



# LANDSCAPE ANALYSIS: NUTRITION CARE AND SERVICES FOR ADOLESCENT PREGNANT MOTHERS

Nutrition during pregnancy, early attachment at birth, and infant and young child feeding

MOMENTUM Country and Global Leadership



MOMENTUM works alongside governments, local and international private and civil society organizations, and other stakeholders to accelerate improvements in maternal, newborn, and child health services. Building on existing evidence and experience implementing global health programs and interventions, we help foster new ideas, partnerships, and approaches and strengthen the resiliency of health systems.

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## EXECUTIVE SUMMARY

As noted by the World Health Organization (WHO), “adolescents are not simply old children or young adults.”<sup>1</sup> Pregnant and lactating adolescent women (PLAW) have less of a voice in decisions that affect them, are generally in vulnerable situations, have greater caloric and micronutrient needs than the already-elevated requirements of any pregnant woman (along with her own nutrient needs for continued growth), and have increased risks, including preterm delivery and/or low birthweight.

WHO has developed recommendations for quality-of-care (QoC) standards for pediatric and young adolescent care with some limited focus on nutrition and the pregnant adolescent. The U.S. Agency for International Development (USAID) and partners have incorporated various actions in support of nutrition in general, for the adolescent girl in particular, and somewhat specifically for the pregnant adolescent as a follow-on to the development of the overarching USAID Multi-Sectoral Nutrition Strategy 2014 to 2025.<sup>2</sup>

Starting with the *Lancet Nutrition Series* in 2008, several articles and series have followed focused on maternal and child nutrition (MCN) and, increasingly, on adolescent nutrition, most recently in 2021.

This landscape analysis focused on identifying nutrition counseling and services specific to the pregnant adolescent that exist through the health system, gathering information on national nutrition policies among a sample of priority countries, summarizing the results of relevant formative research, and sharing information on program innovations and experiences regarding nutrition specific to PLAW. Online searches for national policies and guidelines, research, and program documentation were done between June and August 2023. Interviews were conducted via email with nutrition specialists in key global nutrition programs and a request for information from implementing partners was sent through a listserv to obtain gray literature.

This landscape analysis finds that the **CONTEXT** in which PLAW live and make decisions about nutrition is different than that of non-adolescent pregnant and lactating women (PLW): 1) Nutritional needs of PLAW are even higher than those for PLW; 2) PLAW tend to come from deprived backgrounds with poor social support; and 3) PLAW have a notably weak voice for expressing needs or demanding services.

A **KEY FINDING** of this review is that there is little nutrition counseling and services available that are geared specifically for the unique needs of PLAW. The same nutrition counseling during antenatal care (ANC) and postnatal care (PNC) is designed for and targeted to all pregnant women regardless of age. Although **NATIONAL POLICIES AND PROGRAMS** predominantly address the nutritional needs of PLAW through existing interventions targeted at PLW, “they do not assess the extent to which they are reaching PLAW.” Findings reveal that most countries do have special nutrition initiatives for the non-pregnant adolescent and there are a few countries that have a newly added focus specifically on the nutrition needs of PLAW. Although health

### Objectives

**Objective 1:** Search for formative research relative to nutrition counseling and services specific to pregnant adolescents—both for their own maternal nutrition and for optimal IYCF.

**Objective 2:** Gather information on National Government Ministry of Health Policies, guidelines, training, etc. regarding nutrition counseling and services for pregnant adolescents.

**Objective 3:** Gather information on existing nutrition activities specific to pregnant adolescents (vs. activities geared to any pregnant women) that are supported by USAID-funded or other global programming.

**Objective 4:** Generate recommendations for future actions.

services have a strong emphasis on providing micronutrient supplementation, there is a gap in wraparound services to meet other PLAW needs, including schooling and access to family planning services.

There is a lack of sufficient **FORMATIVE RESEARCH** on PLAW's knowledge, attitudes, and influences on their maternal nutrition and infant and young child feeding (IYCF) practices to inform program design. However, the limited available research is consistent across countries and regions and shows that at least half of pregnant adolescents do not meet minimum recommendations for food consumption or recommended amounts for gestational weight gain. They have poor knowledge about optimal maternal or IYCF feeding, dietary diversity, or locally available nutrient-rich foods.

PLAW have little decision-making power within the household. Older female family members influence nutrition choices and often provide advice that differs from the recommendations of health professionals received during ANC visits. Many pregnant adolescents attend at least several ANC visits, although they may have additional obstacles to accessing care as compared to non-adolescent pregnant women.

New adolescent mothers lack knowledge about optimal breastfeeding. They may intend to breastfeed but often encounter obstacles, with less than half practicing recommended breastfeeding behaviors. The need for postpartum breastfeeding support is clear and the link between mental health and breastfeeding behaviors is increasingly recognized. Results for optimal complementary feeding (CF) of the infant by adolescent mothers are even poorer than those for optimal breastfeeding. Comparisons of inadequate practices of CF between older mothers and adolescents show adolescents provide even less dietary diversity and less meal frequency.

There is limited nutrition counseling through ANC or PNC services and generally only for basic maternal nutrition during pregnancy, with almost no counseling to prepare for IYCF. Health services do not provide sufficient PNC to support the many needs of adolescent mothers in the early postpartum period, especially to ensure good attachment and optimal breastfeeding practices.

This review of **PROGRAM EXPERIENCES AND INNOVATIONS** finds that USAID implementing partners and projects have developed tools and strategies to provide better nutrition support specific to PLAW. There is a set of counseling tools based on life stages created by the Maternal and Child Survival Program (MCSP); USAID Advancing Nutrition has guidance for formative research on adolescent nutrition; MCSP added greater emphasis on PLAW in its Baby-Friendly Community Initiative model; and a facilitator's guide to support the capacity of first-time parents in child health and nutrition was developed by Save the Children for MCSP in Mozambique. Various partners have shifted from focusing only on nutrition for the non-pregnant adolescent to also focusing on PLAW.

There is an area of overlap for potential learning and adaptation from successful strategies on adolescent sexual and reproductive health that could be applied to the design and implementation of nutrition services for PLAW. Learning could include adapting the health care system to meet adolescent needs, making services friendlier and more responsive to adolescents, and conducting formative assessments on the influence of peers on adolescents' choices. Some community programming, such as for healthy timing and spacing of pregnancies, could be adapted to include greater nutrition counseling.

It is suggested that a Call to Action is needed to address nutrition specific to PLAW. **RECOMMENDATIONS** are for further global action to harmonize definitions of adolescence, define adolescent nutrition targets, and disaggregate data to better track the nutrition situation for PLAW. National nutrition policies and guidance need to target the differing needs of the pregnant adolescent and adapt existing ANC and PNC counseling for this group. Implementers should continue strengthening nutrition through the health system by developing some modifications to existing nutrition counseling, services, training materials, and mentoring tools for PLW to better reach PLAW.

There is a need to formulate best practices for community-based activities through: a) integrating support structures using human-centered design to attain optimal PLAW nutrition behaviors; b) strengthening the IYCF component of first-time parenting interventions; c) integrating and sequencing layered activities that address other key issues such as economic need or improved water, sanitation, and hygiene (WASH) services; d) testing the use of mass media or social media to support knowledge dissemination and behavior change; and e) forming links to wraparound services such as access to continued education and to family planning services.

There is also a need to empower PLAW to advocate for nutrition services by involving adolescent representatives, including pregnant adolescents and first-time mothers, in community health committees and within civil society representation. Additional formative research could contribute to a clearer understanding of the distinct contexts, influences, and attitudes of PLAW globally. Implementers should continue to experiment with effective strategies to change the nutrition behaviors of PLAW and share strategies and results broadly.

Implementers should collaborate and actively share learning in this emerging area of nutrition care and services specifically designed for PLAW, and this should occur not only within the Maternal, Infant, and Young Child Nutrition (MIYCN) sector. Collaborating and sharing learning with successful adolescent sexual and reproductive health strategies, such as making services more responsive to adolescents, promoting respectful care for PLAW by health providers, and adapting services to reach PLAW and meet their specific needs, could also help to identify adaptations appropriate for PLAW.

## INTRODUCTION

In the past decade, there has been an increasing focus on the health and nutrition status of adolescents, partly in response to demographic changes. The demographic transition from high birth and death rates toward lower fertility, reduced mortality, and longer life expectancy has resulted in the survival into adolescence of the largest cohort of adolescents and young adults, relative to other ages, that the world has ever seen.<sup>3</sup>

In 2017, the WHO<sup>4</sup> noted that what is “special” about adolescents, among many factors, includes:

- Enhanced and evolving cognitive ability.
- Context-influenced emotional and impulse control.
- More independent involvement in health services.
- Emerging autonomy but limited access to resources.

Female adolescents, defined by WHO and UNICEF as females aged 10 to 19, can be in very different situations in low- and middle-income countries (LMICs). Such contexts are relevant to both how they are reached and what their specific needs are. When looking at female adolescents of reproductive age (15–19), one clear delineation is a female adolescent’s parental status. As of 2019, adolescent women of reproductive age (WRA) in LMICs had an estimated 21 million pregnancies each year, resulting in an estimated 12 million births.<sup>5</sup> In many places, gender norms place value on early marriage and successive pregnancies as a measure of womanhood.<sup>6</sup> It is also recognized that newborns of adolescent mothers are at increased risk, among other risks, of preterm delivery, low birthweight, and short birth length “at least partly because of maternal stunting and competition for nutrients between the mother and fetus during pregnancy.”<sup>7</sup>



There has been a variety of activities in support of adolescent nutrition at the **GLOBAL LEVEL**, with some support specific to PLAW:

## WORLD HEALTH ORGANIZATION RELEVANT GUIDANCE ON ADOLESCENTS

- The 2016 WHO recommendations on ANC for a positive pregnancy experience<sup>8</sup> provided guidance for dietary interventions and micronutrient supplementation for both pregnant adolescents and non-adolescents, but did not differentiate between the two groups.
- The WHO 2017 logical framework for Global Accelerated Action for the Health of Adolescents (AA-HA!)<sup>9</sup> has a very comprehensive focus on the holistic health needs of adolescents. It includes in its call for “pre-pregnancy, pregnancy, birth, post-pregnancy... care as relevant to adolescents,” the recommendation for nutritional support throughout these stages and services, including nutrition counseling and supplementation.
- In 2018, WHO developed QoC standards for pediatric and young adolescent care, which did not focus on the pregnant adolescent.<sup>10</sup> However, also in 2018, WHO produced the *Guideline: Implementing effective actions to improve adolescent nutrition*, which has a strong focus on the nutrition needs of the adolescent before pregnancy, but also has guidelines for nutrition during ANC that is specific to the pregnant adolescent, including counseling on healthy eating and increased intake of energy and protein, along with specific micronutrient supplementation recommendations.<sup>11</sup>

## USAID AND IMPLEMENTING PARTNERS GLOBAL EFFORTS ON ADOLESCENT NUTRITION

- As early as 2011, the White Ribbon Alliance launched a global campaign to promote respectful maternity care (RMC). In 2020, MCSP developed operational guidance<sup>12</sup> for country stakeholders to guide the design, implementation, and monitoring of efforts to strengthen RMC. The MCSP operational guidance specifically highlights pregnant adolescents as affected by existing social stigma and discrimination. The MCSP operational guidelines note that RMC guidelines are aligned with the WHO standards for QoC for maternal and newborn health, which calls for training of health care providers and support for early initiation of breastfeeding and successful attachment for mothers of any age.<sup>1314</sup>
- The USAID Multi-Sectoral Nutrition Strategy 2015 to 2025<sup>15</sup> called for increased equitable provision and utilization of high-quality nutrition services and gave as an illustrative action of “improving women’s nutrition services and counseling during reproductive, antenatal and postnatal care ... addressing the special challenges of adolescent pregnancy.”
- In 2015, a joint technical meeting on the diet and eating practices of adolescent girls was held. It was followed in 2017 by a Stakeholders’ Consultation on Adolescent Girls’ Nutrition: Evidence, Guidance and Gaps, convened by the Pan American Health Organization (PAHO), WHO, USAID, and Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING). These meetings focused broadly on the nutrition of adolescent girls with a key point of discussion the global challenges of adolescent girls with low body mass index, along with an increasing trend globally toward obesity among this group. A landscape analysis of the nutrient intake of adolescents noted that intakes of these key nutrients are known to be deficient in the diets of adolescent girls and non-adolescent WRA in LMICs: calcium, iron, iodine, folic acid, and vitamins A and C.<sup>16</sup> In 2018, SPRING, PAHO, WHO, and USAID drafted a joint Call to Action, which was signed by more than 100 organizations.<sup>17</sup>
- The Global Malnutrition and Prevention Treatment Act,<sup>18</sup> signed by President Biden in October 2022, lists prenatal nutrient supplements and breastfeeding support as two key interventions for reducing global malnutrition through USAID programming. Both interventions are particularly important for pregnant adolescents.

## THE LANCET COMMISSION ON ADOLESCENTS

- *The Lancet Nutrition Series* in 2008 brought global recognition to the neglected importance of MCN.<sup>19</sup> In 2013, another Lancet series reiterated this call to action with a focus on highlighting evidence-based strategies to address MCN undernutrition.<sup>20</sup>
- A publication of *the Lancet* Commission on Adolescent Health and Wellbeing in 2016 addressed issues related to adolescent nutrition and noted that there are opportunities for this to be “the healthiest generation of adolescents ever,” but that adolescents have been overlooked in global health and social policy.<sup>21</sup>
- The 2021 *Lancet* series on adolescent nutrition<sup>22</sup> notes a continued lack of an integrated perspective on adolescent growth and development and the role that nutrition plays. One relevant highlight of the series noted the need to research “how to tailor antenatal care services for adolescents in ways that enable access, engagement, and inclusivity” and observed that “interventions in health-care settings, or those delivered by health professionals in community or education settings, are ... an important component in adolescent nutrition strategies.”

## NUTRITION FOR GROWTH AND ADOLESCENT NUTRITION

- At the Nutrition for Growth (N4G) 2021 forum (Official Side Events: Nutrition For Growth), several sessions included an emphasis on adolescent nutrition and on the nutritional needs of PLAW:
  - “Powering Women-Promising Futures: Launching a Women’s Nutrition Movement at N4G” was hosted by the Micronutrient Forum, WHO, UNICEF, Bill & Melinda Gates Foundation, and Children’s Investment Fund Foundation. The session highlighted that the nutrition of women, mothers, and girls is a matter of inequity and inequality and not of poverty alone, and that good nutrition is foundational for women. This session helped influence The Tokyo Compact on Global Nutrition for Growth, an outcome of the conference, which included specific mention of adolescent girls and nutrition.<sup>23</sup>
  - A session on “Improving Nutrition through Accountability and Data Systems: SMART N4G Data Commitments” included an emphasis on indicators of adolescent nutrition.

When this landscape analysis looked at the **CONTEXT** in which PLAW live and make decisions about nutrition, the below are some important aspects to keep in mind.

**It is likely that the context during pregnancy, labor, and delivery and postpartum for an adolescent mother is different from that of a non-adolescent mother.** Due to the velocity of growth during adolescence, non-pregnant adolescents have the greatest total energy requirement of any age group.<sup>24</sup> During pregnancy, an adolescent mother’s nutrition needs are even greater than the already-increased nutrition needs for a non-adolescent pregnant woman, especially for calories, protein, and micronutrients. Although concerns for gender equity often focus on a woman’s household decision-making capacity to meet her own nutritional needs and those of her children, this may be further exacerbated for an adolescent mother due to her general lack of stature in the community and the home. Two studies conducted in two states in Niger in 2021 by MOMENTUM found that sociocultural norms limited adolescent girls’ decision-making power and that both family members and the broader members of the community enforce these norms.<sup>25,26</sup> In some settings, adolescent women may be the second or third wife in a polygamous household, further limiting their decision-making power.



**Systematic analysis finds that adolescent parents tend to come from deprived backgrounds; have different social networks than adults; lack social support, knowledge about child care and development, and effective parenting skills; and often have unmet developmental needs of their own.**<sup>27</sup> Young married couples often have little economic stability or economic cushion of savings, and many husbands are gone from the community for long periods of time to earn money elsewhere. A need for integrated actions that support livelihoods is recognized as relevant for interventions to improve MCN—this is equally, if not more, relevant for adolescent parents.

**It has been noted that one challenge of reaching adolescents is linked to the weak voice that adolescents generally have in making demands for services at the local level.**<sup>28</sup> In the context of programming, nutrition counseling not only needs to take into consideration the different contexts for adolescent mothers noted above, but also should consider different strategies to reach adolescent mothers. The Department for International Development-funded Working to Improve Nutrition in Nigeria (WINN) Program (2011 to 2017) modified its social and behavior change strategy with mothers' groups in the community mid-program to better reach adolescent mothers after finding that they were not participating much in multiage groups due to the influential role of older women. The program established separate support groups for adolescent mothers and their husbands and trained adolescent mother peers to serve as leaders of these groups.<sup>29</sup> Evaluation found that the attendance of adolescent mothers at infant and young child feeding (IYCF) group meetings was also low due to sociocultural limitations on their mobility upon marriage.<sup>30</sup>

**There is a lack of wraparound services that can assist very young mothers to return to school and link first-time adolescent mothers postpartum with family planning (FP) services to ensure child spacing.**

In collaboration with Save the Children, Avenir Health analyzed available Demographic and Health Survey (DHS) data from 2004 to 2014 on **obstacles to pregnant adolescents' use of available health services**. The Niger 2012 DHS showed that “getting money for treatment” for ANC was the greatest problem faced by pregnant adolescents (52%), followed by “having to take transport” (38%), and “not wanting to go alone” (32%). The Bangladesh 2004 DHS found that “concern there may not be a female health provider” was the greatest obstacle faced by 17% of pregnant adolescents along with “not wanting to go alone” (17%), followed by “getting permission to go for treatment” (16%). While 84% of pregnant adolescents did receive some ANC services in Niger, only 55% did in Bangladesh.

## STUDY QUESTIONS AND BOUNDARIES OF ANALYSIS

It is clear that during pregnancy, an adolescent has higher energy, protein, and micronutrient needs than a pregnant woman age 20 and above. It is less clear what challenges adolescent first-time mothers face in following optimal maternal and IYCF practices. As noted above, this landscape analysis is focused on identifying nutrition counseling and services for the pregnant adolescent through the health system. The four objectives of this landscape analysis include:

- **Objective 1:** Search for formative research relative to nutrition counseling and services specific to pregnant adolescents—both for their own maternal nutrition and for optimal IYCF.
- **Objective 2:** Gather information on National Government Ministry of Health (MOH) policies, guidelines, training, etc. regarding nutrition counseling and services for pregnant adolescents.
- **Objective 3:** Gather information on existing nutrition activities specific to pregnant adolescents (versus activities geared to any pregnant women) that are supported by USAID-funded or other global programming.
- **Objective 4:** Generate recommendations for future actions.

Searches were generally limited between the year 2014 and the present, 2023. The review was limited to relevance for LMICs. This landscape analysis did not focus on identifying research related only to anemia or other micronutrient deficiencies or the use of micronutrient or balanced energy protein supplements among pregnant adolescents. The search for formative research focused on nutritional status, knowledge, attitudes, influences, and consumption/feeding behaviors of pregnant adolescents and adolescent mothers ages 15 to 19.

There are now various streams of nutrition activities focused on the unmarried adolescent, with many striving to reach this target group through the education system or social media. This landscape analysis report, however, focused on identifying nutrition counseling and services for the pregnant adolescent through the health system and adjunct community services. This review also did not assess the humanitarian context—a context wherein a pregnant adolescent or young adolescent mother is likely to be even more vulnerable and have less agency.

## METHODOLOGY

Data collection techniques and sources (Annex 1) included:

- Information gathered between June and August 2023.
- A literature review was conducted through an online search for formative research, for national policies and guidelines, and for programmatic documentation. The search was limited to results relevant to LMICs and key search terms included: “nutrition and pregnant adolescents,” “food consumption and pregnant adolescents,” “nutrition differences between pregnant adolescents and women,” “adolescent mothers and breastfeeding,” “adolescent mothers and complementary feeding,” “IYCF and adolescent mothers or girls,” “gestational weight gain among pregnant adolescents,” and “nutrition and postnatal care of adolescent mothers.” References and bibliographies of articles of interest were reviewed to find links to additional relevant citations; home page suggestions of “other articles of interest” were also reviewed. Only research articles that were available online as open access were included. Multiple search engines were used.
- Interviews were conducted through email contacts with nutrition specialists in key global nutrition programs (including USAID Advancing Nutrition, Alive & Thrive, and Breakthrough ACTION).
- A sample of countries from those receiving support from MOMENTUM was selected and additional time was spent searching through national policies and guidelines available online. When possible, nutrition specialists were identified in these countries and interviewed individually through email. One country was selected from each region: South Asia – Bangladesh, Southeast Asia – Nepal, East Africa – Kenya, South Africa – Mozambique, and West Africa – Nigeria.
- A request for information from nongovernmental organization (NGO) programs with USAID funding to obtain gray literature and programmatic documents was sent through the CORE Group nutrition listserv: [nutrition@lists.coregroup.org](mailto:nutrition@lists.coregroup.org).

The following frameworks (Tables 1 and 2 below) helped to structure this landscape analysis.

**TABLE 1: NATIONAL POLICIES AND GUIDELINES / NGO ACTIVITIES**

Counseling setting	Counseling for maternal nutrition needs of adolescent during pregnancy	Counseling for IYCF
Counseling during ANC	Nutritional needs of the adolescent for continued growth and a healthy pregnancy	Preparing for successful and exclusive breastfeeding
Support during labor and delivery	N/A	Early attachment to the breast; kangaroo mother care (KMC)
Counseling during PNC	Nutritional needs for continued growth and successful breastfeeding	Counseling for successful breastfeeding Counseling for future CF
Integration of nutrition counseling with FP counseling	Benefits of child spacing for maternal nutritional status	Benefits of child spacing for optimal IYCF

**TABLE 2: FORMATIVE RESEARCH**

Life cycle	Topics
Antenatal period	<ul style="list-style-type: none"> <li>• Anthropometric status</li> <li>• Gestational weight gain</li> <li>• Food consumption</li> <li>• Nutrition knowledge</li> <li>• Nutrition counseling and support</li> </ul>
Postnatal period	<ul style="list-style-type: none"> <li>• Breastfeeding knowledge, attitudes, and behaviors</li> <li>• CF knowledge, attitudes, and behaviors</li> <li>• Nutrition counseling and support</li> </ul>

There are some limitations to this review. Various countries may be in the early stages of updating their national nutrition plans and/or more detailed operational plans in relation to adolescent nutrition and, in particular, the needs of the pregnant adolescent. MOH nutrition training packages for health facility staff and community health volunteers are not always readily available online. Attempts were made to identify knowledgeable nutritionists in a sample of MOMENTUM priority countries, but some recent innovations in nutrition counseling specific to adolescent mothers may have been missed.

## FINDINGS

### OVERARCHING FINDINGS

In general, most national efforts are focused on reaching the pregnant adolescent through regular antenatal, labor and delivery, and postnatal interventions for WRA, which is age 15 to 49 and includes pregnant adolescents age 15 to 19. This assessment encountered limited actions to adapt or modify nutrition messages in a way that would be more specific to an adolescent’s nutritional needs during pregnancy and the IYCF needs of her newborn or to her sociocultural or emotional context.

**Many countries are focusing most efforts toward the health and nutritional practices of the non-pregnant adolescent**, with the goals of achieving healthy development for adolescents, preventing obesity and future non-communicable diseases, and creating a favorable maternal nutrition status for the first (hopefully delayed) pregnancy.

In 2015, Save the Children conducted a review of available national nutrition plans in 22 countries aligned with the Scaling Up Nutrition (SUN) Movement to determine their focus on adolescent nutrition. Of these, only 10 included any detail on adolescent nutrition. India was found to be the most advanced with an assessment of adolescent nutrition and direct intervention with micronutrient supplementation. **The review noted that most countries address adolescent nutrition needs through “existing interventions targeted at pregnant and lactating women ... do not assess the extent to which they are reaching pregnant adolescent girls ... (and found) no examples of programs specifically trying to reach lactating adolescents for breastfeeding support or taking into account the needs of this group during the program design stage.”**

**Due to the pervasiveness of anemia among adolescent girls and pregnant WRA (15 to 49), interventions to provide iron-folic acid (IFA) tablets is one of the more common nutrition interventions for adolescents and an intervention that sometimes overlaps between non-pregnant and pregnant adolescent girls.** Many organizations involved in nutrition and IFA distribution for the non-pregnant adolescent are looking into ways to better reach beyond the in-school adolescent and to reach the pregnant adolescent more effectively.

**Another area of overlap occurs between nutrition and adolescent sexual and reproductive health (ASRH) within community groups that are formed to support first-time mothers/parents/caregivers.** However, most of these activities are strongly focused on healthy timing and spacing of pregnancy (HTSP) and child health, with limited detail on maternal nutrition or IYCF.

## NATIONAL POLICIES AND GUIDELINES

This landscape assessment focused on five countries that are a priority for MOMENTUM activities: In South Asia, Bangladesh; in Southeast Asia, Nepal; in East Africa, Kenya; in South Africa, Mozambique; and in West Africa, Nigeria. A summary of findings can be found in Textbox 1. All have national health and nutrition plans that mention the needs of adolescents but do not specifically adapt services to meet the needs of PLAW. However, some examples of forward momentum were discovered.

**BANGLADESH** has a National Strategy for Adolescent Health 2017 to 2030, “which marked the adolescent nutrition problem as malnutrition, micronutrient deficiencies, and other nutrition-related diseases among adolescents, particularly adolescent girls which contributes to the perpetuation of intergenerational malnutrition.”<sup>31</sup> The 5th Health Population and Nutrition Sector

### Textbox 1

#### NATIONAL POLICIES AND GUIDELINES

predominantly address the nutritional needs of PLAW through existing interventions targeted at PLW. Findings reveal that most countries do have special nutrition initiatives for the non-pregnant adolescent and there are a few countries that have a newly added focus specifically on the nutrition needs of PLAW.

As far as this landscape assessment could ascertain, no country has well-developed support (training, job aids, mentorship, etc.) for health workers to provide nutrition counseling that is adapted to the needs of adolescent mothers.

Health services have a strong focus on providing micronutrient supplementation. There is a gap in wraparound services to meet other PLAW needs, including schooling and access to FP services.

Program calls for “a considerable shift in the way the sector is organized and in the delivery of health care ... . Special measures need to be taken to expand service coverage to currently underserved groups including adolescents... .”<sup>32</sup>

**In 2019, Bangladesh conducted a nationally representative survey of adolescent health and wellbeing.**<sup>33</sup>

Similar to results mentioned above from the survey in Nepal, ever-married adolescent females (age 15 to 19) had the highest percentage of overweight (15.9%) as compared to unmarried females (10.1%) and the lowest level of underweight (3.6% vs. 7.6%). Roughly one-third of both groups were stunted (36%, 32%, respectively), while two-thirds of both groups had adequate dietary diversity at the time of the survey. Nearly 70% of ever-married adolescent females were living with one or both parents-in-law, highlighting the importance of persons of influence and decision-makers within the household.

**The MOH is in the process of finalizing National Guidelines for Maternal Nutrition in Bangladesh, with an emphasis on adolescent girls, and developing operational guidelines for community-based out-of-school adolescent nutrition interventions.**\* The guidelines will highlight the importance of delaying adolescent pregnancy and/or improving the nutritional status of adolescents pre-pregnancy and during pregnancy. Although adolescent mothers are not a specific target, Bangladesh has determined that addressing adolescent maternal nutrition is especially relevant when considering the World Health Assembly targets for the reduction of child stunting and/or wasting, anemia, and low birthweight, all of which have a higher risk among adolescent mothers, especially those adolescent mothers who are stunted. Another relevant World Health Assembly target is to increase the rate of exclusive breastfeeding for the first six months, which is lower among adolescent mothers in LMICs. Although stunting has been steadily decreasing among adolescent girls (from 32% in 2011 to 26% in 2014) in Bangladesh, it is still a risk factor of consideration for adolescent pregnancy. Child marriage continues to be a concern and although teenage (age 15 to 19) childbearing has been decreasing, it was found to be 23% in a 2022 survey.<sup>34</sup>

**The draft operational guidance noted above describes multiple strategies for improving adolescent nutrition, including strengthening the capacity of service providers to deliver effective nutrition counseling and services to all adolescents, with a focus on raising awareness of the consequences of child marriage and meeting the nutritional needs of pregnant adolescent girls.** The guidance calls for establishing standards for adolescent-friendly nutrition services, including standards for planning, policies and procedures, training, service provision, implementation and management, quality assurance, and monitoring and evaluation. The guidance also includes examples of global standards for areas ranging from equity and non-discrimination to facility characteristics.

**KENYA** has a National Nutrition Action Plan 2018 to 2022<sup>35</sup> that emphasizes optimal nutrition for WRA (15 to 49) through the health service system and a broad array of strategies for improved nutrition for adolescent girls (predominantly through the education sector and/or media). The Ministry of Public Health and Sanitation also emphasizes reaching adolescents during *Malezi Bora*, a strategy for outreach during maternal and child health and nutrition weeks that has a strong focus on ANC.<sup>36</sup> **The Ministry of Public Health and Sanitation puts much effort into the integrated management of acute malnutrition (IMAM), which targets not only children but also adolescents and adults.** Kenya’s IMAM guidelines include criteria for treatment of acute malnutrition in pregnant adolescents who present with a mid-upper arm circumference (MUAC) of less than 21 cm.<sup>37</sup>

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\* Personal communication with Dr. Golam Mothabbir, Save the Children’s Bangladesh Senior Technical Advisor – Health and Nutrition, July 2023.

**Kenya (along with Uganda) has advanced efforts toward identifying how well the needs of pregnant adolescents are met by assisting the field-testing of a new survey toolkit for assessing the quality of reproductive, maternal, newborn, child, and adolescent health services in 2020.**<sup>38</sup> Results found that in Kenya roughly half of respondents had received training in communication skills with adolescents and also in their right to respectful treatment and privacy; responses from adolescent girls who were interviewed confirmed that treatment was respectful and private. Around half of providers had received training for counseling adolescents during ANC, delivery, and PNC but only one-third had any job aids. About half of adolescents were familiar with anemia but only 13% mentioned IFA tablets as a treatment method. About one-third of providers mentioned training in basic adolescent nutrition and about one-third had conducted outreach to adolescents to inform them of available health services.

**MOZAMBIQUE was one of only seven countries (along with Bangladesh, Benin, Ethiopia, Guatemala, Madagascar, and Nepal) that included support for adolescent nutrition among their strategic objectives in their national nutrition plans in 2015** when Save the Children assessed the status of adolescent nutrition policies and programming in all countries that had signed on to the SUN Movement. Mozambique's Strategic Health Plan 2014 to 2019<sup>39</sup> included an increased focus on the needs of non-pregnant adolescent girls and an assessment of anemia in adolescents of both sexes. This Strategic Health Plan also showed some advancement in taking a closer look at the situation for pregnant adolescents, highlighting that 51% of pregnant adolescents had no formal schooling and assessing that 50% of the total number of woman accessing ANC were adolescents.<sup>40</sup> In the soon-to-be finalized Food Security and Nutrition Strategy (*ESAN-III*), following on *ESAN-II* 2008 to 2015,<sup>41</sup> a strong focus on the nutritional status of non-pregnant adolescents is continued and includes specific indicators to monitor the strategies targeted to adolescents. However, the treatment of pregnant adolescents is not yet differentiated from ANC, delivery, or PNC for any age pregnant woman.

**NEPAL**, as noted above, showed forward momentum for adolescent nutrition as one of only seven SUN countries to have adolescent nutrition as an objective in their national nutrition plans during an assessment in 2015. **At that time, Nepal also assessed anemia in adolescents, using this assessment as an opportunity to look at other factors affecting undernutrition in adolescents by conducting anthropometric measurement of height and weight** (Table 3).<sup>42</sup> Anemia prevalence was found to be 42% in adolescent girls, married or unmarried; however, only 4% of girls age 15 to 19 were married. Pregnant adolescents were excluded from the study as an increased incidence of anemia during pregnancy was already known as a risk factor for pregnant adolescents.



**TABLE 3: NEPAL ADOLESCENT NUTRITION SURVEY, 2014**

Category	% Undernourished	Category	% Undernourished
Married adolescents	43%	Unmarried adolescents	65%
Residing in urban area	63%	Residing in rural area	65%
Disadvantaged caste	80%	Religious minority	76%
Refuse to wear shoes	76%	Wear shoes	64%

The Nepal Multi-Sector Nutrition Plan 2018 to 2022<sup>43</sup> has a strong focus on good nutrition for non-pregnant adolescent girls and adolescent-friendly health and nutrition services. The Nepal National Nutrition Policy and Strategy 2020 was updated from the 2004 strategy, but does not specifically suggest any differences in addressing nutrition and pregnant adolescents vs. any age of WRA.

**NIGERIA** has multiple national policies that include a focus on nutrition, beginning with the National Policy on Food and Nutrition Policy (2016).<sup>44</sup> Of interest is the Maternal, Infant, and Young Child Nutrition (MIYCN) Policy (2021),<sup>45</sup> in which the overview emphasizes that adolescent pregnancy perpetuates the cycle of malnutrition and reaffirms the government’s commitment to optimal nutrition for women, children, and adolescent girls. **The policy shows further advancement in that it specifies commitments to the pregnant and lactating adolescent**, stating, “the following shall be ensured ...”:

- Multiple micronutrient supplements including IFA shall be encouraged for all adolescent girls and pregnant adolescents in line with best global practices.
- Adolescent mothers shall be encouraged to remain together with their babies and be provided the support they need to exclusively breastfeed for the first 6 months and continue breastfeeding with age-appropriate complementary food until the child is 24 months or older.
- Adolescent girls and mothers shall be supported to begin/continue schooling.
- Adolescent-friendly health services and nutrition counseling shall be provided to support the adolescent during pre-conception, conception, and lactation.
- In exceptionally difficult circumstances, supplementary feeding programs and support for good nutrition shall target adolescent mothers.
- All pregnant women, adolescent girls ... shall, during contact with health care facilities, home visits and ... other [opportunities] ... receive education including information, education, and communication materials on the advantages of optimal infant and young child nutrition practices.

There has been considerable effort to develop MIYCN tools in Nigeria and strengthen the capacity of health care workers and community volunteers in nutrition counseling skills for women.<sup>46</sup> **Although not adapted to adolescent mothers, this is a strong base from which to move forward.**

## FORMATIVE RESEARCH

Much of the research that has been done is focused on evaluating the impact of providing micronutrient supplements and/or other nutrient-dense supplements to pregnant adolescents; however, these are not reviewed here, except in relation to overall ANC. Key findings from this review are in Textbox 2.

It is interesting to note that more formative research on pregnant adolescents and nutrition is being conducted in high-income countries vs. LMICs. There is recognition that formative research into the behaviors, influences, etc. of pregnant adolescents in LMICs is needed and some has been done (see below), while others are planned for the near future. For example, Breakthrough ACTION,<sup>†</sup> USAID’s flagship program for social and behavior change, started an audience segmentation activity in Mozambique in 2023 to promote dietary diversity for PLW, with particular attention to the pregnant and lactating adolescent audience. Previously, Breakthrough ACTION, in collaboration with USAID Advancing Nutrition in Nigeria, used the human-centered design process to develop tools to enable community health workers to build trust with those they counsel in nutrition. Although not specifically designed for adolescents, the focus on empathy is relevant to counseling adolescents.<sup>47</sup>

The next section contains a summary of findings from formative research. More details on individual studies can be found in Annex 2.

## Textbox 2

**A KEY FINDING** is that there is a lack of sufficient formative research on PLAW’s knowledge, attitudes, and influences on their maternal nutrition and IYCF practices to inform program design.

Additional key findings from the limited research available are consistent across countries and regions and show the following gaps for good nutrition among pregnant adolescents and adolescent mothers:

- They have little exposure to nutrition messages and poor knowledge about optimal maternal nutrition, dietary diversity, and specific nutrient-rich foods.
- Less than half practice recommended breastfeeding behaviors and even less practice optimal CF behaviors.
- Less than half achieve the recommended minimum weight gain during pregnancy.
- They have little decision-making power within the household and find pregnancy and infant care to be somewhat overwhelming.
- Their IYCF practices are strongly influenced by elder women in the household and these recommendations usually do not match messages from the health care services.
- Many attend at least several ANC visits, although they may have some additional obstacles to that faced by non-adolescent pregnant women.
- Nutrition counseling during ANC tends to be broad (“eat healthy”) and services are focused more on the provision of micronutrient supplements.
- There is a lack of PNC counseling to support optimal breastfeeding or preparation for IYCF.

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<sup>†</sup> Breakthrough ACTION is a partnership led by the Johns Hopkins Center for Communication Programs, with Save the Children, ThinkPlace, ideas42, Camber Collective, International Center for Research on Women, and Viamo.

## PREGNANT ADOLESCENTS' AND ADOLESCENT MOTHERS' NUTRITIONAL STATUS, KNOWLEDGE, INFLUENCES, AND FOOD CONSUMPTION

Some examples of research into PLAW's nutritional status, knowledge, influences, and food consumption were found, most within the past five years. These studies showed that half or under of PLAW had **knowledge of nutrient-rich foods** and even fewer had had recent exposure to nutrition messages. More than half of pregnant adolescents attend multiple ANC visits where some nutrition counseling occurs. However, this counseling predominantly consists of general messages about basic maternal nutrition during pregnancy with little information to prepare for IYCF. The stronger ANC visits include provision of IFA or other micronutrient supplements.

Similar to non-pregnant adolescents, pregnant adolescents are found to skip meals. **Dietary diversity** is less than optimal, ranging from only 31% (Nepal and Malawi) to 36% (rural Ghana) to 49% (urban Ghana), achieving minimum dietary diversity (MDD,  $\geq 5$  out of 10 food groups). In two studies, only 40% and 16% of pregnant mothers achieved recommended **gestational weight gain (GWG)**. Studies that have included anthropometric and biometric measurements of adolescents (pregnant or recently delivered) have noted unacceptable levels of stunting and low MUAC, along with high levels of anemia.

Pregnancy is described as an overwhelming experience for the adolescent, and adolescent mothers are slower to recover post-delivery than non-adolescent mothers. Family members, especially mothers and mothers-in-law, have the most influence on the food consumption choices of the pregnant adolescent, with family recommendations frequently differing from health care worker recommendations.

In 2021, the Emergency Nutrition Network (ENN), in collaboration with UNICEF and the Adolescent Nutrition Interest Group, published a special issue of the *Field Exchange* devoted to the nutrition of adolescents and school-aged children.<sup>48</sup> Although most case studies and examples provided in this special issue were focused on improving the nutritional status of in-school children and/or the use of social media to influence adolescents, there was one example relevant to pregnant adolescents. That was an **unconditional cash transfer** pilot project in Ecuador in 2019 targeted to economically vulnerable pregnant adolescents (11% of which were under the age of 15). The adolescents received \$50 USD every month for six months, which was intended to cover the gap in accessing a nutritious diet as calculated by the World Food Program's Fill the Nutrient Gap analysis. The adolescents also received a birth kit, home visits by educators, and participated in group nutrition education sessions. The adolescents' MDD increased from 34% to 60%, with an increase of 13 to 18 percentage points in the consumption of animal source foods (e.g., eggs, dairy, and meats, poultry, and fish).

Very little research was found on GWG that looked particularly at the adolescent mother and, among those that did, most were descriptive. Some studies postulated that results showing high prevalence of insufficient GWG are influenced by the high numbers of pregnant adolescents and by the desire of some teenagers to keep unplanned pregnancies secret.

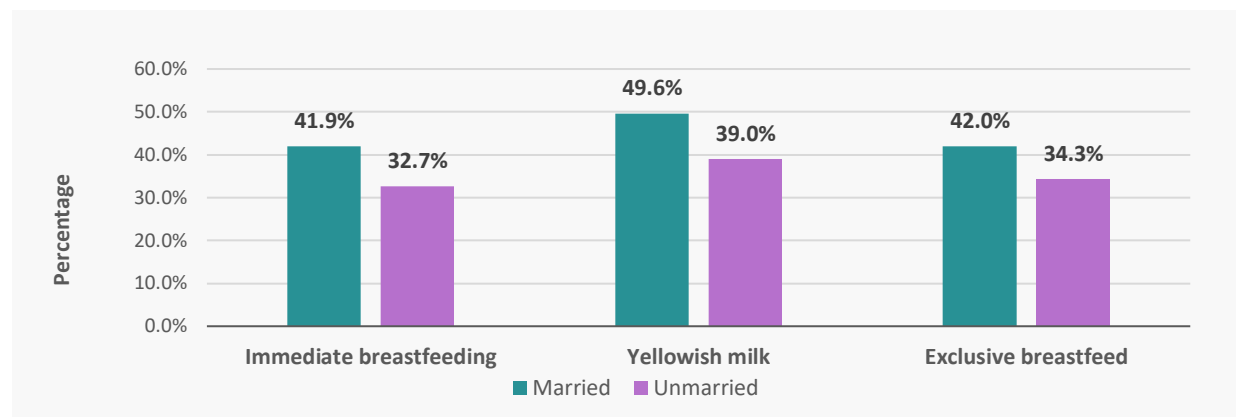
## BREASTFEEDING: ADOLESCENT MOTHERS' KNOWLEDGE, ATTITUDES, INFLUENCES, AND BEHAVIORS

The benefits of breast milk can mitigate some of the social and economic disadvantages faced by adolescent mothers and their child. A search shows many studies on the factors that influence an adolescent mother's breastfeeding practices in the past 25 years; however, these have been predominantly carried out with adolescent mothers in high-income countries.<sup>49</sup> It is not clear if the findings from these studies on personal and sociocultural factors are equally relevant in LMICs. In 2021, WHO recommendations on maternal and newborn care for a positive postnatal experience<sup>50</sup> noted that mothers of newborns (both adolescent and non-

adolescent) value home visits to address breastfeeding challenges, but found studies of the impact of home visits on breastfeeding behaviors to be mixed. The studies did not single out the impact on adolescent mothers.

Limited research in LMICs on adolescent mothers' breastfeeding knowledge, practices, and influencers reveals some interesting information. One study found a significant gap in basic knowledge of optimal breastfeeding among married and unmarried adolescents (Figure 1). Two studies found adolescent mothers' breastfeeding behaviors to be strongly influenced by their mothers and grandmothers.

**FIGURE 1: BREASTFEEDING KNOWLEDGE AMONG MARRIED AND UNMARRIED ADOLESCENTS (AGE 15 TO 19) UDAYA SURVEY, INDIA, 2016**



Several studies have reviewed **multiple rounds of available DHS data** in several LMICs. Less than half of ever-married pregnant adolescents had knowledge of recommendations for immediate breastfeeding or exclusive breastfeeding; half or less initiated breastfeeding within one hour of birth, and one study showed 53% to practice exclusive breastfeeding. Two important examples include:

- Analysis of data on adolescent mothers age 12 to 19 and last-born live child from four DHS surveys in Bangladesh between 2004 and 2014 were combined and found that only 42.2% initiated breastfeeding within one hour of birth, 53% exclusively breastfed infants six months of age or under, and 15.7% bottle-fed the child. Adolescent mothers who delivered at home and/or had no ANC were significantly more likely to delay initiation of breastfeeding.<sup>51</sup> When comparing these results to those for any age mother in the 2017–2018 DHS in Bangladesh (which includes the adolescent mothers), the need for fine-tuning nutrition counseling for adolescents during ANC is clear: 60% early initiation for any age mother (vs. 42.2% adolescent) and 65% exclusive breastfeeding (vs. 53%).<sup>52</sup>
- An analysis of data from DHS surveys in Nigeria between 2003 and 2018 was done looking at three subsets of young mothers: young adolescents <18 years, older adolescents 18 to 19.9 years, and young women 20 to 24.9 years. Analysis found an overall increase in optimal breastfeeding practices over time, from 2003 to 2018; for example, early initiation increased from around one-third in 2003 to one-half in 2018. However, over that time period, the young adolescent mothers consistently had lower prevalences of early initiation and exclusive breastfeeding than young women. Multivariate analysis found that mode of delivery, ANC, and postnatal breastfeeding counseling were associated with early initiation of breastfeeding. Delivery by cesarean section was negatively associated with early initiation, as expected, but the number of ANC visits was not associated as expected, with more ANC visits associated with less likelihood of early initiation. However, exclusive breastfeeding was positively associated with the number of ANC visits.<sup>53</sup> These two above-mentioned studies clearly highlight the **need to fill gaps in nutrition counseling and services provided during ANC visits**.

Attention is being paid to the **mental health risks** faced by pregnant adolescents, particularly as a recent finding was that teenage mothers (age 10 to 19) in LMICs have a 63% higher risk of experiencing perinatal depression compared with adult mothers.<sup>54</sup> There is increasing recognition of the relationship between common perinatal mental disorders and the perceived ability of mothers (of any age) to successfully breastfeed. Studies have found that breastfeeding is associated with fewer mental health symptoms, while breastfeeding challenges are associated with a higher risk of negative mental health symptoms.<sup>55</sup>

Although several studies did not address nutrition counseling or services, they did provide relevant insights into the **perspective of the adolescent regarding available health services**, especially given that it would be expected that available health services are a source of nutrition information. A systematic analysis in 2023,<sup>56</sup> which included many high-income countries but also examples from rural Uganda, Indonesia, Brazil, and Swaziland, found reasons for not using available ANC, delivery, and PNC services to fall into these four categories:

- Resources and access: Along with the expected concerns about lack of money for transport to facilities, adolescents specifically noted distrust of facilities due to a lack of cleanliness and, specifically, water rationing that did not allow for bathing during the immediate postpartum period, a critical time to establish early attachment for exclusive breastfeeding.
- Social norms: Findings included stigma associated with unintended pregnancy and also a sense of being perceived by health care workers as incompetent due to young age.
- Experiences of care: Adolescents desired guidance and orientation on bathing, feeding, and cord care of the infant but reported that they did not receive sufficient support in these areas. An adolescent in Indonesia noted “the nurse checked that my breast milk is in. They say I had a lot of milk and that was it.”
- Tailored support needs: Adolescents described PNC as primarily focused on physical examinations and promotion of FP methods, without addressing their immediate needs for information on infant care.

A study in rural South Africa in 2017<sup>57</sup> found that many adolescents had **breastfeeding challenges in the postpartum period**, along with other infant care and self-care needs. The study suggests that more intense community support measures are needed to meet the many needs of the first-time adolescent mother during the postpartum period.

Several studies did not address nutrition counseling or services but do provide relevant insights into the **perspective of the adolescent regarding available health services**, especially as it would be expected that available health services are a source of nutrition information. A systematic analysis in 2023<sup>58</sup> that included many high-income countries, along with also examples from rural Uganda, Indonesia, Brazil, and Swaziland, found reasons for not using available ANC, delivery, and PNC services to fall into four categories (see Textbox 3).

One adolescent mother stated that she did not think the baby knew when to stop breastfeeding so she would stop breastfeeding even if the infant wanted to continue.

—Study in Tshwane, South Africa

### Textbox 3

#### Explanations for adolescents not using available ANC, delivery, and PNC services include:

1. Resources and access: Along with the expected concerns about lacking money for transport to facilities, adolescents specifically noted distrust of facilities due to a lack of cleanliness and, specifically, water rationing that did not provide for bathing during the immediate postpartum period, a critical time to establish early attachment for exclusive breastfeeding.
2. Social norms: Findings included stigma associated with unintended pregnancy, but also a sense of being perceived by health care workers as incompetent due to young age.
3. Experiences of care: Adolescents did desire guidance and orientation on bathing, feeding, and cord care of the infant, but reported that they did not receive sufficient support in these areas. An adolescent in Indonesia noted “the nurse checked that my breast milk is in. They say I had a lot of milk and that was it.”
4. Tailored support needs: Adolescents described PNC as primarily focused on physical examinations and promotion of family planning methods, without addressing their immediate needs for information on infant care.

## COMPLEMENTARY FEEDING: ADOLESCENT MOTHERS' KNOWLEDGE, ATTITUDES, INFLUENCES, AND BEHAVIORS

Research on adolescent mothers' IYCF knowledge, attitudes, and behaviors for optimal CF of children 6 to 23 months of age reveals a great need for improved nutrition counseling in this area. MDD scores are low in LMICs for any age mother, and studies find MDD scores and CF practices among adolescent mothers to be even poorer. One study found that adolescent mothers do not practice responsive feeding, while another found adolescent mothers to have many biases and misinterpretations negatively affecting the implementation of even CF recommendations they were aware of.

The following is an example of another important study. Data on adolescent mothers from the 2015–2016 India National Family Health Survey showed results similar to those found in the 2016 Understanding the Lives of Adolescents and Young Adults survey (see Annex 2) for breastfeeding practices: early initiation 48.3% and exclusive breastfeeding 58.7%. However, the results for optimal CF practices among adolescent mothers were much lower than for optimal breastfeeding. Note this article also cites three articles from 2004, 2011, and 2013 that had shown that adolescent mothers are less likely to initiate breastfeeding, more likely to prematurely discontinue exclusive breastfeeding, and breastfeed for shorter overall duration. The article then notes that much less is known about CF practices among adolescent mothers.

These findings emphasize the gap in this area (CF) of nutrition counseling (Table 4).<sup>59</sup> A systematic review in 2014 of all-age caretakers in India found that CF behaviors were largely influenced by limited knowledge of optimal CF practices.<sup>60</sup>



**TABLE 4: CF PRACTICES AMONG ADOLESCENT MOTHERS, 2015–2016 INDIA NATIONAL FAMILY HEALTH SURVEY**

CF indicator	Children of adolescent mothers	Children of any age mother
Minimum dietary diversity	16.6%	22.0%
Minimum meal frequency	27.4%	35.9%
Minimum acceptable diet	6.7%	9.6%

## PROGRAM EXPERIENCES AND INNOVATIONS

A summary of tools, guidance, and approaches gained through program experiences and innovations can be found in Textbox 4.

In 2016, MCSP developed a set of counseling tools for health service providers to use when counseling adolescents: **Adolescent Age and Life Stage Assessment and Counseling Tools**.<sup>61</sup> USAID’s Maternal and Child Health Integrated Program had initiated the development of these tools and MCSP continued this work, supporting field-testing of the tools in Nigeria. They are designed to be appropriate for adolescents and included a set of tools focused on basic maternal nutrition and breastfeeding counseling for the married adolescent.

MCSP also supported the rollout of the **Baby-Friendly Community Initiative in Kenya**, which included the specific goal of motivating communities to provide care and support to adolescent mothers for optimal IYCF. A 2019 document notes success in reaching pregnant adolescents through home visits with support provided through the postpartum period. The mothers of these adolescents also received orientation as to how to support the adolescent mother in practicing optimal exclusive breastfeeding.<sup>62</sup>

USAID Advancing Nutrition has released **guidance for designing and conducting formative research** on nutrition with adolescents 10 to 19 years of age that is relevant to a variety of contexts and situations (including marriage).<sup>63</sup>

In 2022, MOMENTUM developed a **participatory tool to assess if a health system is adolescent- and gender-responsive** based on the WHO AA-HA! Framework and includes an assessment as to whether policies and services include a nutrition focus.<sup>64</sup>

### Textbox 4

Global partners and programs have developed guidance, tools, and approaches useful for designing and implementing activities focused on improved nutrition for PLAW and their children.

**Tools and Guidance:** Adolescent Age and Life Stage Assessment and Counseling Tools and a tool for formative research guidance on nutrition for adolescents.

**Approaches:** Reaching pregnant adolescents through home visits during the postpartum period and activities that promote HTSP, layering ASRH counseling onto mothers’ support groups, and incorporating adolescent mothers into Mother-to-Mother Support Groups or creating groups for pregnant/married adolescent girls.

Various NGOs have been developing new approaches to reach adolescent mothers with nutrition counseling specific to adolescents. In response to a request for information posted through the CORE Group nutrition listserv, examples shared with this landscape analysis include:

- The USAID-funded **Suaahara II program in Nepal**, led by Helen Keller International, supports the government’s multi-sectoral efforts to distribute IFA tablets to female adolescents. The program reaches non-pregnant adolescents primarily through the education sector (with schools in some districts including an expanded focus on integrated health, nutrition and WASH), and pregnant adolescents through standard ANC, but also through outreach by health workers and Female Community Health Volunteers. The Suaahara II program also reaches both non-pregnant adolescents and first-time mothers through extensive mass media campaigns to promote HTSP, with an emphasis on nutritional benefits for adolescent girls and for their children, as relevant.
- **Lishe Endelevu** (2018 to 2023), a Save the Children health and nutrition program in Tanzania, has layered ASRH counseling within mothers’ support groups, seeking to enable adolescents to practice child spacing, while also learning about optimal nutrition practices for their child/children. The program found that forming specific subgroups of adolescent mothers facilitated more dialogue among them. MIYCN messages for the mothers’ support groups were not altered for the adolescent mothers, and this strategy did not reach adolescent women during pregnancy; however, the nutritional benefits of child spacing were an additional emphasis in the layered activity.
- **MaMONI** (2018 to 2023), a Save the Children maternal and newborn health program in Bangladesh, had a strong focus on strengthening health workers’ capacities for antenatal, labor, and delivery, as well as PNC. Although nutrition counseling was not the main focus, KMC to support skin-to-skin contact and breastfeeding for premature or low birthweight newborns was an innovative practice supported by health workers for adolescent and non-adolescent mothers. Unfortunately, monitoring data was not disaggregated by age so no further information on adolescent use of KMC is available.
- In 2019, Save the Children, for MCSP in Mozambique, developed a facilitator’s guide and flipbook (“**Our First Baby: Health Education for Adolescents Who Are Pregnant or First-Time Parents**”<sup>65</sup>) to build the capacity of first-time parents. Save the Children continues to use this approach and these materials in two ongoing projects: Leaving No Child Behind, funded by Norad, and Okhokelamo, a Resilience Food Security Activity, funded by USAID. “Our First Baby” is a comprehensive strategy with three modules:
  - Module I: Preparing for Your Newborn. This module covers basic knowledge about the reproductive system and pregnancy, along with the importance of ANC and danger signs during pregnancy. A session is also devoted to healthy nutrition during pregnancy, which provides basic information within a context that is geared toward discussion and reflection by the adolescents.
  - Module II: Planning for Delivery and Caring for Your Newborn. This module covers birth planning, the birthing process, danger signs during labor and/or in the newborn, maternal depression, and PNC. The module also has a session devoted to exclusive breastfeeding of the newborn, which includes basic breastfeeding information along with an emphasis on the bonding aspect of breastfeeding the newborn.
  - Module III: Building a Happy and Health Family. This module predominantly deals with HTSP and FP methods.

- **HELINA** (2021 to the present) is a project implemented in Monrovia, the capital of Liberia, by Catholic Relief Services with funding from the Church of Jesus Christ of Latter-Day Saints. The project targets pregnant adolescents or adolescents with children under age two, providing them with in-home counseling on optimal nutrition and childcare practices. The adolescents are also empowered with business skills and support that helps them to generate income for improved nutrition. Links with the existing local health center are also strengthened to access available maternal and child health care services and training on essential nutrition behaviors and coaching skills is provided to health center staff.
- **NAWIRI** (2019 to present) is a USAID-funded project in the northern Kenya Arid and Semi-Arid Lands. Specific efforts have gone into incorporating adolescent mothers into existing adapted mother-to-mother support groups, which focus on MIYCN. The program’s overarching goal is to reduce persistent acute malnutrition and significant support is provided for IMAM efforts in the targeted Arid and Semi-Arid Lands.
- In 2023, Catholic Relief Services began implementing the **STRONG** approach (Sustainable, Targeted, Responsive approach to Optimize Nutrition and Growth) in multiple countries. This program focuses on nutrition education for young adolescent girls AND pregnant/married adolescent girls. Catholic Relief Services is at present in consultation with local partners and stakeholders to refine strategic plans.

To date, the HELINA project in Monrovia has had excellent results:

- 82% of pregnant adolescents or adolescent mothers with knowledge of key nutrition and WASH behaviors.
- 78% accessing available maternal and childcare services.
- 77% reporting they now receive the support they need from family members so that they can practice optimal nutrition practices.

## RECOMMENDATIONS

The following recommendations are based upon the findings of this landscape analysis, which, although limited, are consistent across countries and regions in the review.

### RECOMMENDATIONS FOR GLOBAL ACTION

As noted by multiple experts in documents referred to in this landscape analysis, there continues to be a need for: a) harmonization of definitions used for adolescents; b) national and global adolescent nutrition targets; and c) disaggregation of the 15 to 19 age group for existing nutrition indicators (such as those monitored for ANC and PNC in national health systems).<sup>66</sup> This is of particular interest for the pregnant adolescent and adolescent mother. There is a need for determination of the best indicators and cutoff points for measurement of the nutritional status of the pregnant adolescent.

Global and national policies for maternal and newborn health need to identify and adapt ANC and PNC counseling to the needs of the pregnant adolescent. Health care providers need to be trained to give the additional support for early attachment and optimal breastfeeding that adolescent mothers may need during assisted delivery. Those health services that support KMC for mothers with premature or low birthweight newborns similarly need to identify and adapt support to the needs of the adolescent mother.

## RECOMMENDATIONS FOR FUTURE RESEARCH

Additional academic research is needed to more clearly understand, and within varied contexts, the influences, attitudes, and nutrition behaviors of pregnant adolescents and adolescent mothers. A better understanding of barriers and enablers to optimal nutrition that they, in particular, face is also needed.

Based on the study in Ecuador that had highly positive results in improving diet diversity among pregnant adolescents, further assessment of the potential positive impact of cash transfers to vulnerable pregnant adolescents should be explored.

## RECOMMENDATIONS FOR THE FORMULATION OF BEST PRACTICES FOR COMMUNITY-BASED ACTIVITIES

Implementation needs to be based upon strong formative investigation into the local context of the knowledge, attitudes, influences, barriers, and enablers to pregnant adolescent food consumption and adolescent mothers' IYCF behaviors.

Testing of community support structures using principles from techniques such as human-centered design can help determine the right mix of peer groups and types of mentors and champions to support pregnant adolescents and adolescent mothers to attain optimal nutrition behaviors.

Home visits for PNC are indicated for the adolescent mother who is repeatedly described as “overwhelmed” in research findings. Besides basic self-care and infant care, it is particularly appropriate to support and overcome breastfeeding challenges during at least the initial postpartum period. Strengthening the IYCF component of first-time parenting interventions would build upon a successful model. ASRH activities find adolescents receptive to mass media and social media. It would be worthwhile to evaluate the use of mass media or social media to support knowledge dissemination of basic good maternal nutrition and optimal IYCF practices among pregnant adolescents and adolescent mothers.

As much as community-based nutrition interventions have found the need for integrated sequenced and layered activities that address other key issues, such as economic need or improved WASH services, refining the appropriate combination and timing of activities that are appropriate for adolescent parents is needed.

## RECOMMENDATIONS FOR STRENGTHENING NUTRITION IN THE HEALTH CARE SYSTEM

Slight adaptations or modifications to existing nutrition counseling and ANC services for PLW to address differences for pregnant adolescents (such as greater needs than any age PLW for calories, protein, and micronutrients) can further strengthen existing systems.

Assessment of other training/on-the-job needs should be determined by surveying those health care workers who provide ANC, labor and delivery, and PNC services and who have already been trained in communication with adolescents and their rights to respectful care.

Organizations should collaborate and actively share learning for this emerging area of focus on nutrition specific to PLAW. Collaboration and learning should occur not only within the MIYCN sector, but also from the extensive experience in the ASRH sector regarding the provision of adolescent-friendly health services. Experience can be adapted from the ASRH sector to inform activities to increase access to respectful care for

PLAW by health care providers, adapt services to reach PLAW and be responsive to their needs, and include actions that recognize the importance of involving peers for peer support.

Collaboration among government institutions and partners should be developed to support PLAW access to continued education and to FP services.

Many health systems involve civil society representatives in local health management teams and some health systems are seeking to involve adolescent representatives so they have a voice in their health care. It would be useful to have adolescent representatives from different stages of life, including pregnant adolescents and first-time mothers, within civil society representation.

# ANNEX 1: REVIEWED DATABASES AND LIST OF DOCUMENTS

## LIST OF DOCUMENTS REVIEWED

- Multiple articles from the *Lancet* as found in citations from 2016, 2021, and 2022.
- WHO Global Accelerated Action for the Health of Adolescents (AA-HA!): Guidance to Support Country Implementation. 2017.
- WHO Adolescent Pregnancy Factsheet, accessed August 2023.
- MOMENTUM. Partnering with Youth for Impact: Profiles of MOMENTUM Youth Partners from Across the Globe. 2023.
- USAID Multi-Sectoral Nutrition Strategy 2014–2025.
- Report of the Technical Meeting on the Diets and Eating Practices of Adolescent Girls and Women of Reproductive Age. SPRING, PAHO, WHO, FANTA-III, and USAID. 2015.
- Adolescent Nutrition CALL TO ACTION: Better Data Now to Drive Better Policies and Programs in the Future. SPRING, PAHO, WHO, and USAID. 2018.
- MOMENTUM. Is Your Health System Adolescent- and Gender-Responsive? A Participatory Tool for Analysis and Action Planning. 2022.
- WHO Guideline: Implementing effective actions for improving adolescent nutrition. 2018.
- WHO Statement: The prevention and elimination of disrespect and abuse during facility-based childbirth. 2015.
- Operational Guidance: Moving Respectful Maternity Care into Practice in Comprehensive MCSP Maternal and Newborn Programs. USAID MCSP. 2020.
- WHO Paediatric and Young Adolescent Quality of Care Standards. 2018.
- MOMENTUM. Social Norms Exploration on Child, Early and Forced Marriage, Intimate Partner Violence, and Adoption of Family Planning in Ebonyi State, Nigeria. 2021.
- MOMENTUM. Social Norms Exploration on Child, Early and Forced Marriage, Intimate Partner Violence, and Adoption of Family Planning in Sokoto State, Nigeria. 2021.
- Cochrane Database of Systematic Reviews. Individual and group-based parenting programmes for improving psychosocial outcomes for teenage parents and their children. 2011.
- SPRING and Save the Children. 2018. Engaging Adolescents to Accelerate Progress on the First 1,000 Days. SPRING project.
- 2022 Adolescent Nutrition Landscape Analysis, Save the Children-U.S.
- Government of the People’s Republic of Bangladesh National Strategy for Adolescent Health 2017 to 2030.
- Government of the People’s Republic of Bangladesh Strategic Investment Plan for the 5<sup>th</sup> Health, Population and Nutrition Sector Program 2024 to 2029.
- Bangladesh Adolescent Health and Wellbeing Survey 2019–2020.
- Bangladesh DHS 2017–2018.
- Kenya National Nutrition Action Plan 2018 to 2022; Popular Version.
- Republic of Kenya Malezi Bora Strategy 2017 to 2020.



- Government of Kenya National Guidelines for Integrated Management of Acute Malnutrition. Version 1, June 2009.
- Republic of Mozambique Strategic Health Plan 2014 to 2019.
- Food Security and Nutrition Strategy of Mozambique 2008 to 2015.
- Adolescent Nutrition Survey in Nepal. 2014.
- Nepal Multi-Sector Nutrition Plan 2018 to 2022.
- Nepal National Nutrition Policy 2020.
- National Policy on Food and Nutrition in Nigeria. 2016. Ministry of Budget and National Planning.
- National Policy on MIYCN in Nigeria. 2021.

## LIST OF KEY RESOURCE DATABASES

- USAID Advancing Nutrition Adolescent Nutrition Resource Bank: [Adolescent Nutrition Resource Bank | USAID Advancing Nutrition](#).
- SPRING Technical Areas: Adolescents. [Adolescents | SPRING \(spring-nutrition.org\)](#)
- Alive & Thrive: [Resources \(aliveandthrive.org\)](#)
- Emergency Nutrition Network: [Search | ENN \(enonline.net\)](#)
- UNICEF: [Adolescent wellbeing \(unicef-irc.org\)](#)

## ANNEX 2: FORMATIVE RESEARCH

YEAR/ COUNTRY	RESULTS	REFERENCE
<b>NUTRITIONAL STATUS, KNOWLEDGE, INFLUENCES, AND FOOD CONSUMPTION OF PREGNANT ADOLESCENTS AND ADOLESCENT MOTHERS</b>		
2019 / Ethiopia	<b>Alive &amp; Thrive in Ethiopia</b> has been reaching in-school adolescents with nutrition education and expanding this to community platforms. A <b>baseline survey found gaps in nutrition knowledge</b> of in-school adolescents that are probably relevant for pregnant adolescents and first-time adolescent mothers: 57% could not name examples of iron-rich foods, 40% could not name examples of vitamin A-rich foods, and 41% could not name examples of calcium-rich foods.	Adolescent Nutrition Interventions Through School-based and Community Platforms: Findings from a Baseline Survey in Ethiopia. 2019. IFPRI and Alive & Thrive, FHI Solutions. <a href="https://www.aliveandthrive.org/">Adolescent Nutrition Interventions Through School-Based and Community Platforms (aliveandthrive.org)</a>
2020 / Nepal	An assessment of adolescent girls to inform the <b>Suaahara program in Nepal</b> included three subsets of adolescent girls: younger adolescent girls age 10 to 14, older adolescent girls age 15 to 19, and adolescent mothers age 15 to 19. Results showed that among the three subsets the adolescent mothers had the lowest prevalence of underweight (19%), the highest prevalence of overweight (9%), and the highest prevalence of anemia (29%). Adolescent mothers spent the highest number of hours per day in physical labor (6.7+3.3 hours) and had the lowest consumption of sweet foods and beverages (11%). MMD was similar among the three groups (31% to 39% $\geq 5$ of 10 food groups). Only 28% of adolescent mothers had exposure to any nutrition messages in the month prior to the survey.	Cunningham K et al. 2020. Adolescent Girls' Nutritional Status and Knowledge, Beliefs, Practices and Access to Services: An Assessment to Guide Intervention Design in Nepal. <i>Curr Dev Nutr.</i> 4(7): nzaa094. <a href="https://pubmed.ncbi.nlm.nih.gov/34888888/">Adolescent Girls' Nutritional Status and Knowledge, Beliefs, Practices, and Access to Services: An Assessment to Guide Intervention Design in Nepal - PMC (nih.gov)</a>
2021 / Ghana	Although a study was done on <b>nutritional knowledge and dietary intake among pregnant adolescents in urban areas of Ghana</b> , some of the results are also likely to be relevant for pregnant adolescents in rural areas. A total of 24% of pregnant adolescents were found to skip breakfast (while lower percentages skipped lunch or dinner) and only 10% to 15% consumed snacks in between meals. Only 4% consumed fruits or vegetables daily and 10% consumed animal products. A little under 45% had good knowledge of dietary recommendations and sources of nutrients, while 23% had low knowledge.	Appiah PK et al. 2021. Nutritional Knowledge and Dietary Intake Habits among Pregnant Adolescents Attending ANC Clinics in Urban Community in Ghana. <i>Journal of Nutrition and Metabolism.</i> 8835704. <a href="https://doi.org/10.1155/2021/8835704">https://doi.org/10.1155/2021/8835704</a> .
2021 / Ghana	Another study to assess <b>dietary diversity in Ghana</b> among pregnant adolescents in both urban and rural areas of the Ashanti Region found 64% in rural areas and 51% in urban areas to have an inadequate dietary diversity score. The mean MMD score for women was 4.4. However, 86% consumed meat, poultry, or fish while only 37% consumed dark green leafy vegetables and only 21% consumed vitamin A-rich fruits or vegetables. The MDD for women was slightly lower for the 64% who reported food aversion but not among the 63% who practiced pica.	Gyimah LA et al. 2021. Dietary diversity and its correlates among pregnant adolescent girls in Ghana. <i>PLoS ONE.</i> 17(3): e0247979. <a href="https://doi.org/10.1371/journal.pone.0247979">https://doi.org/10.1371/journal.pone.0247979</a>

YEAR/ COUNTRY	RESULTS	REFERENCE
2021 / Bangladesh	<p>This study presents the results of peer-conducted qualitative interviews with pregnant adolescents, adolescent mothers, adolescent family members, and health care providers in the urban slum areas of Dhaka and rural Rangpur, Bangladesh. Adolescent pregnancy was described as an overwhelming experience that increased isolation and reliance on family members. Mothers and mothers-in-law of pregnant adolescents had the most influence on health care and nutrition choices and, unfortunately, did not always align with recommendations from health care providers.</p>	<p>Pike V et al. 2021. Family influences on health and nutrition practices of pregnant adolescents in Bangladesh. <i>Maternal Child Nutrition</i>. 17:313159. <a href="https://doi.org/10.1111/mcn.13159">https://doi.org/10.1111/mcn.13159</a></p>
2021 / Bangladesh	<p>A study in <b>Bangladesh looked at differences between recently delivered adolescents &lt;19 years of age and women &gt;19 years of age</b>, with both groups having access to maternal health services and to home visits from community health workers, both supported by the large NGO BRAC. Some of the differences found were attributed to the lack of decision-making power of the pregnant adolescent regarding household food purchases.</p> <ol style="list-style-type: none"> <li>1. Use of ANC was similar between both groups: almost half attended ANC within the first trimester; a little over 65% had 4 or more ANC visits, with 6 as the average number; 40% to 47% received IFA; and 30% to 32% received calcium supplements.</li> <li>2. Nutrition counseling that was received was similar for both groups (topics included: eating additional food ~60%, taking IFA ~50%, taking calcium supplements ~50%) except for counseling on optimal weight gain, which was low for both but higher for pregnant women &gt;19 years of age (19.5% vs. 14.4%). Few possessed a weight gain chart. Adolescents had less knowledge about the benefits of IFA or calcium supplements.</li> <li>3. A high proportion in both groups delivered at home (58% of &lt;19; 63% of &gt;19).</li> <li>4. Maternal height was similar for both recently delivered groups, but weight and body mass index was significantly lower for adolescents.</li> <li>5. Adolescents took longer to recover after delivery, as defined as care of self, care of child and care of household.</li> <li>6. Infants of adolescent mothers had lower height-for-age Z-score and lower weight-for-age Z-score.</li> <li>7. Infant feeding practices were similar between both groups (early initiation ~50%; pre-lacteal feed 13% to 18%; exclusive breastfeeding 66% to 71%; bottle feeding 9% to 11%).</li> </ol>	<p>Nguyen PH et al. 2017. The nutrition and health risks faced by pregnant adolescents: Insights from a cross-sectional study in Bangladesh. <i>PLoS ONE</i>. 12(6): e0178878. <a href="https://doi.org/10.1371/journal.pone.0178878">The nutrition and health risks faced by pregnant adolescents: Insights from a cross-sectional study in Bangladesh (plos.org)</a>.</p>

YEAR/ COUNTRY		
	<p><b>A cross-sectional study done in central Malawi in 2019</b> with pregnant adolescents (any trimester) age 12 to 19 years found the following results:</p> <ol style="list-style-type: none"> <li>1. 31% had MUAC &lt;25 cm; mean MUAC 25.9 (+2.0) cm; 19% were stunted; 21% were ≤150 cm tall.</li> <li>2. 69% did not achieve MDD; mean MDD was 4.06; 74% did not meet the recommended daily meal frequency (3 meals and at least 1 snack).</li> <li>3. 39% consumed meat/poultry/fish, 7% eggs, none consumed dairy products.</li> <li>4. 35% reported food taboos with eggs the most common taboo (87%).</li> <li>5. Roughly 60% consumed both dark green leafy vegetables and vitamin A-rich fruits and vegetables.</li> <li>6. 66% were anemic; only 37% consumed ferrous sulfate.</li> <li>7. With at least one ANC visit, 52% had received counseling on nutrition during pregnancy but only 8% on IYCF.</li> </ol>	<p>Walters C, Bendulo P and Stoecker BJ. 2019. Assessment of dietary diversity, antenatal care, food taboos, meal frequency, and nutritional status of pregnant adolescent in rural Malawi: A cross-sectional study. <i>African Journal of Food, Agriculture, Nutrition, and Development</i>. 19(3):14555–14570.</p>
	<p>A study done in Ghana with a mix of pregnant adolescents from urban and rural areas gathered anthropometric measurements, blood biomarker samples, and repeated 24-hour diet recall to analyze relationships with birth outcomes. Participants had a mean gestational age of 22 weeks at recruitment; 56% had anemia while 5.9% were severely wasted. The total mean intake for energy was below recommendations and the total mean intake for folate, vitamin A, iron, and calcium was far below recommendations. Low birthweight was consistently higher among anemic adolescents and among those with low serum vitamin A levels.</p>	<p>Gyimah LA et al. 2021. Nutritional status and birth outcomes among pregnant adolescents in Ashanti Region, Ghana. <i>Human Nutrition and Metabolism</i>. 26: 200130. <a href="https://sciedirectassets.com">Nutritional status and birth outcomes among pregnant adolescents in Ashanti Region, Ghana (sciedirectassets.com)</a></p>
	<p>Analysis of <b>DHS data from all relevant LMICs in the year 2015</b> found only 16 to meet the minimum recommendation of GWG for normal weight women. These results were similar to previous results cited in this article, which found the mean GWG in India and Sub-Saharan Africa to be only 50% of the recommended amount for underweight women and a systematic review in Sub-Saharan Africa, which found the percentage of inadequate GWG was greater than 58% in LMIC Sub-Saharan countries. This analysis postulated that all these results were influenced by the high numbers of pregnant adolescents in these countries.</p>	<p>Wang D et al. 2020. Gestational weight gain in low-income and middle-income countries: A modelling analysis using nationally representative data. <i>BMJ Global Health</i>. 5:e003423. <a href="https://www.bmj.com/lookup/doi/10.1136/bmjgh-2020-003423">Gestational weight gain in low-income and middle-income countries: a modelling analysis using nationally representative data   BMJ Global Health</a>.</p>

YEAR/ COUNTRY		
	<p>A study that followed <b>pregnant adolescents in Bangkok, Thailand, found more than 60% to have inappropriate GWG</b>. Participants were almost evenly divided among underweight and normal weight at study start, with a small percentage overweight or obese. Among the 60% with inappropriate GWG, roughly half were under recommended weight gain and half over. The authors mention that inadequate GWG may be partly due to teenagers' desire to keep unplanned pregnancies secret.</p>	<p>Vivatkusol Y, Thavaramara T and Phaloprakarn C. 2017. Inappropriate gestational weight gain among teenage pregnancies: Prevalence and pregnancy outcomes. <i>International Journal of Women's Health</i>. <a href="#">Inappropriate gestational weight gain among teenage pregnancies: prevalence and pregnancy outcomes - PMC (nih.gov)</a></p>
	<p><b>A qualitative study done among 10 teenage mothers (&lt;20 years of age) in one urban and one rural hospital in KwaZulu-Natal, South Africa</b>, tracked their knowledge, influences, and behaviors from the infant's birth to 6 months of age. One-third of teenage mothers intended to breastfeed based on information they had received during ANC. Others planned to breastfeed due to a lack of money to buy infant formula. One chose not to breastfeed as she was HIV+. Behaviors were heavily influenced by elder women in the household (mothers or grandmothers), with most feeding advice being inappropriate (such as giving water). Financial dependency and lack of autonomy left teenage mothers unable to challenge advice. Most of the teenage mothers returned to school and this inhibited them from continuing breastfeeding.</p>	<p>Jama NA et al. 2018. Autonomy and infant feeding decision-making among teenage mothers in a rural and urban setting in KwaZulu-Natal, South Africa. <i>BMC Pregnancy and Childbirth</i>. 18:52. <a href="https://doi.org/10.1186/s12884-018-1675-7">https://doi.org/10.1186/s12884-018-1675-7</a>.</p>
	<p>A randomized intervention in Porto Alegre, Brazil, with <b>adolescent mothers and their grandmothers with whom they cohabited</b> increased the duration of exclusive breastfeeding, delayed and reduced the intake of unnecessary water or herbal teas, and increased the prevalence of breastfeeding in the first year of life, but did not affect the prevalence of breastfeeding at 2 years of age (~30%).</p>	<p>Da Silva CF et al. 2016. Effect of a pro-breastfeeding intervention on the maintenance of breastfeeding for 2 years or more: Randomized clinical trial with adolescent mothers and grandmothers. <i>BMC Pregnancy and Childbirth</i>. 16(97). <a href="#">Effect of a pro-breastfeeding intervention on the maintenance of breastfeeding for 2 years or more: randomized clinical trial with adolescent mothers and grandmothers - PubMed (nih.gov)</a>.</p>

YEAR/ COUNTRY		
	<p>A study of knowledge of optimal breastfeeding was carried out in 2 states in India through the <b>Understanding the Lives of Adolescents and Young Adults survey</b> in 2016 by Population Council in coordination with the Ministry of Health and Family Welfare. Data were analyzed from respondents age 15 to 19 inclusive and both married and ever pregnant and unmarried. The education level of married adolescents was lower than that for unmarried. Key results found a significant gap in basic knowledge of optimal breastfeeding.</p>	<p>Kumar P et al. 2021. What predicts the knowledge of breastfeeding practices among late adolescent girls? Evidence from a cross-section analysis. <i>PLoS ONE</i>. 16(10): e0258347. <a href="https://doi.org/10.1371/journal.pone.0258347">What predicts the knowledge of breastfeeding practices among late adolescent girls? evidence from a cross-sectional analysis (nih.gov)</a>.</p>
	<p>A qualitative study was published in 2020 on adolescent mothers' experiences providing <b>KMC</b> in the Western Cape of South Africa. Literature cited by the study included previous findings that adolescent mothers have been characterized as having insecure attachment to their infants, as displaying less emotion, and as being less sensitive or responsive to the needs of their infants. This study also cited a systematic review of KMC provided to premature infants and noted that mothers needed support and assistance from health care providers. Findings from the study were that, with support, adolescents had a very positive experience with KMC and described it as strengthening their bond with the infant. Adolescents did describe a sense of marginalization or "unfair or unwilling treatment" by the health care staff; it seemed that they overcame this impediment by learning from other non-adolescent mothers in the hospital ward providing KMC to their newborns.</p>	<p>Robertson AE and Crowley T. 2020. Adolescent mothers' lived experiences whilst providing continuous kangaroo mother care: A qualitative study. <i>Health SA Gesondheid</i>. 25(0), a1450.</p> <p>Williams LR. 2020. The impact of infant carrying on adolescent mother-infant interactions during the still-face task. <i>Infant and Child Development</i>. 29(3), 1–20.</p> <p>Mu PF et al. 2020. Experiences of parents providing kangaroo care to a premature infant: A qualitative systematic review. <i>Nursing Health Sciences</i>. 22(2), 149–161.</p>
	<p><b>A qualitative study in 2017 in Iran to explore the challenges faced by adolescent mothers</b> categorized findings in 4 areas:</p> <ol style="list-style-type: none"> <li>1. Being overwhelmed at the increased burden of responsibility. This was particularly mentioned in relation to having to breastfeed through the night.</li> <li>2. An increased burden without sensing any support from spouse or family. Family support is crucial for successful IYCF.</li> <li>3. A feeling of incompetency based on a lack of skills or experience, especially in regards to feeding the infant.</li> <li>4. Role conflict, with many still wishing to return to school.</li> </ol>	<p>Mangeli M et al. 2017. Exploring the Challenges of Adolescent Mothers From Their Life Experiences in the Transition to Motherhood: A Qualitative Study. <i>Journal of Family and Reproductive Health</i>. 11(3).</p>



YEAR/ COUNTRY	RESULTS	REFERENCE
<b>COMPLEMENTARY FEEDING: ADOLESCENT MOTHERS' KNOWLEDGE, ATTITUDES, INFLUENCES, AND BEHAVIORS</b>		
<b>2022 / Ecuador</b>	A study on <b>IYCF among children of indigenous Ecuadorians</b> found lower percentages of appropriate CF among the poorest adolescent mothers and those mothers with lower education levels.	Tello B et al. 2022. Breastfeeding practices and stunting in indigenous Ecuadorians under 2 years of age. <i>International Breastfeeding Journal</i> . 17(19). <a href="https://doi.org/10.1186/s13006-022-00461-0">https://doi.org/10.1186/s13006-022-00461-0</a> .
<b>2018 / Brazil</b>	A study in the town of Recife, Brazil, <b>compared the CF practices between dyads of adolescent mothers and adult mothers</b> . All findings were statistically significant, with more adolescent mothers beginning CF sooner than recommended and presenting less responsive and more authoritarian feeding styles, and their children received more sugars and less meat, eggs or beans than the children of adult mothers.	Da Costa KAO et al. 2018. Feeding style of adolescent mothers and complementary feeding practice of their infants. <i>Rev. Nutr.</i> 31(1):49–58. <a href="https://doi.org/10.1590/1678-98652018000100005">https://doi.org/10.1590/1678-98652018000100005</a> .
<b>2015 / Bangladesh</b>	An investigation into the <b>knowledge, attitudes and perceptions of IYCF among adolescents and young women age 15 to 23 in rural Bangladesh</b> found acceptable basic knowledge of IYCF among adolescents and young women, regardless of marital or maternity status. However, in terms of putting these messages into practice, there was much misinterpretation and deviation from the intended message with gender-based biases in feeding intentions and lack of understanding of infant needs. The conclusion of the investigation was that early education of adolescent girls and mothers regarding optimal IYCF is worth the investment.	Hackett KM et al. 2015. Knowledge, attitudes and perceptions on infant and young child nutrition and feeding among adolescent girls and young mothers in rural Bangladesh. <i>Maternal Child Nutrition</i> . 11: 173–189.

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