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Nutrition Interventions

in Urban Maternal, Newborn, and Child Health Services

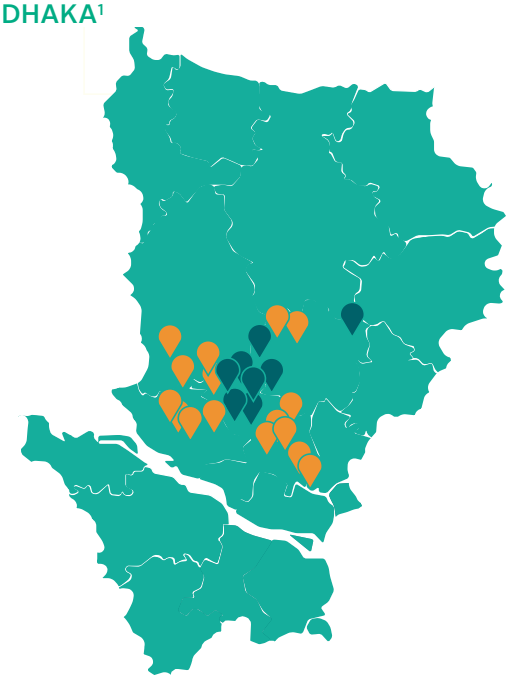
FINDINGS FROM A BASELINE SURVEY IN BANGLADESH

In 2018, more than a third of the Bangladeshi population – or approximately 65 million people – lived in urban areas. This number is projected to increase to 118 million by 2050 (UN, 2018). Despite progress in recent decades, undernutrition is still a major problem in Bangladesh. Stunting among children under five years has decreased from 43% in 2007 to 31% in 2017 but remains among the highest in the world. While stunting and other forms of malnutrition are generally lower in urban than rural areas, averages mask the disparities between the poor and more affluent. For example, 40% of the most impoverished children under age five are stunted, compared to 17% of the wealthiest (DHS, 2017-2018). In slum areas, half of children under five are stunted compared to one-third in non-slum areas (Ahsan et al., 2017). Furthermore, health policy in Bangladesh heavily focuses on rural delivery of health services and improvements in health and nutrition outcomes for rural residents (Govindaraj et al. 2018).

To address the urban healthcare gap, non-governmental organizations (NGOs) are providing essential primary care services funded by the government and development partners. Many of the health sector improvements during the past two decades can be attributed to partnerships between the government, NGOs, and communities (Chowdhurry and Perry, 2020). Alive & Thrive (A&T) is contributing to these systems strengthening efforts by testing a package of maternal, infant and young child nutrition (MIYCN) interventions delivered through NGO platforms in Dhaka. The package includes building capacity for health providers and introducing MIYCN counselors in urban health clinics, creating a friendly MIYCN counseling environment in clinic settings, and mobilizing communities to generate demand for MIYCN services. The International Food Policy Research Institute (IFPRI) is conducting a quasi-experimental design evaluation of the intervention package. This document presents highlights from the findings of the baseline survey conducted from October 2019-March 2020 with 24 health facilities around Dhaka.

FACILITY LOCATIONS IN DHAKA[1]

[1]8 urban health facilities operated by NGOs (Radda and Marie Stopes Bangladesh) using private donor funding; 16 urban health facilities under the Urban Primary Health Care Service Delivery Project.



NGOs

Government

About the Survey and Sample

The study used mixed data collection methods including:

- **24** Health facility surveys
- **159** Health provider surveys
- **1,683** Case observations (795 ANC; 888 IMCI)
- **1,360** Client interviews (651 ANC; 709 IMCI)

Characteristics of health care providers

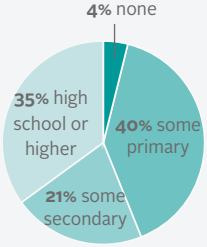
Providers were predominantly female (99%), and a majority (62%) had college education beyond grade 12 or higher. The types of providers included:

Physician/Medical officer: 20%
Nurse: 1%
Counselor: 13%
Community worker: 38%
Paramedic: 27%
Other: 2%

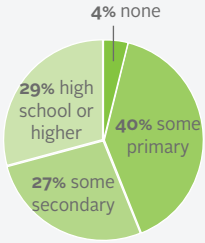
Characteristics of women and families

Women were on average 24 to 25 years; virtually all were married and Muslim. About a third lived in slum areas. Some (16.4% of ANC and 20.8% of IMCI clients) were food insecure. Families were evenly distributed across low, medium, and high socioeconomic status.

Education



ICMI Clients



ANC Clients

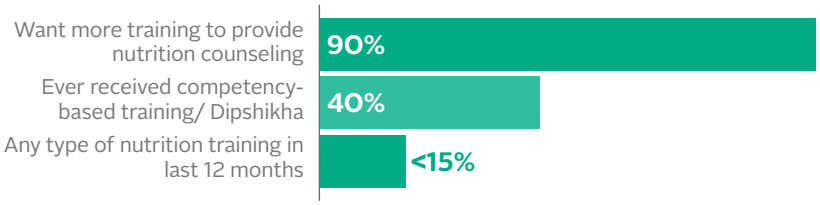
Baseline Findings

1. URBAN FACILITIES NUTRITION SERVICES AND USE

Health provider capacity

- Less than half of the health providers had ever received Competency-Based Training/ Dipshikha.
- Very few providers received any type of nutrition training in the last 12 months.
- Almost all providers said they needed more training to provide nutrition counseling services.

NUTRITION TRAINING OF HEALTH PROVIDERS



Nutrition services offered

- All health facilities offered ANC services, iron folic acid (IFA) and calcium supplementation, maternal nutrition counseling, and child vaccination services.
- Most provided IMCI, growth monitoring and promotion, and Infant and Young Child Feeding (IYCF) counseling.
- Fewer provided services for management of acute malnutrition (MAM) and severe malnutrition (SAM).

AVAILABILITY OF NUTRITION SERVICES AT HEALTH FACILITIES

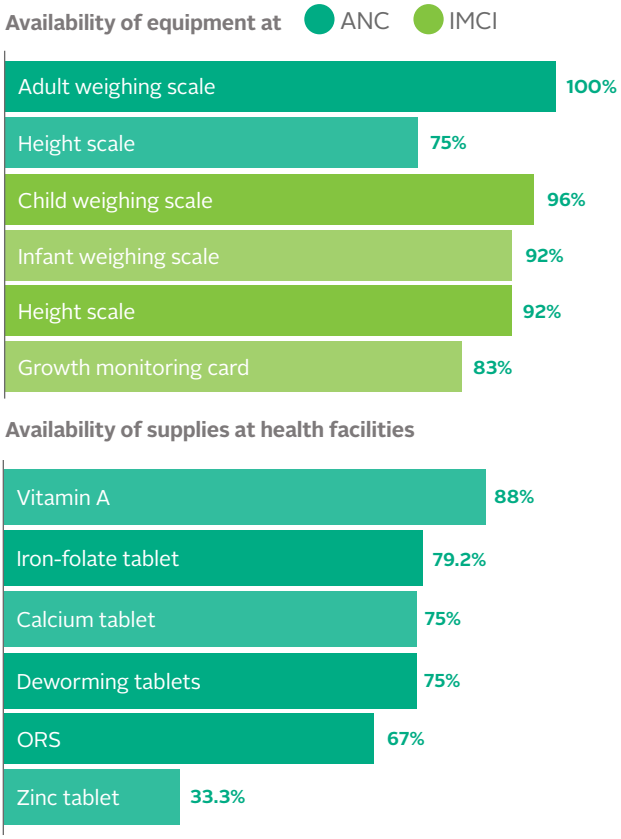
100%	ANC IFA supplementation Calcium supplementation Maternal nutrition counseling Child Vaccination
88%	Growth monitoring and promotion IYCF counseling
75%	Management of MAM
58%	Management of SAM

1. URBAN FACILITIES NUTRITION SERVICES AND USE (CONTINUED)

Nutrition equipment and supplies

- Facilities were well equipped and had a good supply of many preventive and treatment medicines with some exceptions—zinc and ORS.
- IFA and calcium tablets were generally available at health facilities. 83% of facilities had iron tablets and 75% calcium tablets.
- Although prescribed, IFA and calcium tablets were usually not distributed for free. Most women reported buying tablets during their pregnancy.

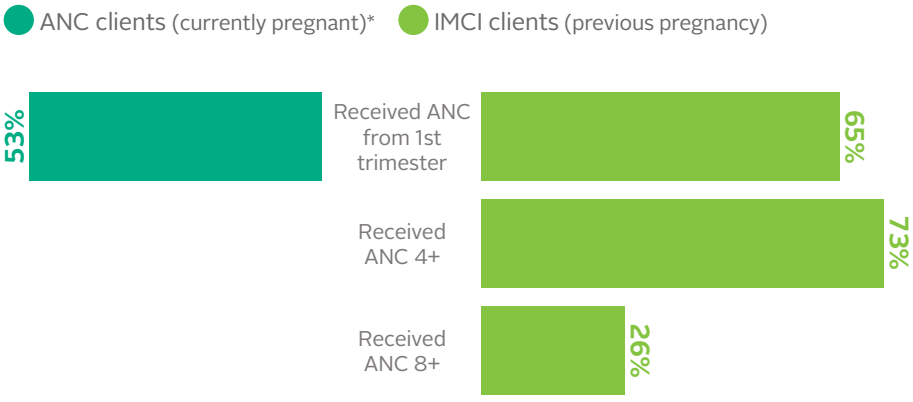
AVAILABLITY OF EQUIPMENT AND SUPPLIES



ANC care seeking

- About half of currently pregnant women and two-thirds of previously pregnant women started going to ANC in their first trimester.
- While three-fourths of previously pregnant women had attended 4 or more antenatal visits, only one-fourth had the WHO recommended 8+ visits.

ANC VISITS

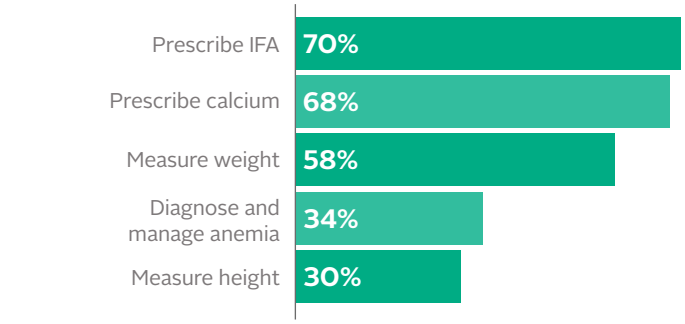


1. URBAN FACILITIES NUTRITION SERVICES AND USE (CONTINUED)

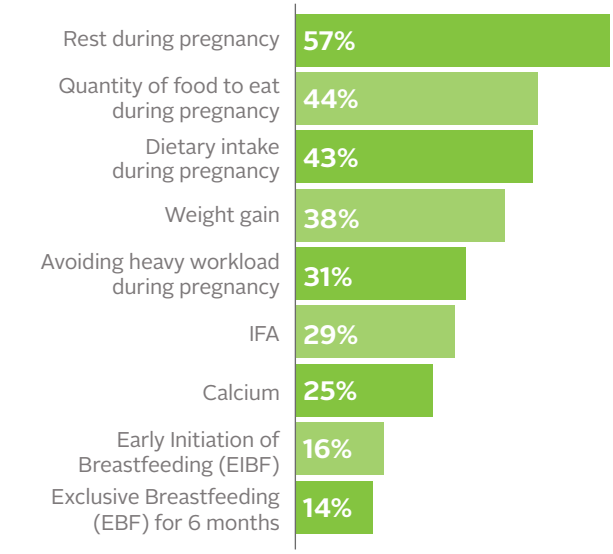
ANC services

- Most commonly offered ANC service was prescribing IFA and calcium.
- Despite the availability of equipment, only about half of providers measured pregnant women's weight and one-third their height.
- Few providers diagnosed and managed anemia.
- Counseling on IFA or calcium supplementation, maternal diet, or early initiation of breastfeeding or exclusive breastfeeding was less frequent during women's ANC visits at facilities.

NUTRITION SERVICES PROVIDED WITHIN ANC AT HEALTH FACILITIES



Percentage of ANC clients who received counseling on...

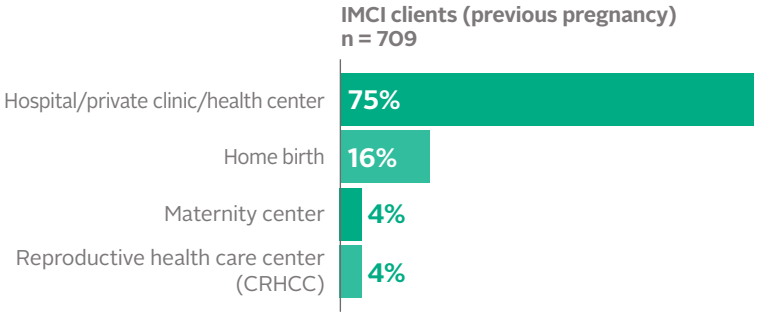


1. URBAN FACILITIES NUTRITION SERVICES AND USE (CONTINUED)

Delivery

- Most mothers with children 0-12 months delivered their last baby at a hospital, private clinic, or health center.
- C-section deliveries were very high, with almost two-thirds of women delivering their baby by C-section.
- Most babies were born of average birth weight.

PLACE OF DELIVERY



64% of women delivered by C-section.

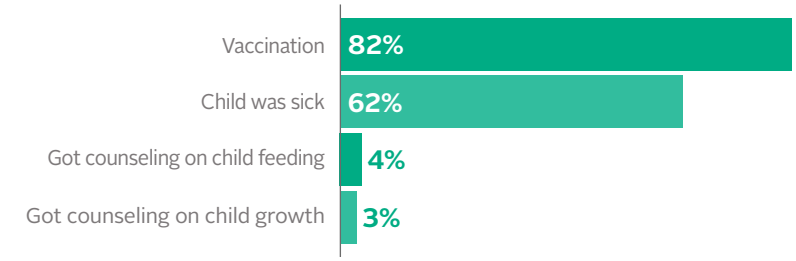
17% of babies were low birthweight (<2500 grams)

Care seeking

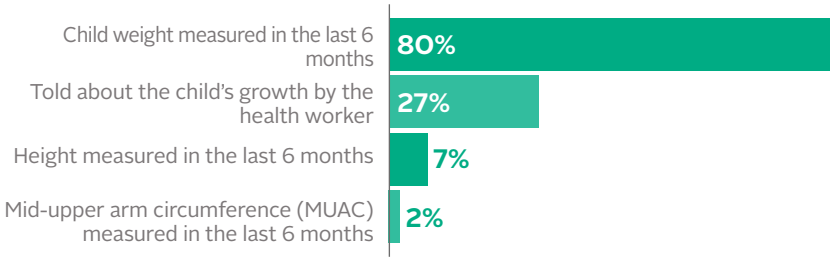
- On average the mothers with children 0-12 months took the child to a health facility regularly for vaccinations or because the child was sick.
- Hardly any went to receive counseling on child growth or child feeding.
- At the appointments, most children's height was measured, but not their length. Also, few mothers were told about their child's growth by the health worker.

On average, mothers with children 0-12 months took their child to a health facility **3.8** times.

MOTHERS' REASONS FOR TAKING CHILD TO HEALTH FACILITY



GROWTH MONITORING AND PROMOTION SERVICES RECEIVED AT HEALTH FACILITIES

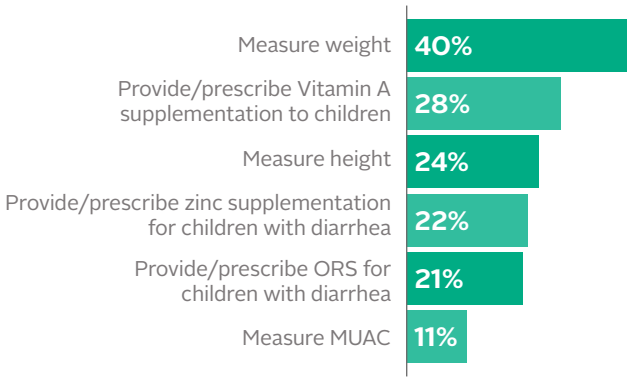


1. URBAN FACILITIES NUTRITION SERVICES AND USE (CONTINUED)

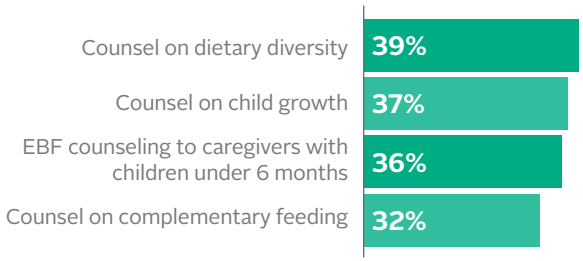
IMCI services

- Less than half of the providers reported providing various key services to children less than 2 years old.
- Few providers said they counseled mothers on exclusive breastfeeding (EBF), child growth, complementary feeding, or on dietary diversity during IMCI visits.

IMCI SERVICE PROVISION TO CHILDREN <2 YEARS



IMCI COUNSELING FOR CHILDREN <2 YEARS

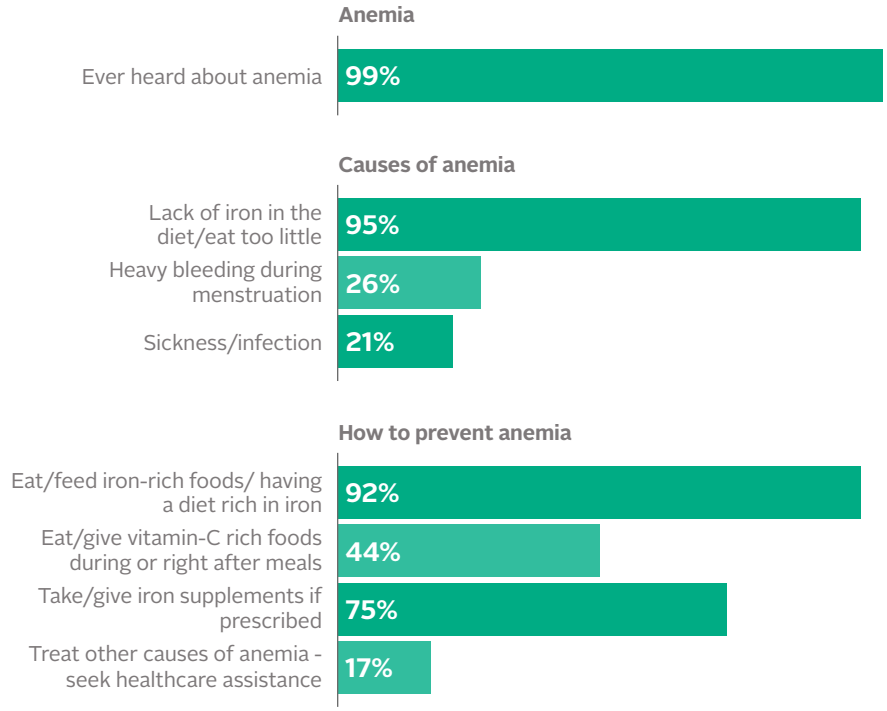


2. IFA AND CALCIUM

Provider knowledge of Anemia

- Virtually all providers had heard about anemia and that lack of iron in the diet could cause anemia for women and children.
- Most providers knew that a lack of iron in the diet causes anemia but few knew other causes.
- Almost all providers knew that eating iron-rich foods could prevent anemia.
- One quarter of providers knew that IFA supplements prevented anemia.

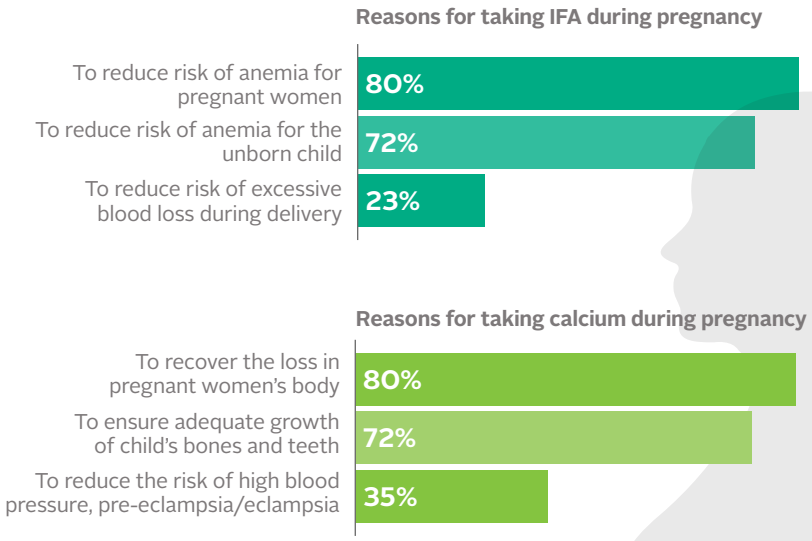
PROVIDER KNOWLEDGE OF ANEMIA



Provider knowledge IFA and calcium supplementation

- Most providers knew that pregnant women need IFA to reduce the risk of anemia in the woman and the unborn child.
- Most providers knew that it was important for pregnant women to take calcium supplements during their pregnancy.
- However, few knew that calcium reduces pregnant women's risk of pre-eclampsia.

PROVIDER KNOWLEDGE OF IFA AND CALCIUM DURING PREGNANCY



Maternal knowledge of IFA

- More than half of ANC clients had heard of anemia.
- However, fewer knew why they should take IFA during their pregnancy.

61% of ANC clients had heard of anemia.

31% knew that taking IFA reduces risk of anemia.

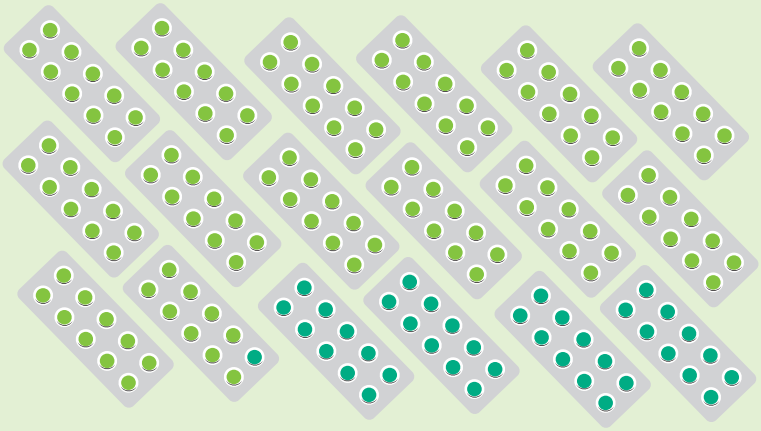
Maternal Consumption of IFA and calcium supplements

- On average, women consumed about 140 IFA tablets during their pregnancy.
- Almost all women consumed some IFA.
- Consuming some calcium supplements during pregnancy was also the norm.

CONSUMPTION OF IFA OR CALCIUM TABLETS DURING PREGNANCY

91% consumed some IFA during pregnancy

On average, women with a recent pregnancy took less than the recommended **180** tablets.



Tablets consumed (139)

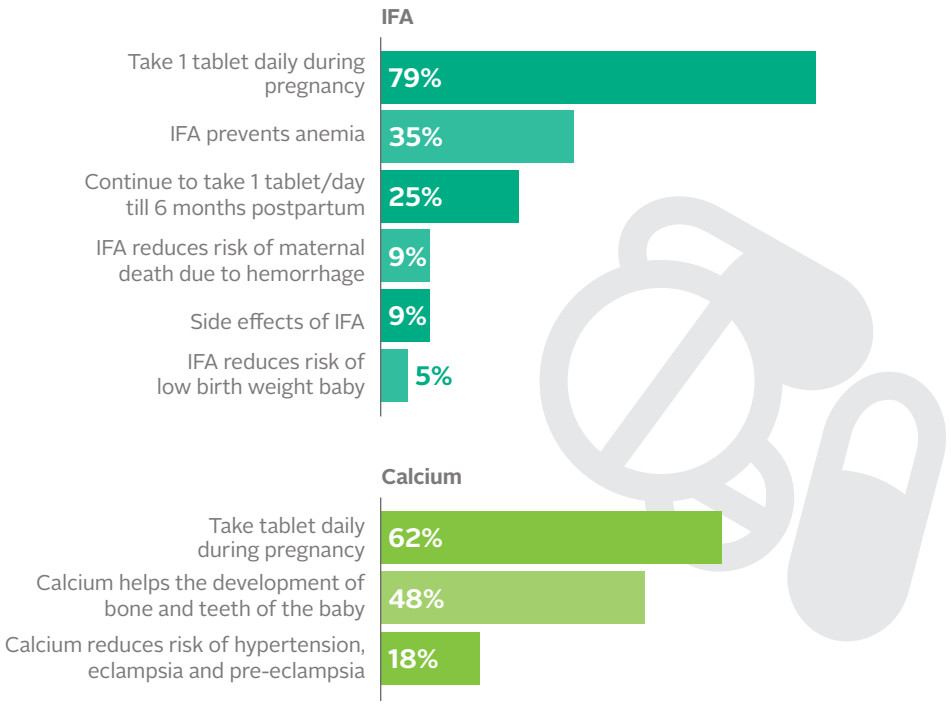
89% consumed some calcium supplements during pregnancy

On average, women with a recent pregnancy took **139** calcium tablets

Counseling on IFA and calcium

- When providers were asked what messages they give pregnant women on IFA and calcium supplementation, most said they tell them to take the supplements daily during pregnancy. Few tell them to continue taking IFA post-partum, the benefits of IFA and calcium, or side effects of IFA.
- Observed counseling was lower for most messages than what was reported by providers.

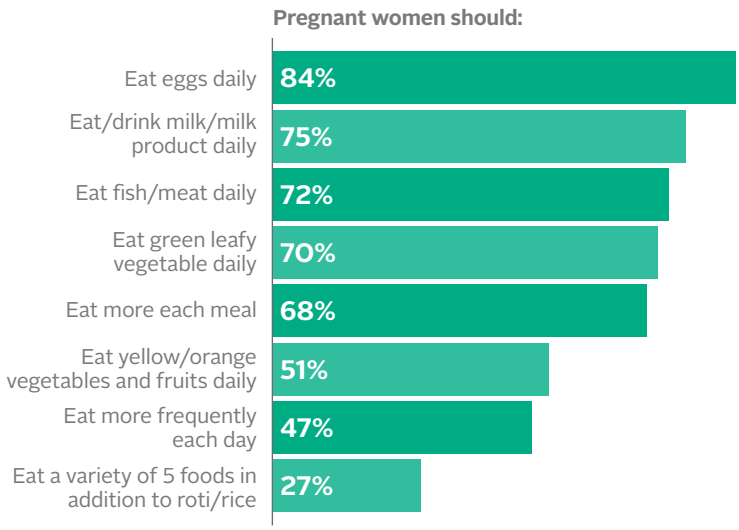
COUNSELING MESSAGES ON IFA AND CALCIUM DURING ANC



Provider knowledge of maternal diet

- The health providers knew about the basic food groups pregnant women should eat.
- However, there were knowledge gaps in dietary diversity and in eating more frequently and a greater quantity of food when pregnant.

PROVIDER KNOWLEDGE ON MATERNAL DIET

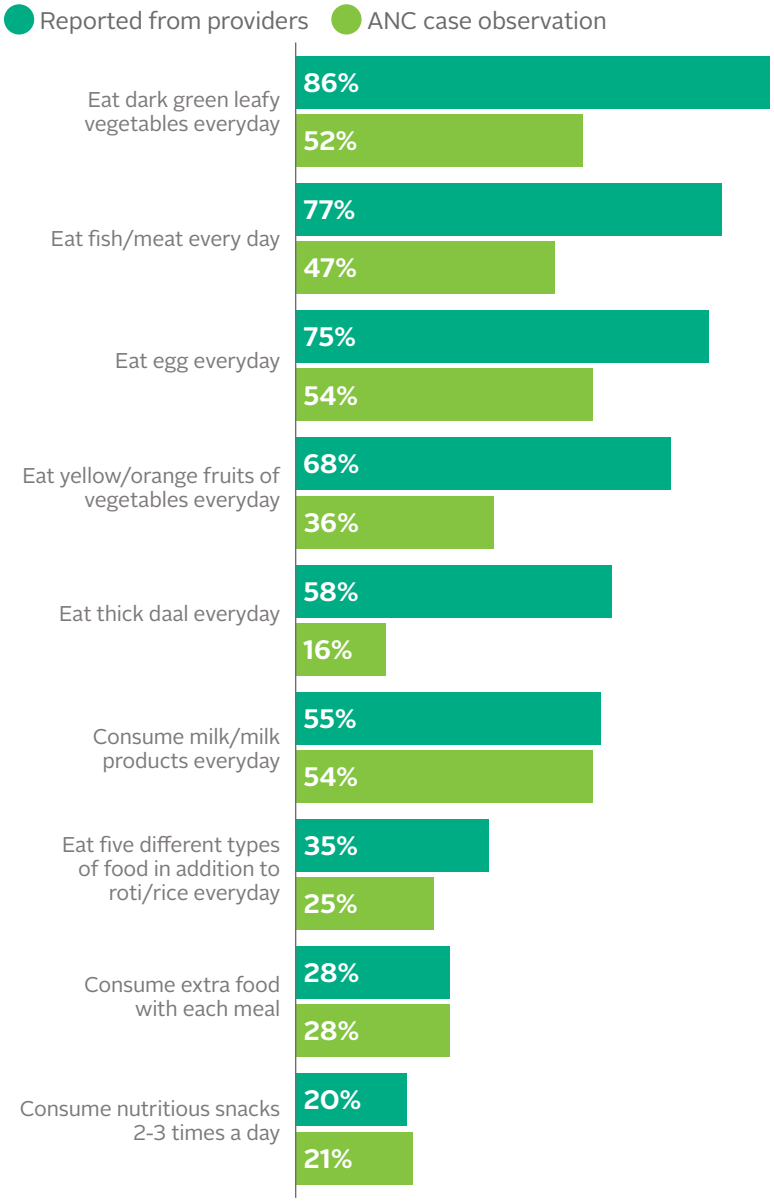


3. DIET AND WEIGHT GAIN IN PREGNANCY

Provider counseling on diet

- When providers were asked what messages they provide pregnant women on maternal nutrition, the majority said they counseled them on eating specific food groups. Few reported providing messages related to diversity and quantity – i.e., eating from five different food groups a day, eating nutritious snacks, and consuming extra food with each meal.
- Observed counseling was lower than reported counseling for most messages.

COUNSELING MESSAGES ON MATERNAL DIET

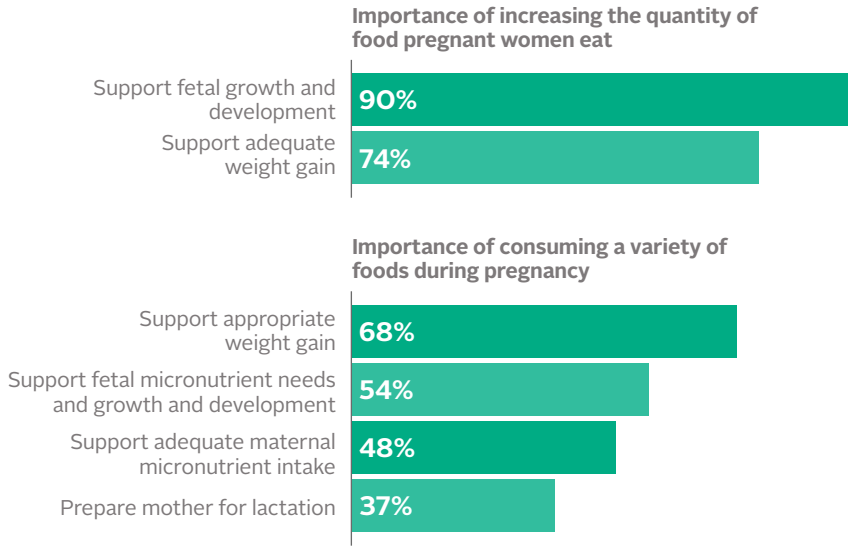


3. DIET AND WEIGHT GAIN IN PREGNANCY

Provider knowledge of weight gain

- The majority of providers linked the importance of increasing the quantity of food during pregnancy with supporting adequate weight gain and fetal growth and development.
- Consumption of a variety of food during pregnancy was mainly associated with appropriate weight gain, but not necessarily adequate maternal micronutrient intake, and supporting fetal micronutrient needs and growth and development.

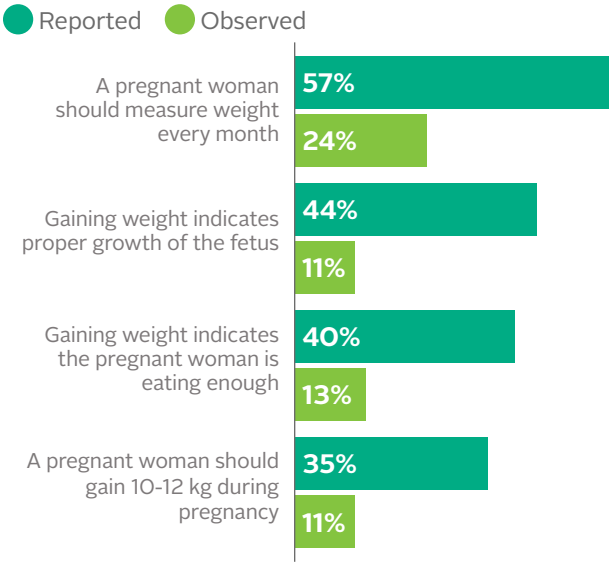
PROVIDER KNOWLEDGE OF BENEFITS OF GOOD NUTRITION DURING PREGNANCY



Provider counseling of weight gain

- When providers were asked what messages they tell their ANC clients on weight gain during pregnancy, more than half said they tell pregnant women to measure their weight every month.
- Few provided more detailed messages, such as how much weight a pregnant woman should gain and why it is important. Observed counseling was much lower than reported counseling for all messages.

COUNSELING MESSAGES ON WEIGHT GAIN

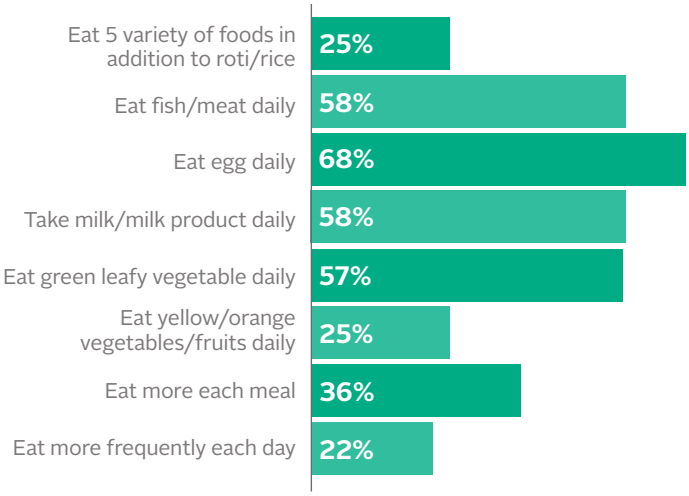


3. DIET AND WEIGHT GAIN IN PREGNANCY

Maternal knowledge of diet

- There were gaps in knowledge about the importance of eating at least 5 different food groups a day, the quantity of food to eat, and the frequency.
- Pregnant women's knowledge about which food groups to eat during pregnancy was generally poor.

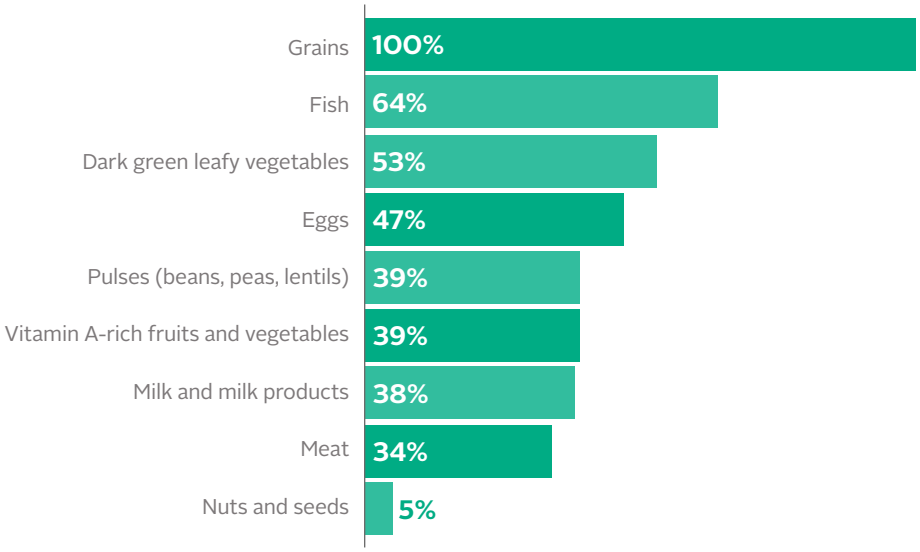
KNOWLEDGE OF DIET DURING PREGNANCY AMONG ANC CLIENTS



Maternal diet

- Over a 24-hour period, all women reported eating grains and more than half fish and dark green leafy vegetables. More than half of the women reported eating from at least five food groups.

FOODS CONSUMED BY ANC CLIENTS



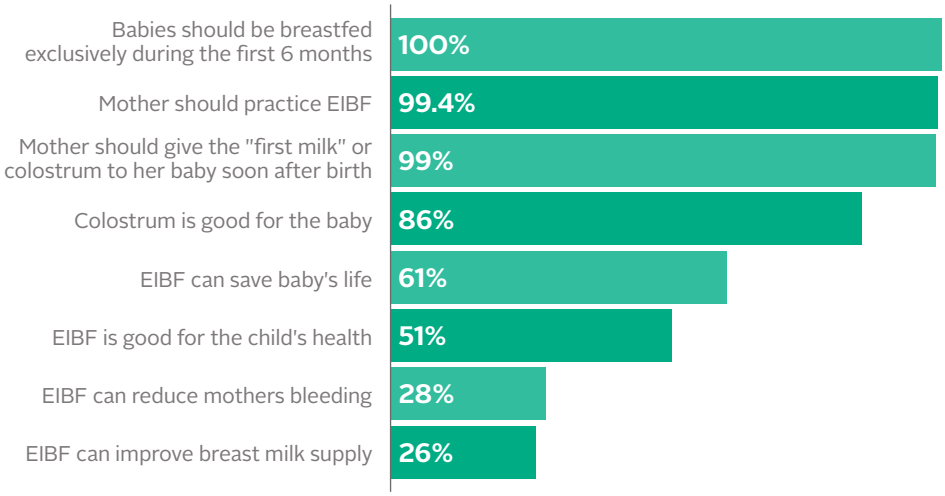
59% of ANC clients consumed at least 5 food groups

4. BREASTFEEDING

Provider EIBF knowledge

- All providers knew that women should practice early initiation of breastfeeding (EIBF) within 1 hour of birth, that babies should be exclusively breastfed for the first six months, and should be given the “first milk” (colostrum) soon after birth.
- There were some knowledge gaps related to the benefits of EIBF for both the mother and her baby.

PROVIDER KNOWLEDGE OF EARLY INITIATION OF BREASTFEEDING AND EXCLUSIVE BREASTFEEDING

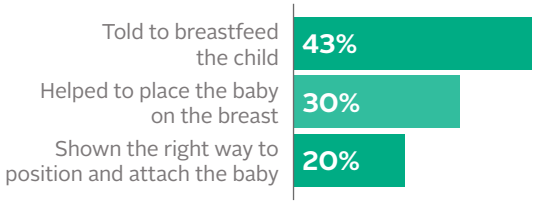


EIBF services

- About half of recently delivered women attending IMCI services reported receiving breastfeeding support immediately after delivery.
- Support primarily entailed telling mothers to breastfeed. Fewer had help with placing the baby on the breast or with positioning and attachment.
- Few women received assistance with breastfeeding.

Only **55%** of mothers received help with breastfeeding from a health provider immediately after delivery.

TYPE OF SUPPORT FOR BREASTFEEDING IMMEDIATELY AFTER BIRTH*



*16 percent of women delivered at home.

Maternal EIBF Knowledge

- Almost all IMCI clients knew about early initiation of breastfeeding and to give their baby the “first milk” or colostrum after birth.

89% of mothers knew about early initiation of breastfeeding.

91% knew to give “first milk” or colostrum to the baby soon after birth.

4. BREASTFEEDING (CONTINUED)

Maternal exclusive breastfeeding knowledge

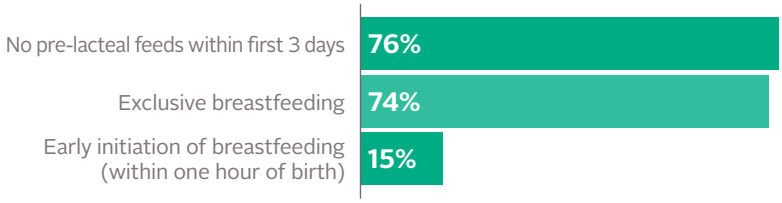
- Most mothers knew that babies should be breastfed exclusively for the first six months.

93% of mothers knew that babies should be exclusively breastfed during the first 6 months.

Maternal breastfeeding practice

- Most women practiced exclusive breastfeeding, but very few initiated breastfeeding within one hour of birth.
- The majority reported that they avoided pre-lacteal feeds within the first three days.

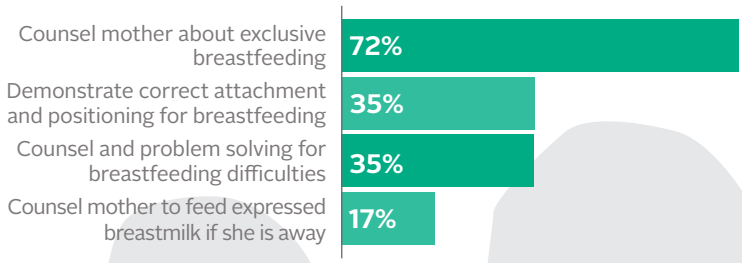
BREASTFEEDING PRACTICES AMONG IMCI CLIENTS



Breastfeeding counseling

- Most providers said they counseled on exclusive breastfeeding.
- Few received support with breastfeeding or help with problems breastfeeding.
- Counseling on expression of breastmilk was infrequent.

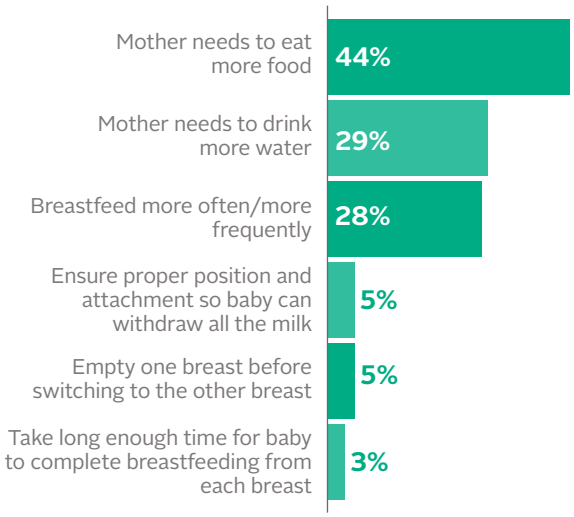
COUNSELING MESSAGES ON BREASTFEEDING FOR MOTHERS WITH CHILDREN UNDER 6 MONTHS



Managing breastfeeding complications and child illness

- However, many did not know what to do if a baby under six months old is not getting enough breastmilk, or had cultural beliefs and practices—all of which can impact exclusive breastfeeding.
- Many did not know to breastfeed more often if a child under 6 months has diarrhea.

KNOWLEDGE ABOUT WHAT TO DO IF A BABY (UNDER 6 MONTHS) IS NOT GETTING ENOUGH BREASTMILK

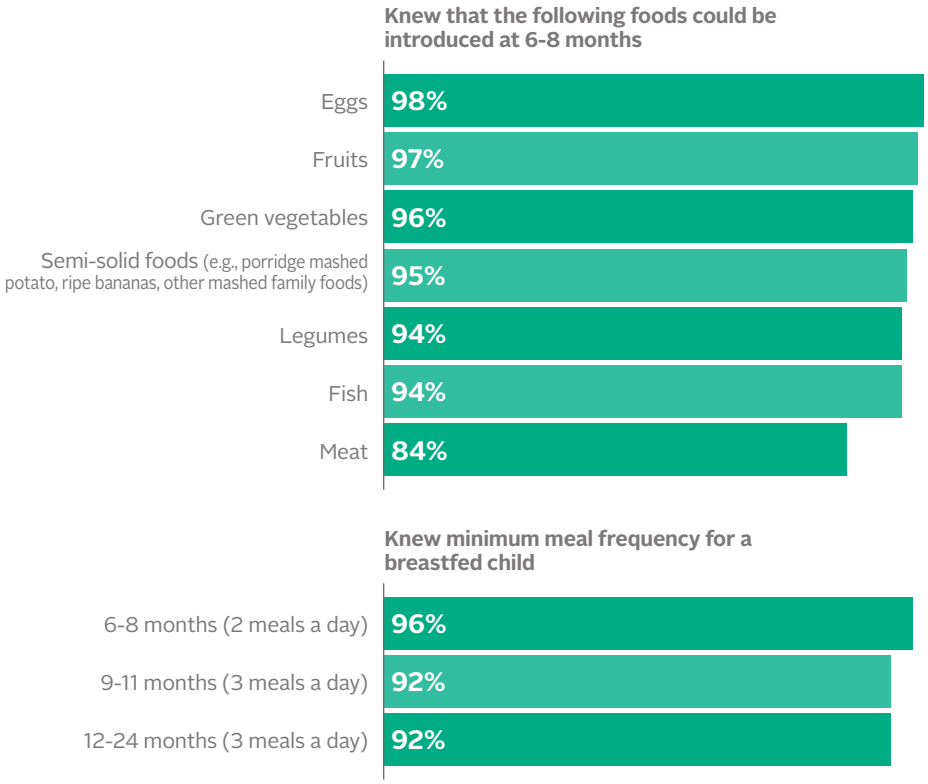


5. COMPLEMENTARY FEEDING

Provider knowledge of complementary feeding

- Providers' knowledge about complementary feeding was generally high.
- Most providers knew that a variety of foods should be introduced at 6-8 months, including protein-rich foods.
- Almost all knew about the recommended minimum meal frequency for children 2-24 months.

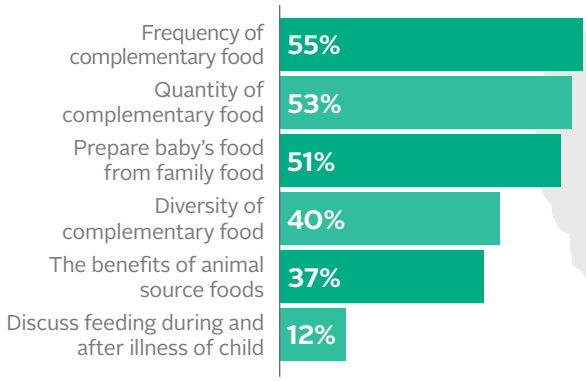
PROVIDER KNOWLEDGE OF COMPLEMENTARY FEEDING



Provider counseling

- Providers counseled on the frequency and quantity of complementary feeding and to prepare the baby's food from the family food. Fewer counseled on complementary food diversity.
- Half counseled mothers to prepare food for 6-24 month children from the family food.
- Less than half counseled on food diversity.
- Less frequent counseling topics pertained to animal source foods and feeding during an after illness.

PROVIDER COUNSELING MESSAGES ON COMPLEMENTARY FEEDING FOR MOTHERS WITH CHILDREN 6-12 MONTHS

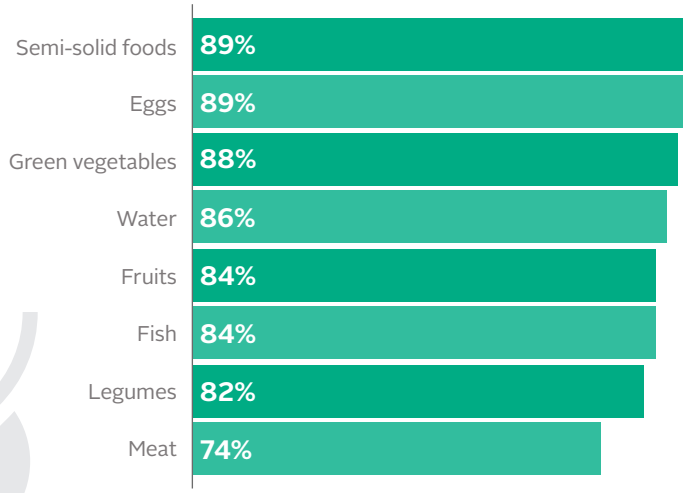


Mothers' complementary feeding knowledge

- Virtually all mothers knew how frequently to feed children between 6-24 months.
- Mothers were generally knowledgeable about the timing and types of foods to introduce to children at 6-9 months.

95% of women knew the age-appropriate meal frequencies for children 6-8 months, 9-11 months and 12-24 months.

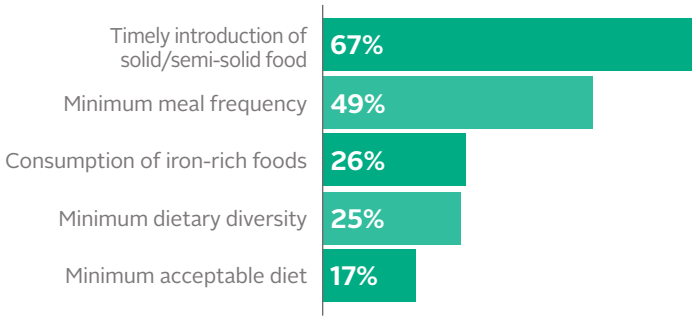
KNOWLEDGE ON TIMELY INTRODUCTION OF COMPLEMENTARY FOODS



Complementary feeding practices

- Complementary feeding practices were suboptimal.
- About two-thirds of the mothers reported timely introduction of solid and semi-solid foods.
- One-fourth of children had the recommended minimum dietary diversity, half had the recommended minimum meal frequency.
- Few children received the minimum acceptable diet or not and consumed iron-rich foods.

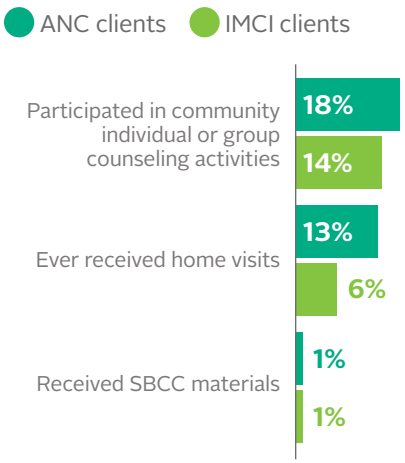
COMPLEMENTARY FEEDING PRACTICES AMONG IMCI CLIENTS



6. COMMUNITY SERVICES AND FAMILY SUPPORT

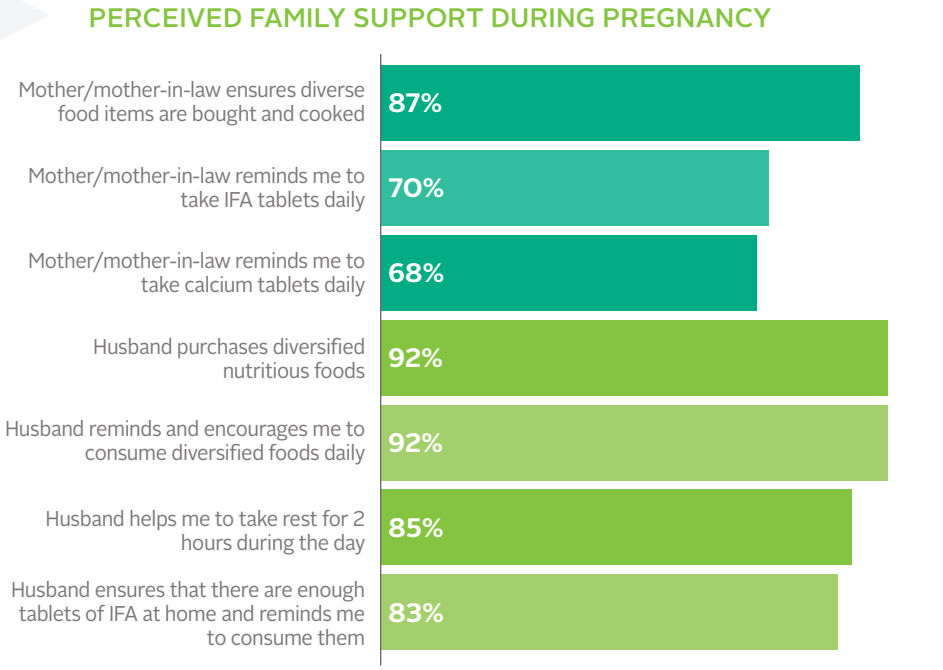
Community support for MIYCN

- Few ANC or IMCI clients received home visits for their child.
- Participating in community individual or group nutrition activities was not common.
- Social behavior change communication materials were not available.



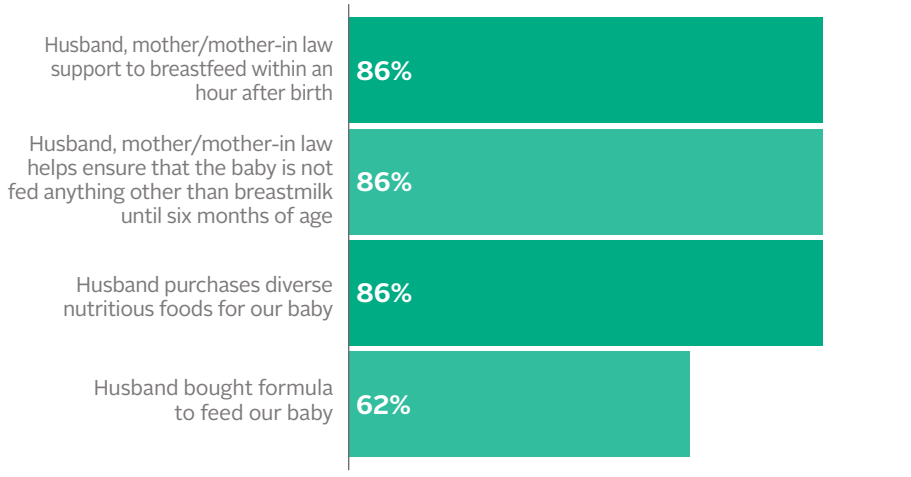
Family support for pregnant woman

- Pregnant women perceived a high level of family support regarding healthy practices during pregnancy, including diet diversity and supplementation.



Family support for young child care

- Mothers generally perceived high levels of family support for EIBF, EBF, and complementary feeding practices, with most perceiving that they had their husband's and mother-in-law's support to breastfeed the baby within an hour of its birth.
- However, over half the mothers reported that their husbands purchased formula to feed their baby.



Conclusion

OPPORTUNITIES FOR ACTION

1. The baseline survey found that facilities had equipment and supplies to provide preventative ANC and IMCI and preventative young child care. These resources were underutilized by providers.

   More attention is needed to increase the demand for ANC while improving the focus and quality of MIYCN counseling during ANC and in IMCI care.

   Raising the awareness of the benefits of key practices including dietary diversity during pregnancy, recommended breastfeeding and complementary feeding, as well as of growth monitoring and promotion, is essential for both providers and mothers.

2. This baseline found that prescription of IFA and calcium by providers was common although not universal. However, it was not accompanied by counseling in most instances.

   Counseling to encourage and support consumption of micronutrients needs strengthening.

URBAN MIYCN SERVICES AND USE TAKEAWAYS

- Facilities provided services to a range of clients from those who were highly educated to those with limited education, and from across all income groups—from low to high. The supplies and equipment needed to provide ANC and young child care were available at most of the facilities.
- Women sought ANC at these clinics. This survey found that about three quarters of women attended four or more ANC visits and one-quarter received the recommended 8 or more visits during their pregnancy. Two-thirds began ANC in the first trimester. While ANC was provided routinely at these clinics, MIYCN counseling was not a consistent focus of care.
- Women who visited these clinics primarily delivered their babies at facilities. An overwhelming majority of the women delivered by C-section—67 percent. The prevalence of low-birthweight infants in these women was also concerning—17 percent.
- Mothers took 0–12-month-old children to these facilities primarily for vaccinations and for sick-child care. Preventative childcare such as growth monitoring and promotion was not frequently provided despite the availability of providers trained in GMP and availability of measuring equipment and growth cards.

IFA AND CALCIUM TAKEAWAYS

- In this sample, providers were aware of anemia and the importance of addressing it during pregnancy. They knew some of the risks of anemia and the reasons that IFA and calcium are critical during pregnancy. However, all providers did not counsel women during that ANC visits to take IFA and calcium. Counseling on IFA and calcium supplements typically focused on telling pregnant women to take the supplements, rather than how to take them, and benefits or side effects.
- Most women consumed some IFA and calcium supplements during their pregnancy and post-partum. However, they did not consume the recommended number of 180 tablets. Average intake was about 140 tablets for both IFA and calcium.

3. Maternal dietary counseling was not the norm for this sample of providers. In some cases, knowledge providers lacked knowledge of recommended dietary practices and appropriate weight gain during pregnancy.

Women needed support with their diets as practices were suboptimal.

Providers need to build their knowledge and skills to offer support and counseling during ANC for improved dietary practices and weight gain for pregnant women.

MATERNAL DIET AND WEIGHT GAIN TAKEAWAYS

- The baseline found that very few providers reported counseling their clients on maternal diet during ANC. Counseling messages tended to be generic rather than specific to the client. For weight gain, only a third of providers in the baseline told women how much weight to gain, and counseling on weight gain was also infrequent in this sample.
- Most providers knew many of the foods that are important during pregnancy. Overall, they had gaps in knowing the importance of eating more frequently and to eat at least five foods in addition to rice/roti. From one-half to two-thirds of providers reported counseling on what they knew—eating specific foods and consuming milk products. They did not report counseling on things that did not align with their knowledge—eating more and encouraging at least 5 different food groups in addition to rice.
- Many providers knew the importance of gaining weight during pregnancy and supported appropriate weight gain. About half of providers reported counseling on the need to measure weight every month. Less than half of providers knew how much a woman should gain during pregnancy.
- Overall, the survey showed that women's diets during their pregnancy were not sufficiently diverse. The findings indicated that all women ate grains, and more than half ate fish (64%) and dark green leafy vegetables (53%). Only 59% reported eating from at least five food groups. Their knowledge about which foods to eat during pregnancy was generally poor. Many did not know about eating a diverse diet, the quantity of food to eat, or the recommended frequency during pregnancy.
- Observations of counseling sessions showed that reported counseling is higher than observed counseling with few exceptions. In most cases there was a 20-30 percent difference, meaning that only one-quarter to one-half of providers were providing counseling. Actual observed counseling on weight gain was infrequent; at least 25 percentage points less than reported counseling.

4. Breastfeeding knowledge is high among both providers and mothers, however recommended breastfeeding practices do not align with this knowledge.

EIBF skills need strengthening among health care providers, especially given the high rate of C-section delivery (64%) in this sample of women.

Women also need support to achieve exclusive breastfeeding for six months.

BREASTFEEDING TAKEAWAYS

- All providers knew about exclusive breastfeeding for six months and virtually all knew about EIBF. They also were all aware of the importance of colostrum. However, only half of mothers received support from providers for EIBF, which was typically not support, but just an instruction to breastfeed immediately. Very few showed mothers how to position and attach the infant for breastfeeding.
- Counseling focused on exclusive breastfeeding although not all providers provided counseling. Specialized counseling on resolving problems with breastfeeding or expressing breastmilk was infrequent.
- Almost all mothers knew about EIBF and colostrum. Likewise, virtually all mothers knew about exclusive breastfeeding for six months. Mothers were less knowledgeable about how to maintain successful breastfeeding for example by breastfeeding more frequently and drinking extra water.
- While mothers knew about EIBF very few practiced it within one hour of birth. This suggests a need for changes in institutional practices that maximize EIBF support for mothers during delivery; mothers' knowledge alone would not suffice to fill in this gap to translate knowledge into practice changes. Knowledge of exclusive breastfeeding did not match practices; only three-quarters of women exclusively breastfed their infants.

5. Both mothers and providers had good knowledge of recommended complementary feeding practices—meal frequency, quantity, and dietary diversity. Mothers' practices did not match their knowledge.

Dietary counseling should be tailored to mothers' particular circumstances that are creating this knowledge-practice gap.

Support and counseling for feeding of infants and young children during illness and recuperation is another important gap to fill especially during sick child visits.

COMPLEMENTARY FEEDING TAKEAWAYS

- Mothers were very knowledgeable about complementary feeding especially the frequency of offering food at different ages. However, only 25% of children had the recommended minimum dietary diversity, 49% had the recommended minimum meal frequency, and only 17% had the minimum acceptable diet. Furthermore, only 26% of children consumed iron-rich foods. Reported timely introduction of solid and semi-solid foods was at 67%.
- Providers were extremely knowledgeable about complementary feeding, which foods to offer at which age. They also knew about meal frequency at different stages between 6 and 24 months. However, counseling on complementary feeding was not offered routinely. Half of providers reported offering counseling on frequency of feeding and quantity of food for children 6-12 months.
- Only 10% of providers were observed to provide counseling on this topic during the IMCI visits. Furthermore, few providers reported giving help or advice on complementary feeding (e.g., identifying and solving problems related to complementary feeding, feeding during and after a child gets ill), with hardly any providers being observed to provide this information during the IMCI visit.

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