required a deeper understanding of context and culture as adolescents can face multiple layers of vulnerability for malnutrition based on gender, age, caste, socio-economic status, and geography—and an appropriate response.

This data led to expanding WIFS to adolescent boys in 2012, as well as including them in adolescent nutrition awareness-raising campaigns. Understanding that family practices and beliefs are influential in adolescent nutrition, AWC workers also received UNICEF-supported training through the SABLA and AMB programmes in how to address nutrition knowledge gaps and stigma at home. This attention on households aimed to identify and address how adolescent nutrition needs are and can be sufficiently met by families. AWC workers share nutrition education to pregnant adolescent girls and mothers when they visit the centres, to female heads of household through awareness sessions, and to parents and caregivers through community meetings.

Another example of attention on gender is the 2019 report *Adolescents Diets and Nutrition: Growing Well in a Changing World* that was created from the Comprehensive National Nutrition Survey 2016-2018. This report draws out data specific to adolescent nutrition and pairs it with programme and policy recommendations that UNICEF advocated for along with key partners. The report served as a springboard to trigger policy dialogue for programme action, such as adolescent diet and nutrition training workshops organized by UNICEF India to support the MOHFW. It situated healthy diets as a programming cornerstone. As one example, the focus led to a partnership with the Food Safety and Standards Authority of India (FSSAI) who integrated report findings into its nationwide communication and awareness-raising efforts.

**Lessons Learnt**

With more than two decades of adolescent nutrition by UNICEF India and its partners, key lessons learnt have emerged.

**Provide a unified language and culture for improving adolescent nutrition**

The attention on knowledge gathering and dissemination provided a foundation for UN agencies, government bodies, and civil society to speak the same language in terminology and approach. It also created an evidence-driven culture
for addressing adolescent nutrition. This richer understanding and common ground contributed to developing a nationwide response through collective action in research, programme, and policy implementation. For instance, many of the learnings from India over the past two decades informed UNICEF’s global report *The State of the World’s Children 2019. Growing well in a changing world: Children, food and nutrition.*

**Incorporate programming into available delivery systems**

By integrating an adolescent nutrition response into established education and health systems—i.e., public schools and community centres—the programme was able to systemically reach adolescents where they are, monitor progress, and scale for greater outcomes. This ensured that the most vulnerable adolescents facing an array of nutrition challenges (chronic malnutrition, anemia, hypertension, poor diets that lead to obesity, etc.) were reached.

**Take a multisectoral approach to adolescent nutrition**

Taking a holistic approach to adolescent nutrition means to both improve delivery systems and undertake a range of programmes that affect whole communities, and ultimately improve diets and nutrition. For instance, UNICEF India and its partners recognized that ensuring good nutrition through individuals’ lifetimes required improvements across sectors: more equitable education, 21st century skills, gender socialization, social protection, health and wellbeing, protective services, and adolescent participation and engagement. By engaging, empowering, and equipping adolescents—and their families—with information, capacities, and skills on their diets, services, and practices, they can model positive behaviours such as healthy food choices, eating behaviours, and active lifestyles.

**Involve the whole family and community in adolescent nutrition early on**

Adolescent nutrition improves when adolescents themselves and the wider community are involved and take ownership, especially in regular compliance in taking the weekly supplementation. For instance, research showed that mothers play an active role in monitoring their daughter’s health, medical access, and food intake; and that teachers of successful programmes were often more proactive in how they showcased the benefits of WIFS, such as more energy, nicer hair and healthier skin. As AACP developed, adolescent nutrition activities focused on involving the wider community in identifying problems and developing local solutions.

Evaluations of AACP showed that when community members were involved from the very beginning of the change process, this led to longer-lasting outcomes. For instance, when families understood how to achieve a healthy diet, it often changed home practices acting as barriers for nutritious foods or quantities shared with adolescents. Once families had a greater understanding of this as well as the skills and resources to achieve it, they became some of the strongest advocates in raising awareness within their wider communities for the weekly iron and folic acid supplements and for better nutrition. Adolescents equipped with knowledge and strategies for good nutrition were also often the strongest advocates to bring about change at the household and community levels.

**Conclusion**

UNICEF India’s work in adolescent nutrition has a long history of proven outcomes and continues to grow and evolve. The Government of India is working with UNICEF India on a 2022 target to enhance the capacity of national government staff, state officials, and partners in being able to continue to scale effective nutrition services for adolescents, especially for girls before, during and after pregnancy. As part of this goal, UNICEF India continues to support its knowledge-based approach in offering technical advice and peer-to-peer adolescent educational programming; generating and disseminating accurate, high-quality awareness raising materials; and co-developing Communication for Social and Behavior Change programmes that support the government’s adolescent nutrition targets.
UNICEF India is also focused on disaggregated data collection for developing evidence-based innovations by placing a special focus on geographic pockets and social groups where nutrition indicators are significantly below India’s respective state averages. Here, it aims to demonstrate at-scale improvements in overall adolescent nutrition, including pregnant adolescents’ nutrition that can prevent child stunting and intergenerational malnutrition. Additionally, in line with national guidelines, UNICEF India will continue to explore and integrate evidence-based and innovative strategies to ensure healthy diets and good nutrition for adolescents.

Further Readings and Information

- UNICEF India
- Adolescents Diets and Nutrition: Growing Well in a Changing World
- Anemia Mukt Bharat
- Applying Positive Deviance for Improving Compliance to Adolescent Anemia Control Program in Tribal Communities of India
- Forging an Anemia Free Future: The path to India’s nationwide adolescent anemia programme
- Incidence of Side-effects After Weekly Iron and Folic Acid Consumption Among School-going Indian Adolescents

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Endnotes

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