

ASER Health Report

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List of abbreviations used in the report

AARR: Annual Average Rate of Reduction
ANM: Auxiliary Nurse Midwife
ASER: Annual Status of Education Report
ASHA: Accredited Social Health Activist
AWC: Anganwadi Centre
AWW: Anganwadi Worker
GCI: Galvanised Corrugated Iron
GHI: Global Hunger Index
ICDS: Integrated Child Development Scheme
IFA: Iron and Folic Acid
IYCF: Infant and Young Child Feeding
IYCF&H: Infant and Young Child Feeding and Health
LBW: Low Birth Weight
MCP: Mother and Child Protection
MoHFW: Ministry of Health and Family Welfare
NFHS: National Family Health Survey
NFSA: National Food Security Act
NGO: Non Government Organisation
ORS: Oral Rehydration Solution
PPS: Probability Proportional to Size
RBC: Reinforced Brick Concrete
RCC: Reinforced Cement Concrete
WASH: Water, Sanitation and Hygiene
WHA: World Health Assembly
WHO: World Health Organisation
WSSCC: Water Supply and Sanitation Collaborative Council

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I. ASER Health - An Overview



About ASER

ASER Centre's experience of more than a decade in conducting large-scale surveys in the education sector has made it a reference in its field as a reliable and regular source of information on foundational learning levels of children in the country. Data provided by the nationwide ASER survey - with a coverage of nearly 600,000 respondents in almost all districts in rural India - has been instrumental in informing education policy, helping to shift the focus from merely ensuring school enrolment to focusing on improving learning levels. This survey approach is citizen-led, low-cost, easy to understand, yet rigorous and reliable. The ASER model is easily scalable - a necessary condition to have a national coverage in India - and rapidly deployable, allowing for the survey to be conducted regularly and efficiently.

What is ASER Health?

ASER Health builds on the ASER approach to provide reliable and action-oriented data for the health and nutrition sector. The objective of the survey is to help bridge the information gap on intermediate health outcomes, so as to enable a quick and timely policy response.

For 5 years from 2015-2019, ASER Centre has meticulously designed, tested and refined a survey model for the health and nutrition sector in India. At the start of the ASER Health journey, a group of experts across key research, funding and implementing organisations in India discussed which areas in health and nutrition would benefit most from this kind of an approach and the first domain agreed to be undertaken was Infant and Young Child Feeding and Health.

The framework used for exploration was Knowledge, Access and Practice. Information at the household level along these dimensions of knowledge (what do you know?), access (what are the provisions and uptake of services?) and practice (what do you do?) was captured by surveying mothers on key areas relevant during their pregnancy and the first year of their child's life, which could better inform policy and practice.

Over the last few years, several pilots and surveys covering nearly 4000 respondents were undertaken across several locations in India using this framework, where the survey tool, operational model and sampling strategy were refined in a comprehensive and iterative process. The final package was deployed in two districts - Sambalpur (Odisha) and Udupi (Karnataka) for children aged 0-1 year and their mothers, covering nearly 1000 respondents. Later, the survey tool and approach were also tested for children aged 1-2 years, thus validating it for the critical first 1000 days of a child's life.

A very important takeaway is that citizen-volunteer led surveys which are rapid, robust and cost-effective are possible in the health and nutrition sector. These kinds of surveys could inform specific interventions at the district level and help monitor progress on outcomes. The approach is robust and replicable; hence, these kinds of surveys can be scaled-up to other geographies in India. Going forward, these surveys in ASER Health can be demand-driven where the domain, framework and areas of investigation can be flexible depending on the objective of the survey.

Why ASER Health?

Despite progress over the last few decades in the health and nutrition sectors in India, significant and stubborn challenges still remain. An example is malnutrition, that accounts for the highest burden of disease in India, making it the most pressing public health challenge. Nationally, 35.8%, 38.4% and 21% of children under 5 years are respectively underweight (low weight for age), stunted (low height for age) and wasted (low weight for height)¹ and India ranks 94th out of 107 countries on the Global Hunger Index².

In addition, India suffers from a high proportion of micronutrient deficiencies (for example, 53.1% of women in the 15-49 age group suffer from anaemia) and overweight and obesity (19.8% of the population in the age group of 15-49 years are

¹International Institute for Population Sciences (IIPS) and ICF, National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS, 2017.

²2020 Global Hunger Index: One Decade to Zero Hunger: Linking Health and Sustainable Food Systems. Bonn: Welthungerhilfe; and Dublin: Concern Worldwide.

overweight or obese³ compared to 10.9% only a decade back⁴), causing a “triple burden” of malnutrition in the country. Overall, India spends only 1.3% of its GDP on health and wellbeing⁵ and there is significant potential to increase these budgets and spend it more effectively.

To accelerate the progress on health and nutrition, India has been stepping up efforts through nation-wide and inter-sectoral initiatives such as POSHAN Abhiyaan, National Health Mission and Swachh Bharat Abhiyaan. While the vision of these initiatives is noteworthy, achievement of targets has not kept pace due to challenges in implementation and monitoring. For rapid progress, timely and reliable data and information is needed that allows for a better understanding of where we stand and enable regular monitoring and intervention.

While there are a variety of health and nutrition surveys in India, these typically collect data on long-term health outcome indicators which are slow to change; the frequency of these surveys is also often not annual. In this context, there is a need for rapid and regular surveys that can also capture intermediate outcome indicators and the underlying behaviour that results in such outcomes. ASER Health illustrates a possible approach that can help fill such information gaps and in so doing enable timely action in the health and nutrition sector.

³International Institute for Population Sciences (IIPS) and ICF, National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS, 2017.

⁴International Institute for Population Sciences (IIPS) and ORC Macro, National Family Health Survey (NFHS-3), 2005-06, Vol.1: India. Mumbai: IIPS, 2007.

⁵<https://www.indiabudget.gov.in/> (accessed on 12.04.2021)

II. Commentary



Heightened importance of rapid surveys during challenging times such as COVID-19

Perna Makkar

In India and globally, significant challenges still exist in providing quality health and adequate nutrition for all. These challenges are exacerbated in extraordinary periods such as the one we are currently living in with the COVID-19 pandemic, when health systems get overstretched, struggling to provide healthcare to patients with COVID-19 or other health conditions.

COVID-19 has also caused an unprecedented disruption in livelihoods, which is likely to have severe impacts on the social determinants of health. Rising unemployment, income reduction, disruption in supply chains and delivery of governmental programs threaten to stall progress in the health and nutrition sector so far – or what is worse, reverse it.

Early in the pandemic, a guidance brief by key organisations in the nutrition community stated “The nutritional status of the population in these countries [in Africa and South Asia] - including the prevalence of child stunting, wasting, and micronutrient deficiencies - is also expected to deteriorate further in the coming months due to the socio-economic impact of COVID-19.”¹

The short and long-term adverse impacts of the COVID-19 pandemic on health and nutrition are yet to be fully understood. However, one thing is certain: its adverse impacts are going to be borne most severely by the most vulnerable populations and there will be serious long-term consequences if these are not addressed urgently.

To act fast and decisively in these challenging times, rapid and accurate surveys are needed that identify the critical issues for specific at-risk populations. Such data and information will help governments, frontline workers and communities make informed decisions on which levers to pull to best address such sudden setbacks in health and nutrition outcomes.

However, precisely when data is most needed it may be more difficult to get. With mobility restrictions and social distancing, survey and monitoring systems have been disrupted, as traditional face-to-face interviews are made impossible or very difficult in some settings. The uncertainty levels are high, as restrictions may last longer than expected or be reimposed; even once these are lifted, it is hard to tell what the “new normal” may look like.

In such times, it is important to innovate quickly and test new approaches. Surveys need to be shorter and adaptable to other modes of delivery, taking fully into account the local realities. For instance, to reach out to rural areas of India in times like this when physical mobility could be limited or risky and where less than a third of the population have access to internet, phone surveys may be the most feasible mode of survey delivery.

While the ASER Health survey was conceived, developed and tested in a pre-COVID world, its concept and design as a simple and rapid assessment in health and nutrition provides a valuable and flexible approach during these challenging times, when timely and rigorous data is needed to quickly understand the reality on the ground and respond effectively.

ASER Health surveys are administered by citizen-volunteers, creating wider awareness on the importance of these issues and the social nudges for positive action. These surveys are designed to provide information on simple indicators and underlying reasons for reported behaviours, enabling targeting of specific improvements in a relatively short period of time. The time taken from survey results to supporting informed action could thus be reduced.

The ASER Health approach, developed and refined for its first domain, can now be extended to a wider geography in India and could also be leveraged for other domains in health and nutrition such as Adolescent, Tribal and Mental Health, etc. In addition, rapid surveys could be designed and undertaken to understand important issues on both the supply-side and demand-side of delivery and uptake.

In the last 15 years, ASER surveys in education have had tremendous impact in influencing policy and practice in India to focus on learning outcomes and foundational skills. In addition, inspired by ASER, 14 other countries carry out ASER like efforts and citizen-led assessments have now become a new model for assessments on the global stage. ASER Health has the potential to be similarly impactful by providing household, community or institutional level information through rapid surveys that enable targeted interventions and behaviour change communications towards sustainable gains in health and nutrition.

¹Nutrition Information Management, Surveillance and Monitoring in the Context of COVID-19, 14 April 2020. UNICEF, Global Nutrition Cluster, Global Technical Assistance Mechanism for Nutrition.

“Easy foods” are pushing nutrition to a back seat

Karishma Vats

During ASER Health pilots in early 2017, we were in Sangam village (name changed) in Jaipur district of Rajasthan, looking for less than one year old children for the survey. It was a huge village and having walked for almost a kilometre after we surveyed a household, we saw a house with a big surrounding space marked by iron wires. As we went closer, we saw some cows in a shed within the same space. I called out “Koi hai” (Is anyone there?) and got a response from an old man in return “Hanji, bilkul hai” (Yes, of course). I asked him whether there was any less than one year old child in the house to which he said yes and led us inside. I followed him, happy that a kilometre’s walk had paid off, and met Tara (name changed), his daughter-in-law who came outside when the old man called her. In her arms was her 10 month old son Dheer (name changed) who was soon taken by the old man to allow Tara to talk to me. As Tara and I settled down on a cot laid near the shed, the old man sat with Dheer on another cot behind ours. Soon we were joined by Tara’s husband who also made himself comfortable on the other cot. Before I could even begin my conversation with Tara, they bombarded me with questions. I was interviewed for fifteen minutes by Tara’s family before I could actually talk to her. Those questions included where I was based, my profile of work, how much I was paid, etc. This conversation with the family which initially felt overwhelming helped them to have trust in me. This was important before they would allow me to interact with the young woman in the family.

During my conversation, I asked her if the family grew any fruits and vegetables either around the house or on their agricultural land. The old man answered, saying that they preferred growing mostly grains so they could sell them in the market. They felt that was enough for the family as well. Later in my conversation with Tara, I found out that the child’s diet mostly comprised of biscuits, formula food and cow’s milk. It did not include food received from the Anganwadi Centre (AWC). To this, the old man added “Madam, hume anganwadis ke khane ki zarurat nahi hai, bhagwan ka diya sab hai” (We don’t need food from AWC, God has given us enough).

I soon finished my conversation with Tara and it was time to take my leave and look for another child in the village. I left the house and resumed walking around but there was something which left me thinking. Clearly, affordability did not seem to be an issue with the family when it came to food consumption. It seemed more to do with their knowledge and attitude. The family owned agricultural land and also had plenty of space around the house, but they were not growing any fruits or vegetables to ensure nutrition security for the family. The focus lay on feeding, but not on nutritionally appropriate feeding.

What does ASER Health tell us?

We saw similar trends in the district data of Udipi and Sambalpur, in Karnataka and Odisha respectively, thus making it a concern not limited to a given state or region. 53% families in Udipi and 66% in Sambalpur were not growing any fruits or vegetables either around their houses or on their agricultural land. The major reason was lack of space (67% in Udipi and 48% in Sambalpur). However, 34% of surveyed households in Udipi and 62% in Sambalpur owned agricultural land. This throws light on the priorities of the families. The focus may lie on growing grains and pulses to ensure food for the family throughout the year, consequently compromising on the nutrients. The consumption of nutrient-rich fruits and vegetables was very low among young children in both districts. In Udipi, just about 17% of children aged 6-8 months and 29% aged 9-12 months had consumed any fruit or vegetable in the 24 hours prior to the survey. In Sambalpur, although very few children aged 6-8 months (9%) had consumed any fruit or vegetable, more than half children aged 9-12 months (56%) had done so.

We moved ahead in the village following the sampling procedure and passed many houses which had enough space outside. I stopped at a house where I found another child aged 11 months. The child started crying and being cranky even before I started my conversation with the mother and what Babita (name changed), the child’s mother took out a packet of ‘fryums’ and handed one to the child, who happily consumed it and was then quiet. Consumption of market foods had been a constant observation in our pilots and surveys done so far irrespective of the region. While talking about the child’s diet in the last 24 hours, we found that the child was fed “biscuits” a couple of times during the day. And we realised that “easy foods” have now become part of very young children’s diet as well!

While sections of the urban world are making an effort to go back to traditional diets, roots of which lie in the villages, rural populations are making a move towards easily available commercial foods. This can be attributed to the appealing

television commercials and easy access to these products in even the remotest of towns. Data from the two district surveys also highlight that consumption of foods bought from the market is significantly high among these very young children. Of all the 6-12 month old children whose mothers we surveyed, almost half of those in Udupi and almost two-thirds of those in Sambalpur had eaten food bought from the market in the previous 24 hours, which included formula food/milk, pre-packaged and processed foods.

Pre-existing facts and way ahead

Malnutrition continues to be a threat 74 years after independence. While under-nutrition is one form of malnutrition, micronutrient related malnutrition is another. Micronutrients are essential for proper growth and development, and deficits could be a major threat to the health and development of populations. To ensure micronutrients intake, it is important that mothers understand the need to provide not only the right amount of food but also a diverse diet^{1,2} to their babies (or young children).

In the last decades, governmental policies have succeeded in shifting India from a food aid dependent country into a net food exporter. The National Food Security Act (NFSA) has also made significant progress by making access to food a legal right. This has been supported by a wide range of programmes and schemes, such as mid-day meals at schools, distribution of rations to pregnant and lactating mothers through Anganwadis, provision of supplementary nutrition for children, subsidised grain for those living below the poverty line, among others.

However, dietary diversity continues to be an area of concern for researchers and practitioners. As the ASER Health surveys show, children are not receiving nutritious and diverse diets necessary for their full and healthy development. In Udupi and Sambalpur, ASER Health data seems to suggest this may result from a knowledge and practice gap, pointing to possible interventions that could help us address this problem. Examples of such activities could be counselling for mothers and primary caregivers on topics such as which foods provide the essential nutrients (mainly iron and vitamin A) for their child, how these foods can easily be added to a child's diet, low-cost nutritious recipe demonstrations, and so on. Along with this, counselling on growing nutritious foods and vegetables on their agricultural land or spaces around the house could have a great impact. This will reduce dependency on the markets to access these items and will be cheaper as well. Another option is to involve frontline workers, village authorities and elders in enabling community gardens. Individual gardening can also be a possibility in which case mothers can grow different fruits and vegetables in their respective spaces and exchange it with each other so that variety could be introduced in diets of all children without much burden on individual households. At the district and state levels, alterations and additions could be made in existing interventions to focus on dietary diversity and kitchen gardening.

Simple indicators can point to action steps at multiple levels. This is what ASER Health is designed to provide. It bridges the gap between knowledge and practice by providing information about the reasons behind practices, making it possible to identify and focus on the underlying problem. Tara and Babita's habit of giving processed snacks to their child illustrates a current and worrisome trend of replacing traditional diets with easily available processed food in rural villages, which have a negative effect on children's health and growth. ASER Health helps to further unpack this trend, providing a better understanding of behaviours in order to promote change. Corrective practices and positive changes at the household level can bring about desired changes at community, village, state and national levels. With such simple indicators, interventions could be better informed to ensure diversity in the diets of children, so that nutritious food could be pushed to the front seat once again.

¹A diet that is diverse in food groups not only helps to meet the caloric requirement but also contributes to the intake of necessary micronutrients for adequate growth and development.

²F. Burchi, J. Fanzo, E. Frison, "The role of food and nutrition system approaches in tackling hidden hunger," *International Journal of Environmental Research and Public Health*, vol. 8, no.2, pp. 358-373, February 2011. Doi:10.3390/ijerph8020358.

Low Birth Weight: A disadvantaged beginning

Candice Vianna

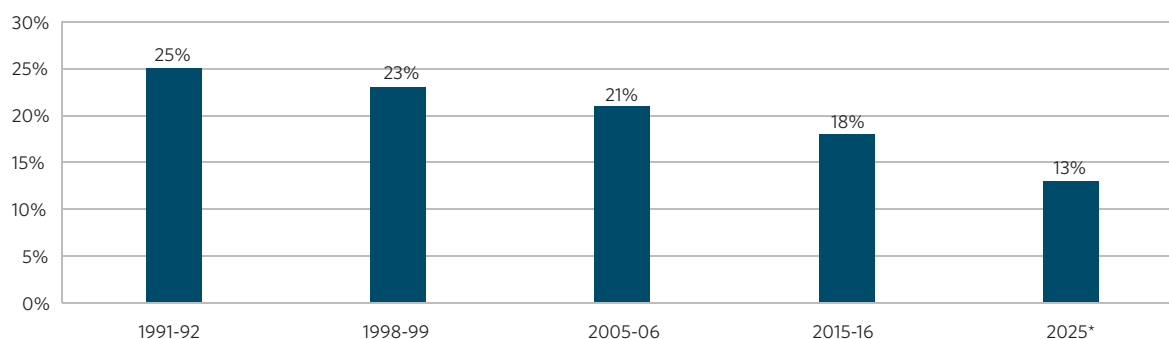
“In a democracy, the professed equality of rights of all citizens contrasts sharply with the very real inequality of living conditions”, as stated by the economist Thomas Piketty¹. Indeed, while the Universal Declaration of Human Rights establishes that “all human beings are born free and equal in dignity and rights”, the concrete reality is starkly different.

More than 20 million people in the world are born with low birth weight² (about 15% of all births)³. This means these babies already start their lives with a large disadvantage: they are more likely to die before completing one year. Those who survive have a higher probability of suffering from infant morbidity and stunted growth, leading to poor overall development and chronic diseases later in life. They are certainly not born equal. They are already lagging behind, even before their first cry.

In India, low birth weight continues to be a major challenge, despite some progress. National-level data shows that low birth weight has been declining over the past decades. In 2015-16, 18% of new borns had a birth weight of less than 2.5 kg (National Family Health Survey-4, NFHS-4)⁴, compared to 21% in 2005-06 (NFHS-3)⁵.

However, the pace of reduction is still very slow. The Annual Average Rate of Reduction (AARR)⁶ between 2005-06 and 2015-16 was around 1.4%, significantly below the national target of 2% set for POSHAN Abhiyaan, the country’s nutrition flagship program launched in 2017. India is also not on track to meet the World Health Assembly (WHA) 2025 target of reducing the prevalence of low birth weight by 30% from a 2012 baseline. Therefore, the country urgently needs to step up its efforts to address low birth weight. In fact, it must double its annual reduction pace if it is to meet the 2025 global target.

Graph 1: Low Birth Weight in India



* Projection for meeting the WHA target of 30% reduction by 2025 (author’s calculations based on NFHS data). Source: data from NFHS-1, 2, 3 and 4.

Unfortunately, this is not an easy task. Low birth weight is a complex condition and is associated with several factors, such as mother’s low weight and malnutrition (including maternal anaemia), poor access to antenatal care, prior medical risk conditions, as well as other socioeconomic determinants, such as poverty and low levels of formal education⁷.

Since the causes of low birth weight are multifactorial, it requires interventions in a wide range of sectors: from maternal and child nutrition to integrated prenatal and neonatal healthcare services, safe water and sanitation, women’s education and empowerment, as well as social protection and financial support. At-risk pregnant women should also receive special care, to ensure the intake of needed micronutrients and the early treatment of conditions during pregnancy.

¹Piketty, T., *Capital in the Twenty-First Century*. Cambridge, MA: The Belknap Press of Harvard University Press, 2014, pp. 361.

²Low birth weight is defined by the World Health Organization (WHO) as weight at birth less than 2500 g. World Health Organization, *International statistical classification of diseases and related health problems*. Geneva: WHO, 2004.

³The United Nations Children’s Fund, World Health Organization, UNICEF-WHO Low birthweight estimates: Levels and trends 2000–2015. Geneva: UNICEF-WHO, 2019.

⁴International Institute for Population Sciences (IIPS) and ICF, *National Family Health Survey (NFHS-4), 2015-16: India*. Mumbai: IIPS, 2017.

⁵International Institute for Population Sciences (IIPS) and ORC Macro, *National Family Health Survey (NFHS-3), 2005-06, Vol. 1: India*. Mumbai: IIPS, 2007.

⁶The Annual Average Rate of Reduction (AARR) is the average relative percent decrease per year in prevalence of low birth weight (author’s calculations based on NFHS data).

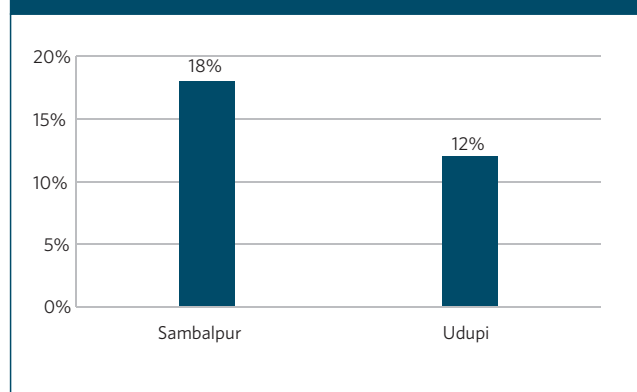
What does ASER Health tell us?

ASER Health district-level surveys revealed that in Udupi and Sambalpur around 12% and 18% of babies have low birth weight respectively. One of the major challenges of data on low birth weight is the lack of birth record in low and middle-income countries, due to a large proportion of home deliveries. In ASER Health, however, 98% of the mothers surveyed had delivered in institutional facilities (either public or private), increasing the reliability of the data - and 95% of the birth weights recorded in the survey were checked against the Mother and Child Protection (MCP) card record and not solely based on mothers' recall.

The data also showed a significant correlation of low birth weight and mothers' formal education levels: an increase in one year of maternal formal education is associated with a 9 percentage point increase in the probability of the child being born with 2.5kg or more⁸. This corroborates most global research, which shows mothers' education as a relevant factor influencing low birth weight.

We also found that low weight at birth is negatively associated with the intake of iron and folic acid (IFA) tablets for at least 180 days during pregnancy: mothers who had consumed IFA tablets were 11 percentage points less likely to give birth to low weight neonates⁹. This finding is also in line with global guidelines, which recommend IFA supplementation for low birth weight prevention¹⁰, and with the governmental distribution of IFA tablets through the program Anemia Mukht Bharat, under the umbrella of POSHAN Abhiyaan. This is particularly important in India, where more than 50% of women are anaemic¹¹.

**Graph 2: Low Birth Weight, 2019
(born with <2.5 kg)**



Source: ASER Health data on Sambalpur and Udupi, 2019

FACTORS INFLUENCING LOW BIRTH WEIGHT

Correlation with Low Birth Weight

Consumption of IFA tablets for 180 days	-0.11 (significant at 5%)
Maternal years of formal education	0.09 (significant at 5%)

TABLE 1 FACTORS INFLUENCING LOW BIRTH WEIGHT

Source: ASER Health data on Sambalpur and Udupi, 2019

While mothers' education points to the socio-economic determinants of low birth weight and the need to address structural educational deficits and inequalities, IFA tablet consumption points to focused interventions that can generate positive impacts quickly. Actions in both fronts are needed to break the intergenerational cycle of poverty and malnutrition.

Breaking the intergenerational cycle of malnutrition

The most striking picture revealed by ASER Health, however, is not the low birth weight itself. Still more worrisome is that the data shows most mothers were not even aware their child did not meet the minimum weight threshold (69% of mothers in Udupi and 48% in Sambalpur). Of those who were aware, a few took their baby to see a doctor (around 21-25%). In Sambalpur, 30% did nothing about it.

⁷Bharati, P. et al, "Prevalence and causes of low birth weight in India," Malaysian Journal of Nutrition, vol. 17, no.3, pp. 45-56, 2011.

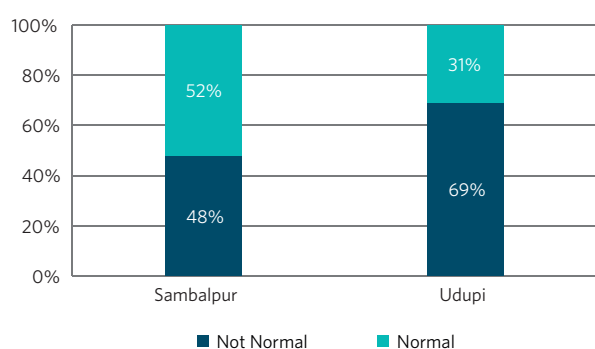
⁸Correlational estimates, significant at the 5% level.

⁹Correlational estimates, significant at the 5% level.

¹⁰World Health Organization, "WHA Global Nutrition Targets 2025: Low Birth Weight Policy Brief." Geneva: WHO, 2014 (https://www.who.int/nutrition/publications/globaltargets2025_policybrief_lbwt/en/, accessed 10 March 2020).

¹¹International Institute for Population Sciences (IIPS) and ICF, National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS, 2017.

Graph 3: Mother's Perception about the Birth Weight for Babies with LBW, 2019



Source: ASER Health data on Sambalpur and Udupi, 2019

MEASURES TO IMPROVE CHILD'S WEIGHT (if thought that child's weight was not normal)

	Sambalpur	Udupi
Did nothing	30%	8%
Fed mother's milk to child	25%	49%
Took child to doctor	21%	25%
Fed child nutritious food	18%	10%
Took child to Anganwadi	7%	0%
Any other	0%	7%

TABLE 2 MEASURES TO IMPROVE CHILD'S WEIGHT

Source: ASER Health data on Sambalpur and Udupi, 2019

This means we are not only failing to rapidly reduce low birth weight; we are also losing a window of opportunity to address it as early as possible, making it harder to revert the associated consequences in later stages of life. Low birth weight neonates can catch up if effective early intervention is carried out. Without timely action, babies born with low weight will likely add to the already high levels of child malnourishment in the country^{12,13}.

The cycle of malnutrition is hard to tackle precisely because it is a cycle, without a clear start or end point. Low birth weight leads to child malnutrition, which is linked to poor adolescent nutrition, which is associated with poor maternal nutrition and back to child's low birth weight. Nonetheless, there is currently a consensus that one of the most crucial moments for intervention is the first 1000 days, starting from conception. Maternal and early child care is fundamental to reduce low birth weight and revert its consequences, thus breaking the intergenerational cycle of malnutrition that traps so many Indians.

Over the past years, India has put in place several initiatives to improve prenatal and postnatal care, as well as maternal and child health, ranging from distribution of IFA tablets, promotion of institutional delivery, financial assistance for birth to poor families, conditional cash transfers for pregnant and lactating women, increased access to free healthcare services for pregnant women, among others. Most importantly, with the POSHAN Abhiyaan, there has been an effort to integrate and coordinate initiatives across ministries and stakeholders.

This convergence mission is certainly welcome, given that addressing low birth weight – and malnutrition in general – requires a multisectoral approach. However, we need to make sure it is effectively implemented across the country and that we are going an extra mile to reach the most vulnerable women, leaving no one behind. We need to step up our efforts, so Indian babies can be born ready to fully develop their capabilities. And start their lives equal in rights, equal in human potential.

¹²GOPALAN, S., "Low Birth Weight – Causes, Consequences and Interventions to Achieve Reduction," Proceedings of the National Institute of Sciences of India, vol. 84 No. 4, pp. 843-851, December 2018. DOI:10.16943/ptinsa/2018/49446.

¹³The latest data (NFHS-4) shows a prevalence of 38% of stunting, 21% of wasting and 36% of underweight in children under 5 years old in India.

Health and nutrition for young children – whose responsibility?

Pankhuri Mishra

Early childhood is an extremely significant period in a child's life. Nearly 80% of brain development takes place in the first 3 years – leading to the need for extensive care during this period. The first 1000 days – from a child's conception till the second birthday – are considered especially significant. This “window of opportunity” is the time when “foundations of optimum health, growth, and neurodevelopment across the lifespan are established”. Caregivers evidently have very important responsibilities for their young children; no wonder then, the adage, 'it takes a village to raise a child!'

In India, the Integrated Child Development Scheme (ICDS) is responsible for primary healthcare and nutrition services for mothers and their children, as well as for pre-school education of the children. AWCs under the scheme are the responsible for providing complementary and supplementary nutrition, check-ups, immunisation, referral services, etc. The beneficiaries of the ICDS are pregnant and lactating women, children in the age-group 0-6 years; and women in the reproductive age-group of 15-45 years. A noteworthy aspect of this scheme is that it is universal: it covers all districts across the country.

ICDS services have been operational for over half a century, yet even now child malnutrition trends are far from encouraging. The 2019 Global Hunger Index (GHI)² – which measures and tracks hunger at global, regional and national levels – has ranked India at a low 102 out of 117 countries. GHI uses four indicators, namely, undernourishment, child wasting, child stunting and child mortality; to create aggregate GHI scores. Three of the four indicators of the GHI relate to children less than 5 years old, to reflect the status of this very vulnerable population group. Data from other national sources point to a similar story.

This indicates a gap between the policy and its implementation. The ASER Health surveys undertaken so far capture the actual practices of the mothers/caregivers with respect to their less than one-year-old child's health and nutrition, and demand and uptake of services in this regard. This survey was done in 2 districts – Udupi, Karnataka and Sambalpur, Odisha. The two districts are very different in their geography, yet, similar trends are seen in both districts.

Consider, for example, consumption of AWC food for children older than 6 months. Only 39% mothers in Sambalpur and 33.3% mothers in Udupi reported having fed their children AWC food in the reference period of two weeks preceding the survey. Upon inquiring the reason for not feeding their children the AWC food; the most common response in both Sambalpur and Udupi was “the child was too young”. The next most popular response was that “family members asked to do so”; with 31.6% in Sambalpur and 18.7% in Udupi stating this as the reason. Since mothers could choose more than one reason, it is likely that these reasons were linked as well; and that the family members were advising these young mothers about appropriate child-rearing practices.

A similar pattern is seen in consumption of iron syrup by the child – important to counter anaemia. Consumption of iron syrup among children was low – with 59.3% mothers in Sambalpur and 43.8% in Udupi responding as not having given their older-than-6-months child iron syrup in the reference period of the week preceding the survey. Among the reasons, the response “family members asked to do so” was stated by 23.3% women in Sambalpur, and 34.3% women in Udupi, and was one of the top responses in both districts.

It was however, encouraging to note that a majority of women in both Sambalpur (87.2%) and Udupi (79.6%) responded that they get their child's weight measured every month. However, data for measurement of height even once in the child's life was not as positive (Udupi, 42.9%; Sambalpur 24.8%). On asking about the reasons for not measuring child's weight monthly/height ever, once again, “family members asked to do so” came out as prominent responses in both districts.

The above instances and data points to the centrality of family in critical decision making with respect to child health care, especially in rural India. Even anecdotal evidence over the course of this survey showed how new mothers followed the

¹The First 1,000 Days Of Life: The Brain's Window Of Opportunity. [online] UNICEF-IRC. Available at: <<https://www.unicef-irc.org/article/958-the-first-1000-days-of-life-the-brains-window-of-opportunity.html#:~:text=The%20first%201%2C000%20days%20of%20life%20%2D%20the%20time%20spanning%20roughly,across%20the%20lifespan%20are%20established.>> [Accessed 19 September 2020].

²Global Hunger Index. [online] Available at <<https://www.globalhungerindex.org/about.html>>

advice and guidance of their older sisters-in-law, or their mother-in-law. In general, experience in child rearing by older members of the family is considered important while taking health and nutrition related decisions for a young child.

Evidence from research shows that women's financial autonomy and increased autonomy in decision making is likely to have a "positive impact on infant feeding on growth outcomes" (Shroff et al, 2011)³. However, as families and entire communities are an integral part of a child-rearing, improving their awareness on health and nutrition could be another way to improve the nutritional outcomes; besides possibly increasing demand for these services. Various programs by Pratham have shown positive impacts of community engagement on overall child development in the early years. Extending such engagements to health and nutrition focused interventions as well should be actively considered by all stakeholders, potentially enabling children to reach their full potential in childhood as well as later in life.

³Shroff, M., Griffiths, P., Suchindran, C., Nagalla, B., Vazir, S. and Bentley, M., 2011. Does maternal autonomy influence feeding practices and infant growth in rural India? *Social Science & Medicine*, 73(3), pp.447-455.

Is clear water safe to drink?

Maitreyee Krishna

Safe drinking water, a basic amenity, has always been a luxury in many Indian households, especially in semi-urban and rural areas. A Water Aid report in 2018 ranked India among the top ten countries in the world for the number of people without access to safe drinking water close to their respective homes. According to Water Supply and Sanitation Collaborative Council (WSSCC), a United Nations organisation, an estimated 163 million people in India have no access to a safe water supply, and the situation is only getting more serious with an increase in water shortages worldwide. Over 21% of the country's diseases such as diarrhoea, cholera and typhoid are water-related. Every day, at least 166 children under five years die due to diarrhoea caused by unsafe water and poor sanitation. Access to safe drinking water has been a grave problem for India, especially in rural areas where lack of usable water has resulted in decades old sanitation and health problems (ibid.).

At the national level, there have been many programs focusing on clean and safe drinking water. The Total Sanitation Campaign, launched in 1999 to improve public health in India, was a restructured version of the Central Rural Sanitation Programme that had been launched over a decade earlier, in 1986. Nirmal Bharat Abhiyan, launched in 2012, was the flagship sanitation programme of the Government of India that aimed to achieve the Millennium Development Goals (set by the United Nations) on environmental sustainability and reduction in child mortality. The program focused on increasing Individual Household Latrines, capacity building activities, and hygiene education to effect behavioural change with involvement of Panchayati Raj Institutions, Non-Government Organisations, and Community Based Organisations. Subsequently, Nirmal Bharat Abhiyan was restructured in 2014 as the Swachh Bharat Abhiyan. But in spite of these programs focusing on Water, Sanitation and Hygiene (WASH), there has been little improvement in access to clean drinking water¹.

The National Rural Drinking Water Programme implemented in 2009 aimed to provide all rural habitations, government schools, and anganwadis access to safe drinking water by 2017. By 2018, only 44% of rural households and 85% of government schools and anganwadis were provided access² to safe drinking water. The current government has promised water pipelines in the remotest of areas in India by 2024; however, there is much progress still to be made to achieve this target.

What does ASER Health tell us?

ASER Health is a survey assessment of 0-1 year olds and their mothers, representative at the district level. It was conducted in two districts, Sambalpur and Udupi, covering 976 children in 0-1 year age group and their mothers. A part of the survey focused on drinking water in households, asking questions about storage, handling and sources of water. In addition, the surveyors test the quality of water in the household to check for contamination levels. This gives an idea about the mother's perception about quality of drinking water compared to whether that drinking water is in fact fit for human consumption. In the ASER Health survey, 98.4% of the respondents said that they were satisfied^{3,4} with the drinking water available. The survey further ascertained the quality of drinking water of the household through a bacterial contamination test (Hydrogen Sulphide test). It was found that in almost half (49.6%) of the households, the water tested was contaminated and unfit for drinking purposes. This gives a reality check against mothers' perceptions about the quality of their drinking water.

When asked whether water is purified for child in the 0-1 year old age group, 92.8% of the respondents said yes. The most common method of purification was boiling it (97.1% of respondents). It is a problem that almost 7% of the children in the 0-1 age group do not consume purified drinking water in a country where children still die of diarrhoea and water borne diseases. Even though the survey focused on 0-1 year old children and their mothers, a glaring reality came to light. Almost 50% of households are consuming water unfit for drinking and are satisfied with it, not knowing the extent of problems that can be caused by doing so.

¹CAG Audit Report Executive Summary of Nirmal Bharat Abhiyan. Available online at https://cag.gov.in/sites/default/files/audit_report_files/Union_Performance_Nirmal_Bharat_Abhiyaan_Report_28_2015_exe-sum.pdf

²CAG Audit Report Summary of National Rural Drinking Water Programme. Available online at <https://prsindia.org/content/national-rural-drinking-water-programme-22>

³The survey asked whether the respondent was satisfied with the quality of drinking water. It could be the case that the respondent answered this question on behalf of the child, and not as a comment on the water quality of the household overall. In that case, it is important to note that the results are not striking since, as discussed below, most respondents did report using some method of purification of water for less than one year old children.

⁴Question asked in the survey was 'Are you satisfied with the quality of drinking water?'

The survey further explored the source, storage and handling of water. Looking at the average over the two districts surveyed, we see that while 90% of the respondents said they stored the drinking water in a covered container, the rest either left it uncovered or used tap/hand pump water directly. Similarly, while 46.8% of the respondents used a ladle to take out water from its container, 39.3% directly put their hand inside the container and used another vessel to take out water, possibly contaminating the water. This implies that there is little awareness around the right methods of handling water, even if it is stored in the correct manner.

Overall, the data shows that about half of the people in these two districts were not aware of the fact that they do not have access to safe drinking water. When it comes to drinking water, people usually check if the water is clear. If it looks clean, they assume that it is safe to consume. But this is often not the case. Water that looks clean might not always be safe to drink. This results from a lack of awareness regarding potable water. ASER Health data can be used to identify the underlying issues so that appropriate interventions can be designed to ensure that everyone is consuming safe drinking water.

One such intervention could be providing basic tool kits for testing of water at the household level. It seems imperative to emphasize on the importance of consuming water that is actually clean and not just 'looks clean'. Another such intervention could be community learning about methods of purification of water and spreading awareness regarding water-borne diseases. Doing so could help in reducing the misinformation surrounding the prevalence of water-borne diseases, such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio in communities.

Unlocking diarrhoeal prevention

Ayushi Singh

An estimated 5.3 million children below five years die each year globally i.e., nearly 15,000 deaths every day¹. Most of these deaths could have been easily prevented. In fact, a simple disease such as diarrhoea continues to be the second leading cause of child death in the world², only behind pneumonia.

Despite being ranked as sixth strongest economy in the world³, India has among the highest numbers of children who do not survive past 5 years. Diarrhoea is among the main causes of this dire situation. Poor access to adequate childcare (or healthcare), especially among marginalised populations, turns an easy-to-treat condition into a fatal disease. NFHS 4 - India (2015-16) reports about 9% of children under the age of 5 suffering from diarrhoea in the two weeks prior to the survey⁴.

Diarrhoeal disease is a trap for children as those who survive severe or recurrent diarrhoea, tend to lose their immunity and therefore are more prone to future infections. This takes a toll on the overall health of the child, increasing the chances of malnutrition. Malnutrition and diarrhoea feed off each other, locking children into a vicious cycle and leading to irreversible long-term consequences. However, this situation can be remedied if appropriate and timely strategies are implemented.

ASER Health district-level surveys in Sambalpur (Odisha) and Udupi (Karnataka) in 2019 revealed some alarming facts. When mothers were asked what they understand by the term 'diarrhoea', nearly 27% were not aware of the correct definition⁵. When given the correct definition by the surveyor, it was recorded that one in ten children were suffering from diarrhoea, as reported by their mothers, in the two weeks preceding the survey. Further, on asking mothers about possible consequences of diarrhoea for the child, only 1% in Sambalpur and 6% in Udupi linked it to possible mortality. This raises a question about awareness of mothers and the absence of messaging to address this lack of knowledge, despite so much focus given to an issue highly prevalent in this age group.

One of the key ways to deal with diarrhoea is by taking Oral Rehydration Solution (ORS), as it ensures proper electrolyte balance and keeps the body hydrated. However, across the two surveyed districts, only 41% of mothers had knowledge of ORS preparation and its storage⁶. The storage of ORS is of utmost importance, else the chances of the infection may increase and the condition can worsen.

The survey explored possible causes for diarrhoea such as availability of a fully constructed toilet facility in the house, satisfaction with the quality of drinking water, and whether water was purified for the child or not. In the sample, there were 50% households where people despite getting contaminated water felt that water is clean and fit for their usage. On testing water quality of drinking water in households, it was found that half the sampled households in both districts had been consuming contaminated water (50%).

On further analysis, it was found that mothers who were educated⁸ were better aware about diarrhoea and its management in terms of preparation and storage of ORS. The fact that affluence and the level of education are closely linked is not a new finding. This leads to a question of continuation of profound inequity in our society. The progress we are trying to make in any field should not be achieved unequally or it will just lead to creation of more gaps between the marginalized and affluent. Specific strategies may be needed to reach populations that are hard to reach.

India has shown some progress in this area by increasing distribution of ORS packets which resulted in almost doubling the uptake of ORS for children under the age of five from 26% (NFHS 3) to 50% (NFHS 4). However, we still have a long way to go if we want to decrease the incidence of diarrhoea and deaths. Informed by location-specific data, targeted interventions need to be undertaken to prevent and treat diarrhoeal infections and avert mortality from diarrhoea.

¹Levels and trends in child mortality: report 2019. Estimates developed by the UN Inter-agency Group for child mortality estimation.

²<https://www.who.int/news-room/fact-sheets/detail/diarrhoeal-disease> (accessed on 30 March 2020)

³World Economic League Table 2021: December 2020, 12th edition. Centre for Economics and Business Research, UK.

⁴A more recent National Family Health Survey 5 data was released in December, 2020, covering 22 States/Union Territories in Phase I (data collection done in 2019-2020). Phase II data for the remaining 14 States/Union Territories is currently underway. We refer to NFHS 4 data as the latest because the NFHS 5 data released to date is not representative of India. More recent India wide statistics available are not available as of March, 2021.

⁵passage of liquid faeces for more than three times in a day.

⁶1 pack of ORS to be made in 1 litre of water.

⁷ORS solution can be stored for 24 hours.

⁸Education taken in number of years of formal schooling completed.

III. ASER Health – Results from district-level surveys 2019



SAMBALPUR (ODISHA)

KEY FINDINGS

INFANT AND YOUNG CHILD FEEDING AND SUPPLEMENTATION		
1	Children aged 0-12 months who were breastfed	98.3%
2	Children under 6 months of age who were exclusively breastfed	94.5%
3	Children aged 6-8 months being fed a diverse diet (as per WHO guidelines)	1.7%
4	Children aged 9-12 months being fed a diverse diet (as per WHO guidelines)	23.1%
5	Children aged 6-12 months being given iron syrup in last 7 days as recommended	3.2%
6	Children aged 6-12 months being fed Anganwadi Centre food in last 15 days	39%
HEALTH SERVICES		
7	Children born with Low Birth Weight (<2.5 kgs)	18.3%
8	Mothers of children born with Low Birth Weight who perceived it normal	47.6%
9	Children whose weight was measured monthly	87.2%
10	Children whose growth chart was filled (observed)	31.3%
11	Children whose length was ever measured	24.8%
MATERNAL NUTRITION AND SUPPLEMENTATION DURING PREGNANCY		
12	Mothers who increased portions of milk and its products as recommended	15%
13	Mothers who consumed Anganwadi Centre food during pregnancy	84.2%
14	Mothers who consumed Iron and Folic Acid tablets for 180 days or more	70%
15	Mothers who consumed deworming tablet during pregnancy	32%
DRINKING WATER, SANITATION AND HYGIENE		
16	Households in which drinking water was contaminated	38.5%
17	Mothers who were satisfied with quality of drinking water	96.8%
18	Mothers who reported that they purify drinking water for their child	76.2%
19	Households that had a fully constructed toilet	73.5%
20	Households that dispose child's faeces in open water body or leave it in open	72.2%
DIARRHOEA		
21	Mothers who knew the correct definition of diarrhoea	47%
22	Children who suffered from diarrhoea in 15 days before survey	13%
23	Mothers who had correct knowledge about preparation and storage of ORS	31.8%

1. PROFILE OF CHILDREN

This section describes the general profile of the children and their parents in the district.

Figure 1: Age profile of the children (N = 354)

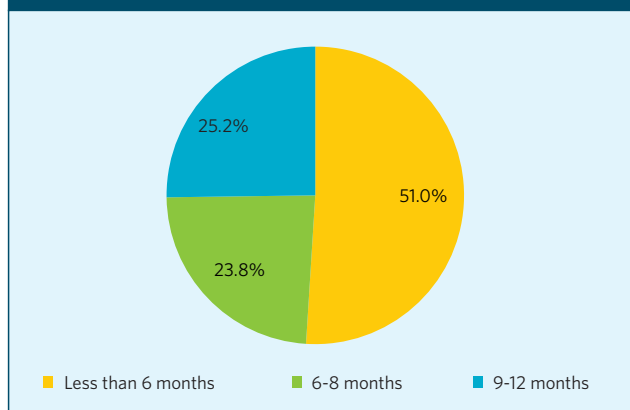


Figure 2: Sex distribution of the children (N = 353)

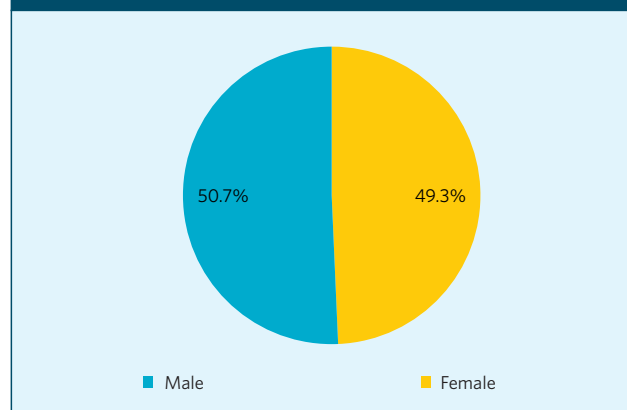


Figure 3: Birth order of the child (N = 354)

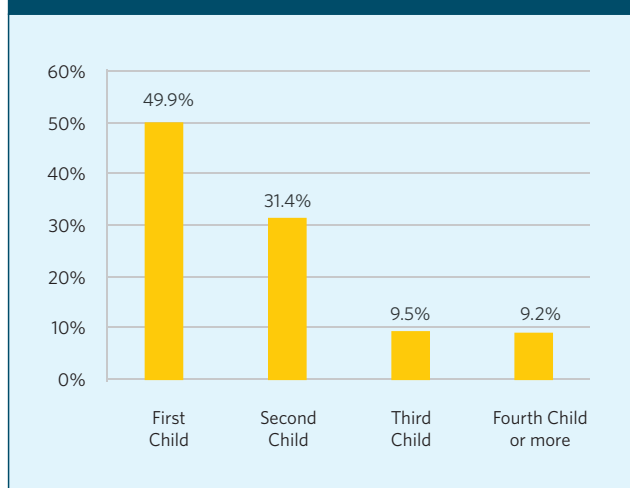


Table 1: Age profile of parents

Age in years	Mother (N = 354)	Father (N = 354)
20 or under	13.8%	0.5%
21-25	47.8%	21.4%
26-30	32.4%	33.7%
31-35	5.0%	31.0%
Older than 35	0.9%	13.5%

Table 2: Educational level of the parents (completed)

	Mother (N = 354)	Father (N = 339)
Never attended school	11.2%	5.6%
Primary	9.2%	14.6%
Upper primary	21.6%	22.2%
Secondary	51.7%	48.9%
Higher education	6.3%	8.7%

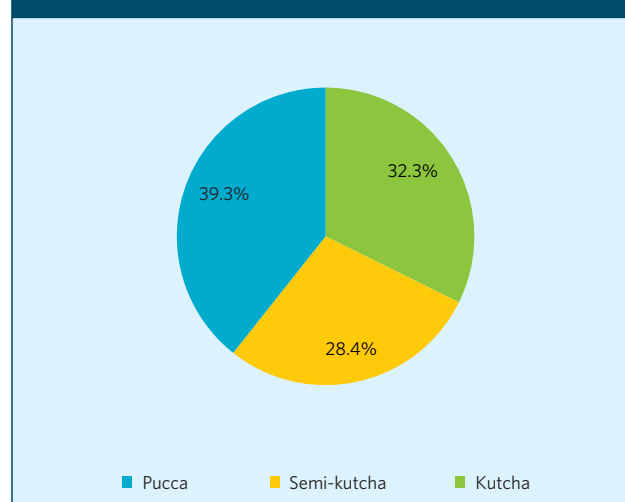
2. HOUSEHOLD INFORMATION

The ownership of household assets, land and livestock has been summarised in this section.

Table 3: Household asset ownership

	Observations	
Four-wheeler	319	3.8%
Two-wheeler	351	43.9%
Electricity in household	352	99.0%
Electricity on survey day	351	90.6%
TV in household	352	74.5%
Cable TV in household	324	74.8%
Mobile phone	352	91.8%
Smart phone	318	35.9%
Livestock	354	55.4%
Agricultural land	353	62.1%

Figure 4: Type of house (N = 354)

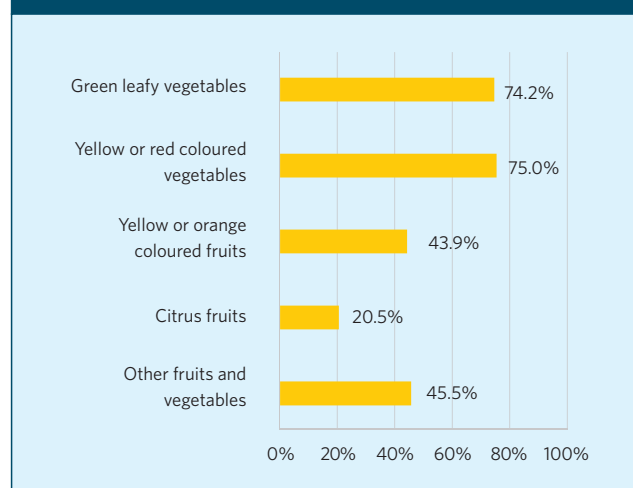


3. INFORMATION ON FRUITS AND VEGETABLES

This section focuses on home gardening of fruits and vegetables for family consumption.

33.8% households grow fruits and vegetables for their own consumption, either around their house or in their agricultural land (N = 353).

Figure 5: Types of fruits and vegetables grown for own consumption



Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 4: Reasons for not growing fruits and vegetables

Lack of money	11.3%
Lack of time	13.6%
Scarcity of water	33.0%
Lack of space	47.5%
Lack of knowledge	0.0%
Unavailability of seeds	0.0%
No specific reason	5.4%
Any other	9.5%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Key Takeaway:

While 62.1% of the families owned agricultural land, only 33.8% were growing some fruit or vegetable for family consumption, citing the major reason for not doing so as 'Lack of space' (47.5%).

4. INFANT AND YOUNG CHILD FEEDING (IYCF)

This section presents data on breastfeeding, complementary and supplementary feeding patterns of children through a 24-hour rapid diet assessment.¹ This section assesses, among other indicators, how frequently the child is being fed and how diverse their diets are in terms of consumption of food groups.

(i) Breastfeeding practices

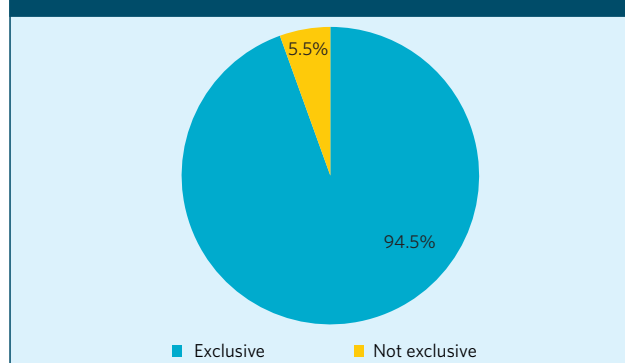
Table 5: Mother's knowledge about initiation of breastfeeding* (N = 349)

Within 1 hour	53.7%
Within 24 hours	17.4%
After 24 hours	1.5%
Do not know/remember	26.4%
Any other	1.0%

*Breastfeeding should be initiated within one hour of birth.

98.3% of all children in age group of 0-12 months are currently breastfed² (N = 347).

Figure 6: Exclusive breastfeeding for children under 6 months of age (N = 184)



(ii) Complementary feeding patterns of children aged 6-12 months

Table 6: Number of milk feeds (apart from mother's milk)

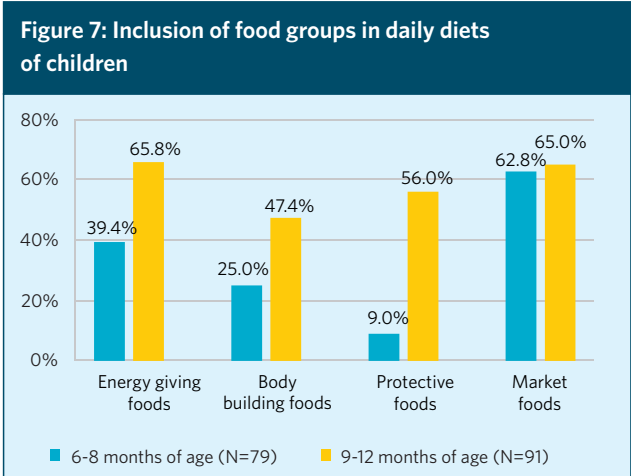
Number of milk feeds	6-8 months (N = 47)	9-12 months (N = 63)
0	89.2%	80.9%
1	6.1%	10.6%
2	3.5%	5.3%
3	0.0%	1.5%
4	0.0%	0.8%
5	1.3%	1.0%

Table 7: Number of non-milk feeds

Number of non-milk feeds	6-8 months (N = 53)	9-12 months (N = 70)
0	4.1%	4.7%
1	8.1%	0.8%
2	9.6%	20.8%
3	24.3%	10.0%
4	26.4%	30.1%
5	27.5%	33.6%

¹24-hour rapid diet assessment is an adaptation of the standardised 24-hour diet tool using a recall method to assess quality of diets.

²As reported on the day of the survey.



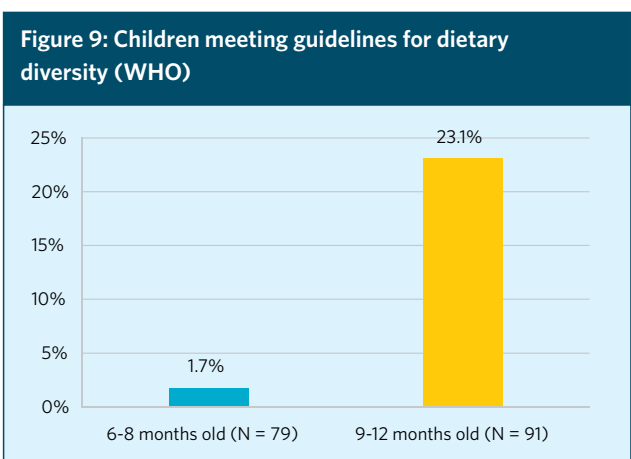
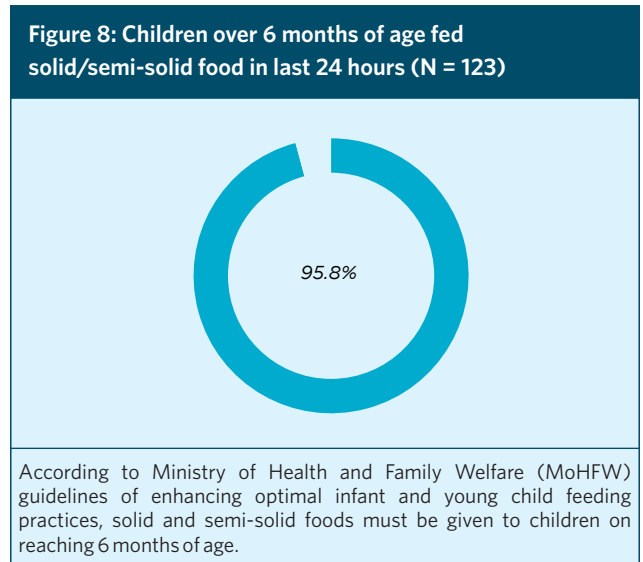
Market food refers to formula food, formula milk, sweet and salty snacks, and unpackaged food.



Table 8: Inclusion of protective foods in daily diets of children (N = 49)

Green leafy vegetables	24.5%
Yellow/red coloured fruits and vegetables	79.6%
Citrus fruits	2.0%
Other fruits and vegetables	46.9%

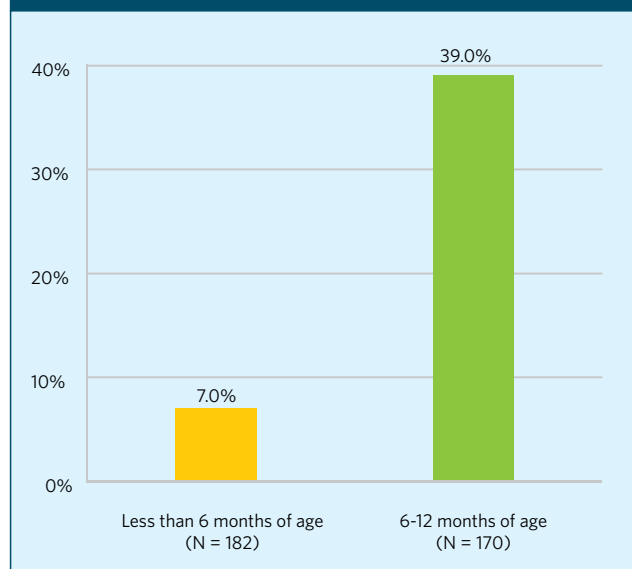
Data insufficient for 6-8 months old children.



According to World Health Organisation guidelines for enhancing optimal infant and young child feeding practices “children should receive food from four or more food groups in the age group of 6-23 months”. The food groups included:

- Group A: Grains, roots and tubers
- Group B: Legumes and nuts
- Group C: Dairy products
- Group D: Flesh foods
- Group E: Eggs
- Group F: Vitamin A rich fruits
- Group G: Other fruits and vegetables



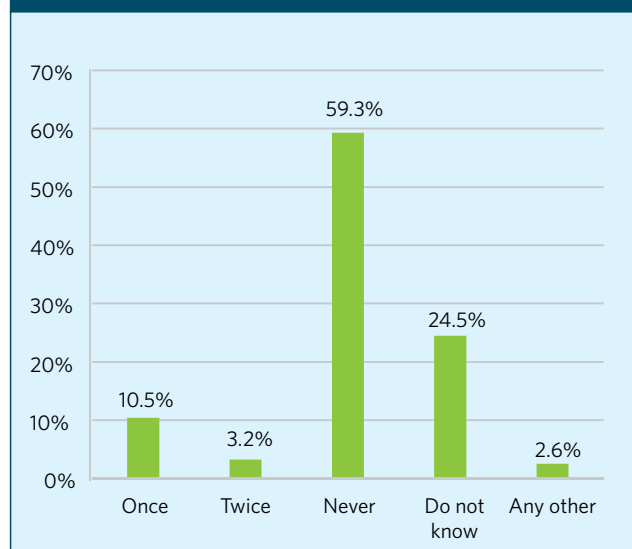
(iii) Supplementary feeding**Figure 10: Consumption of AWC food by children***

*In the reference period of 15 days prior to the day of the survey.

Table 9: Reasons for not feeding child AWC food (for 6 months of age and above)

Family members asked not to do so	31.6%
Did not like the taste	5.3%
No need for AWC food	2.1%
Did not get from AWC	7.4%
AWC is far away	3.2%
Did not know about the facility	0.0%
Poor hygiene	1.1%
Lack of time	0.0%
Child is too young	49.5%
No specific reason	16.5%
Any other	31.6%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 11: Consumption of iron syrup by children greater than 6 months of age in a week prior to survey (N = 169)

According to Anaemia Mukht Bharat guidelines, 1 ml of iron syrup (containing 20 mg of elemental iron and 100 mcg of folic acid) should be provided biweekly, to children above 6 months of age.

Table 10: Reasons for child not consuming iron syrup (for 6 months of age and above)

Family members asked to do so	23.3%
Did not like the taste	0.0%
No need	4.9%
Did not get	46.6%
AWC is far	1.9%
Did not know about facility	17.5%
Poor hygiene	0.0%
Lack of time	0.0%
Child too young	12.6%
No specific reason	14.6%
Any other	25.2%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 12: Source of iron syrup

DATA INSUFFICIENT



Key Takeaways:

1. 94.5% of children under the age of 6 months were exclusively breastfed, in accordance with IYCF practices recommended by MoHFW.
2. Inclusion of foods bought from the market in diets of children was significantly high: 62.8% children aged 6-8 months and 65% in 9-12 months received foods bought from market. This included formula feed, formula milk, sweet and salty snacks, unpackaged food.
3. Only 1.7% of children aged 6-8 months met WHO guidelines for minimum dietary diversity. This number drastically increased to 23.1% in age group 9-12 months.
4. Out of all the children not consuming AWC food, the main reason for not doing so is that mothers think 'Child is too young'(49.5%). This points to a gap in mother's knowledge about the right age to begin complementary feeding for the child.
5. The main reason for children above 6 months of age not consuming iron syrup is that the mothers 'Did not get'(46.6%), which refers to the unavailability of iron syrup at the AWC.

5. HEALTH SERVICES

Important services like growth monitoring and immunisation are covered in this section. It focuses on the knowledge and practices of mothers and their reasons for not following the recommended practices.

Table 11: Place of delivery of child (N = 354)

Government facility	87.2%
Private facility	8.2%
Home	4.5%
Any other	0.1%

Table 12: Child's weight at birth (N = 354)

<2.5 kgs (LBW)	18.3%
2.5-3 kgs	46.5%
> 3 kgs	35.2%

Birth weight of 89.9% children surveyed was observed from the Mother and Child Protection card.

Figure 13: Mother's perception of birth weight of child if the child was born with LBW (N = 71)

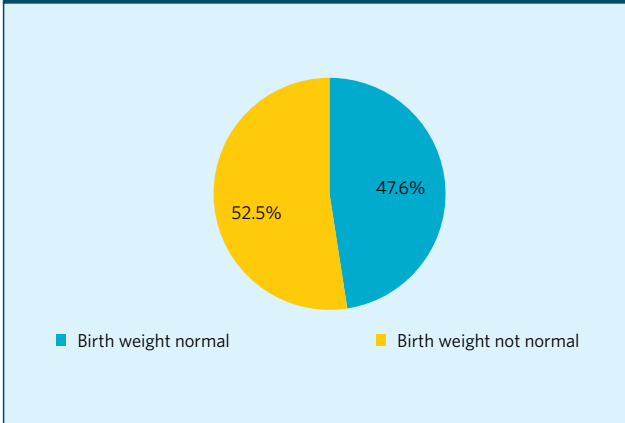


Table 13: If mother thinks that the child was born with LBW, what was done to improve weight of child? (N = 53)

Took child to doctor	21.2%
Fed child nutritious food	17.6%
Took child to AWW	6.6%
Fed mother's milk to child	24.9%
Did nothing	29.6%
Any other	0.0%

Table 14: Birth weight explained to mother/family member by health worker (N = 353)

Yes	64.7%
No	34.4%
Do not know	0.9%

Figure 14: Availability of filled growth chart (observed) (N = 354)

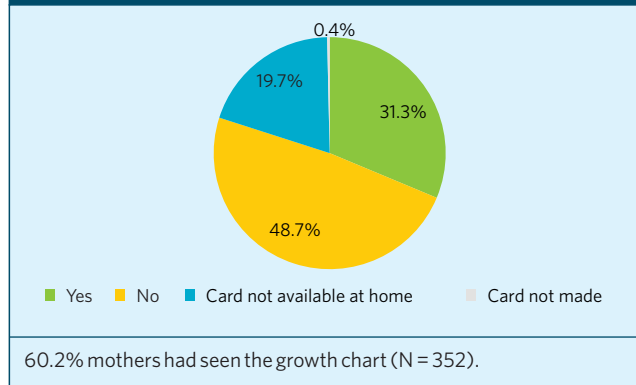


Figure 15: Mother's knowledge about usage of growth chart (N = 241)

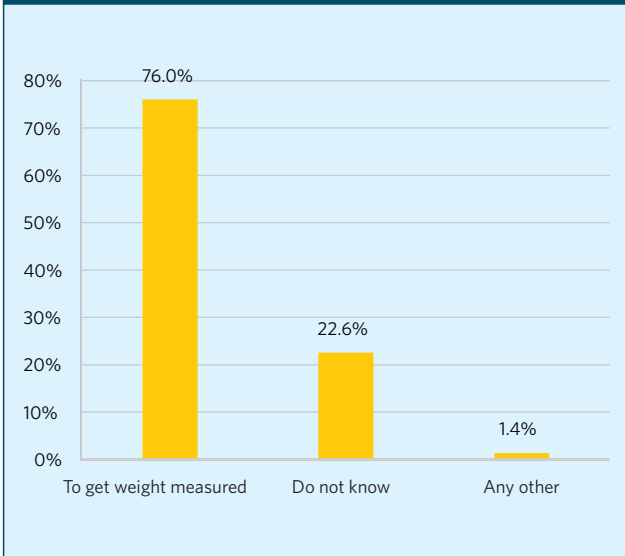


Figure 16: Is the child's weight measured every month? (N = 354)

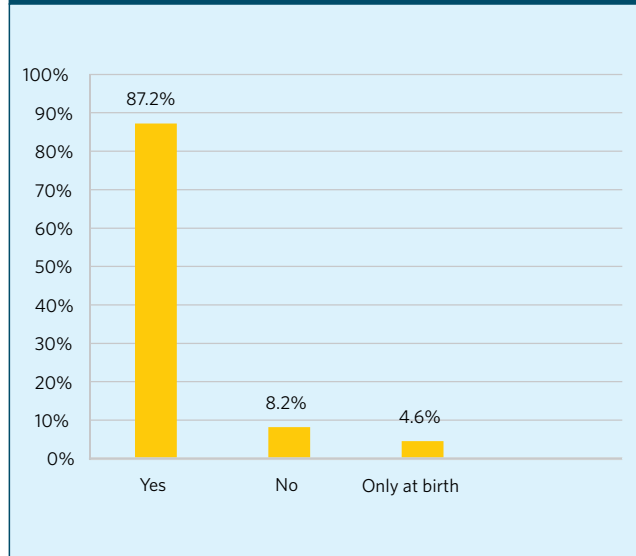


Table 15: Reasons for not measuring child's weight monthly

Family members asked to do so	38.8%
No one in family ever got it done	0.0%
Machine not available/working	18.4%
AWW did not call	23.9%
Do not know about this facility	2.0%
AWC is far away	4.1%
Lack of time	2.0%
No need	2.0%
Mother/child remains unwell	0.0%
Child is too young	14.3%
Misconceptions (like evil eye)	2.0%
Do not know	0.0%
Any other	14.3%
No specific reason	28.6%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 16: Reasons for not measuring child's length monthly

Family members asked to do so	68.1%
No one in family ever got it done	20.1%
Machine not available/working	5.2%
AWW did not call	28.4%
Do not know about this facility	12.2%
AWC is far away	0.4%
Lack of time	0.0%
No need	0.9%
Mother/child remains unwell	0.0%
Child is too young	28.4%
Misconceptions (like evil eye)	0.0%
Do not know	19.7%
Any other	6.1%
No specific reason	15.2%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

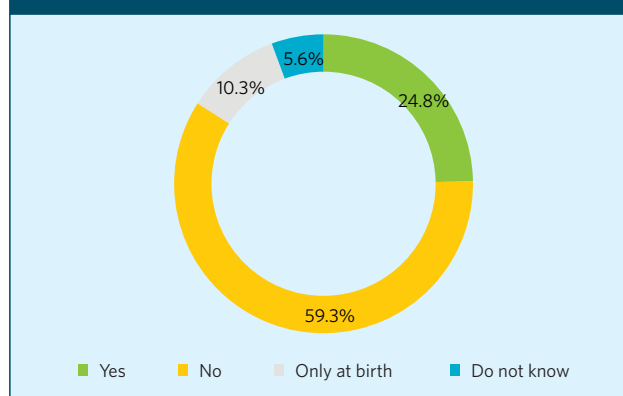
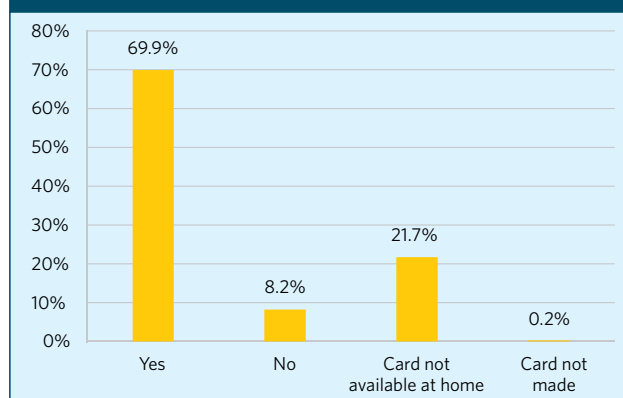
Figure 17: Has the child's length ever been measured? (N = 353)**Figure 18: Availability of filled immunisation card (observed) (N = 350)**

Table 17: According to mothers, is the immunisation card important? (N = 340)

Yes	83.7%
No	3.3%
Do not know	13.0%

Table 18: According to mothers, why is the immunisation card important?

Child's immunisation details are in it	66.4%
Vaccination schedule tells you when to go next	46.2%
Need it for school admission and in hospitals	8.5%
Do not know	9.4%
Any other	10.7%

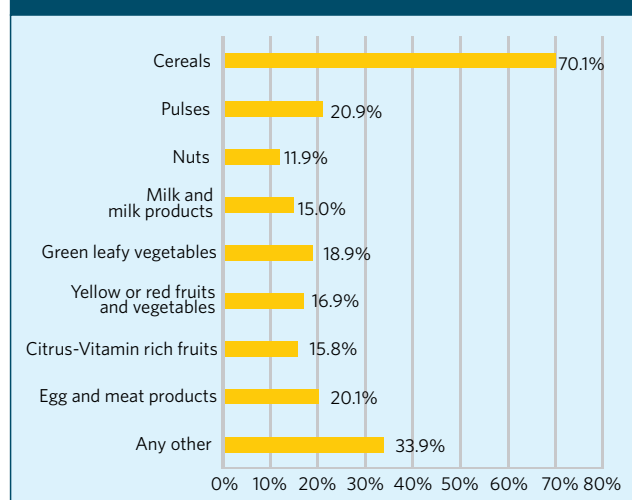
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Key Takeaways:

1. While 18.3% children were born with LBW, mothers of 47.6% of those children perceived their child's birth weight to be normal.
2. Major reason for not getting the children weighed every month turned out to be 'Family members asked to do so' (38.8%). Main reason for not getting child's length measured was also 'Family members asked to do so' (68.1%). This informs us about the role of family members in child rearing and decision-making process.

6. MATERNAL NUTRITION AND SUPPLEMENTATION DURING PREGNANCY

The section covers feeding habits of mothers during pregnancy and their reasons for making changes in their diets. It also highlights the practices related to use of services like Take Home Ration (from AWC), consumption of IFA tablets and deworming tablets.

Figure 19: Food items started/increased during pregnancy

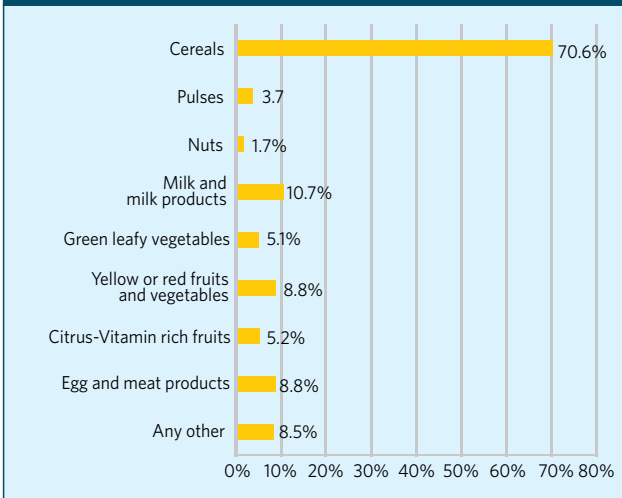
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 19: Reasons for increasing or starting consumption of food items during pregnancy

Family members asked to do so	13.3%
Liked the taste/felt like eating	60.8%
Nutritious for both, mother and child	60.8%
No specific reason	6.0%
Any other	5.4%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 20: Food items reduced/completely stopped during pregnancy



Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 20: Reasons for reducing or stopping consumption of food items during pregnancy

Family members asked to do so	8.4%
Did not like the taste/feel like eating	34.5%
Lack of money	17.6%
Side effects such as vomiting, dizziness, etc.	23.5%
Heat/miscarriage	5.9%
No specific reason	11.8%
Any other	18.5%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 21: Consumption of AWC food during pregnancy (N = 351)

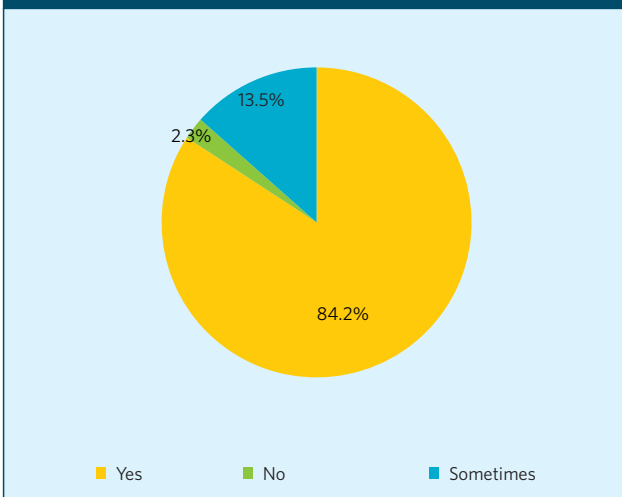


Table 19: Reasons for not consuming AWC food during pregnancy

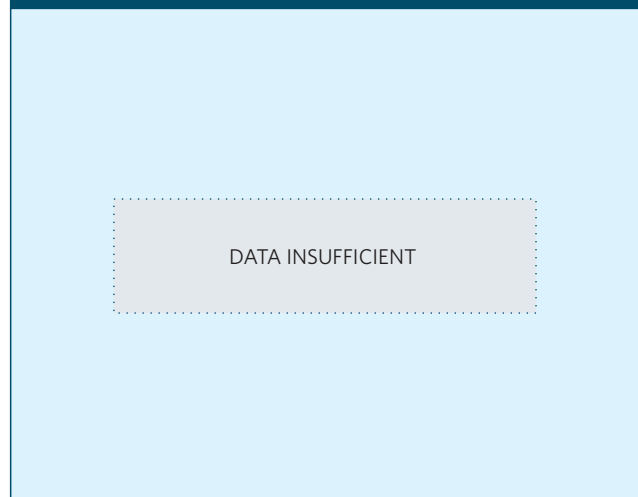
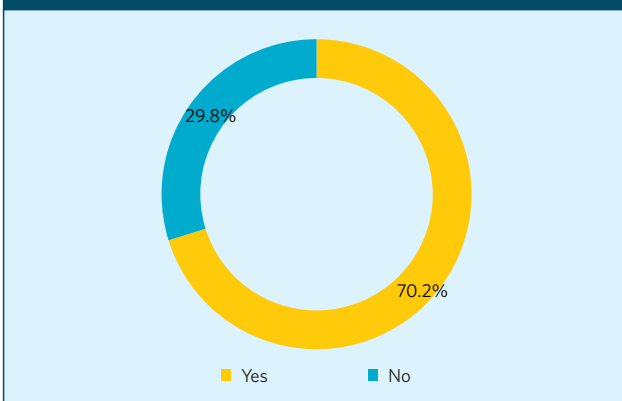
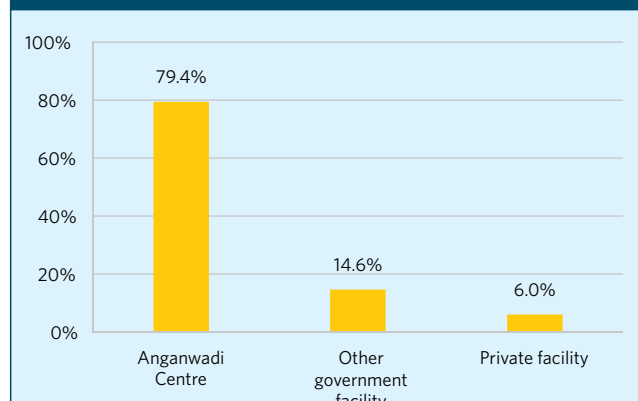


Figure 22: Consumption of IFA tablets for 180 days during pregnancy (N = 341)



According to Anaemia Mukht Bharat, pregnant women are recommended to take IFA tablets for 180 days during pregnancy, starting from the second trimester.

Figure 23: Source of IFA tablets (N = 336)



91.9% of the mothers felt that consuming IFA tablets was necessary (N = 350).

Table 21: Necessity of consuming IFA tablets

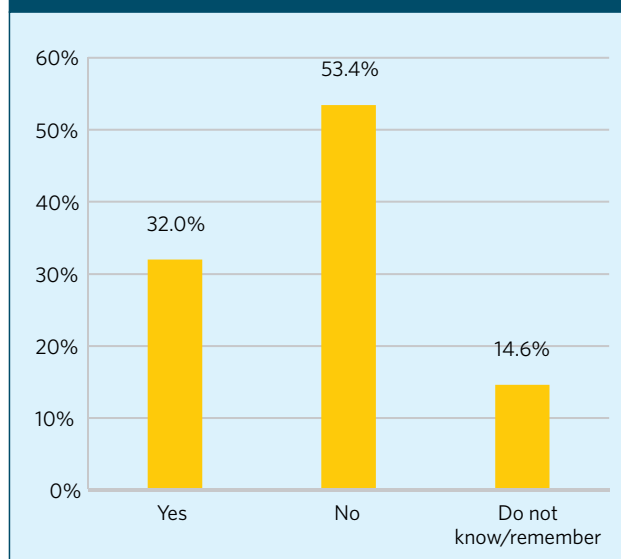
Family members asked to do so	0.6%
Beneficial for child/mother	88.6%
Advised by health workers (AWW/ANM/ASHA/doctor)	3.9%
Read or got advice from school/college	0.0%
From mass media (TV/newspaper/radio)	0.3%
Do not know	5.1%
Any other	7.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 22: Reasons for not consuming deworming tablet during pregnancy

Family members asked to do so	0.0%
Did not like the taste	1.6%
Did not know of facility	46.9%
AWC is far away	3.1%
Lack of time	1.6%
No specific reason	24.5%
Any other	45.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 24: Consumption of deworming tablet during pregnancy (N = 353)**Key Takeaways:**

1. MoHFW recommends pregnant women to increase the number of portions for food groups such as milk and milk products, green leafy vegetables, and other fruits and vegetables. 60.8% mothers said that they increased or started to eat those food groups because they 'Liked the taste' and 60.8% said they are 'Nutritious for both, mother and child'.
2. 70% of mothers reported having consumed IFA tablets for 180 days or more.
3. 46.9% of mothers said that they did not consume deworming tablet during pregnancy and the major reason for not doing so was that they 'Did not know about the facility', where facility refers to the availability of deworming tablets in the AWC.

7. DRINKING WATER

This section deals with the source, storage, handling and contamination level of household drinking water. It also captures purification techniques used for drinking water for less than one year old children.

Table 23: Sources of drinking water

Tap: inside home or in public	25.1%
Submersible pump	9.6%
Water works	0.8%
Hand-pump in community	48.9%
Hand-pump at home	5.6%
Water tanker	2.0%
Well	6.5%
Any other	5.9%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 24: Storage of drinking water (N = 353)

Covered	85.9%
Uncovered	13.2%
Directly from tap/hand-pump	0.5%
Any other	0.5%

Table 25: Ways of taking out drinking water from the vessel in the household (N = 352)

Using ladle	26.1%
Using hand, with contact	57.2%
Directly from tap/pump	15.0%
Any other	1.8%

Figure 25: Quality of drinking water (as per test) (N = 342)

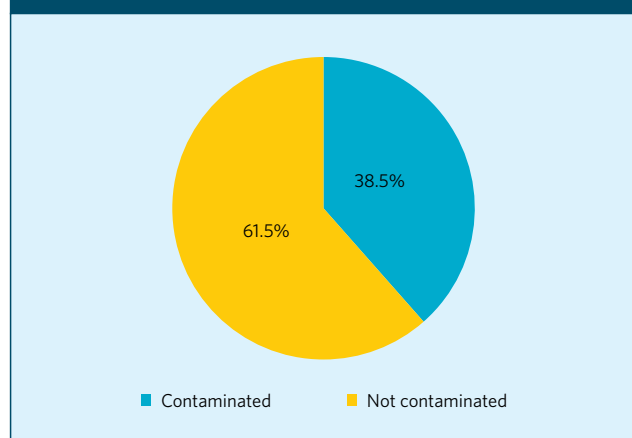


Figure 26: Quality of drinking water (mother's perception) (N = 349)

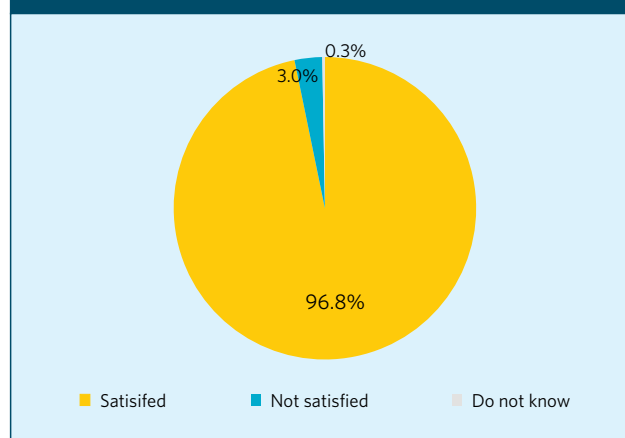


Figure 27: Water purified for less than 1 year old child (N = 346)

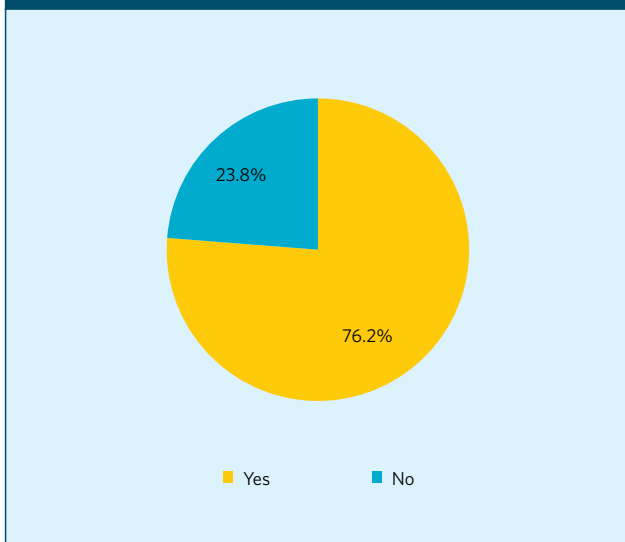
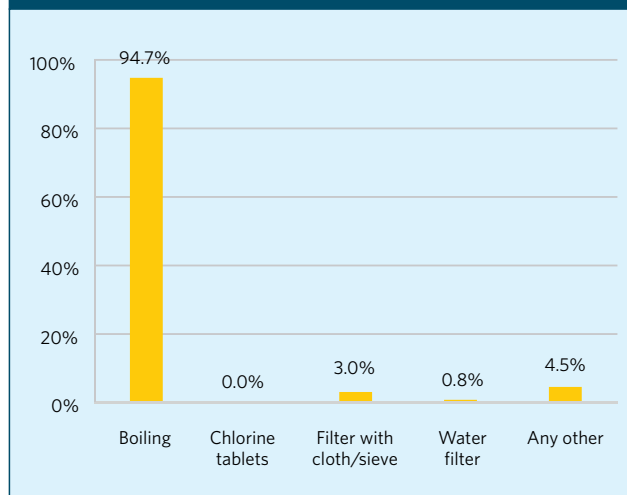


Figure 28: Methods used to purify water for less than 1 year old child



Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Key Takeaways:

1. While most of the mothers reported that they were satisfied with their drinking water (96.8%), 38.5% of the households had contaminated drinking water (according to the Hydrogen Sulphide³ test done by the surveyors).
2. 76.2% of the mothers said that they purify water for their less than one-year old child. The most popular method used for water purification was boiling (94.7% mothers adopted this method).

8. SANITATION

This section covers availability of toilets, practices related to disposal of child's faeces and hand washing practices.

Figure 29: Availability of a fully constructed toilet in the household (N = 354)

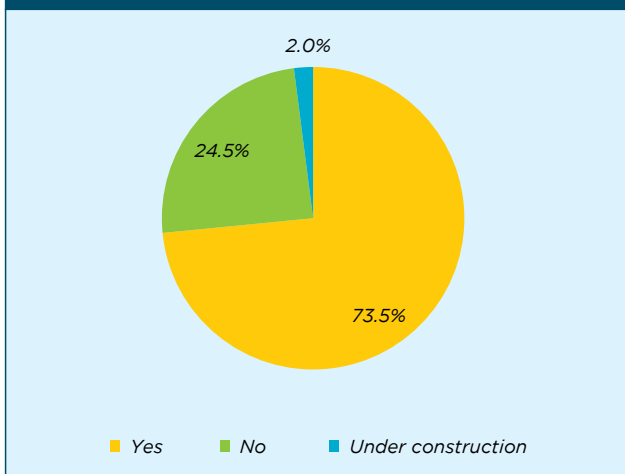


Table 26: Reasons for not having toilet at home

Expensive/lack of money	9.5%
Use public toilet	0.0%
Unhygienic	1.2%
Better to go outside	6.0%
No water facility	3.6%
No government support	56.0%
Lack of space	14.3%
No specific reason	4.8%
Any other	9.5%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

³Evaluation of the H₂S Method for Detection of Faecal Contamination of Drinking Water Test. Water, Sanitation and Health, Department of Protection and the Human Environment, World Health Organisation Geneva.
Retrieved online from https://www.who.int/water_sanitation_health/dwq/WSH02.08.pdf

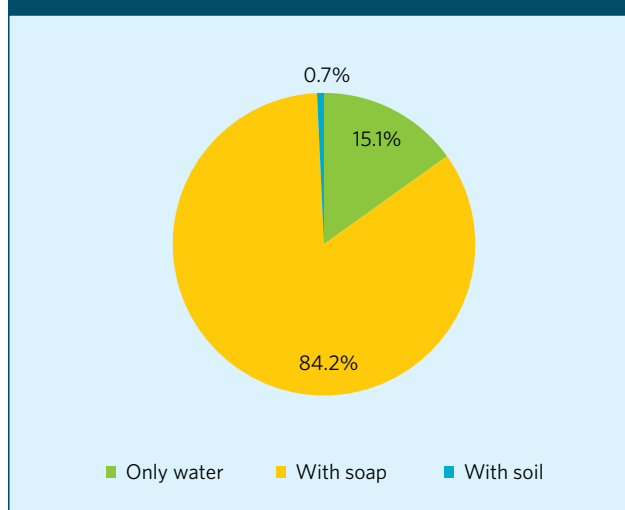
Table 27: Disposal of child's faeces (N = 350)

Wash in toilet	12.7%
Throw in garbage bin	3.0%
Bury in soil	2.3%
Wash in drain	5.3%
Left open	35.5%
In open water body	36.7%
Any other	4.5%

**Table 28: Chores during which mothers wash hands**

Before preparing food	70.3%
Before eating food	85.0%
After using washroom	61.6%
After cleaning	31.4%
After cleaning child's faeces	35.6%
After touching animals	3.4%
Before holding the child	43.2%
Any other	7.9%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 30: How do mothers wash their hands? (N = 346)

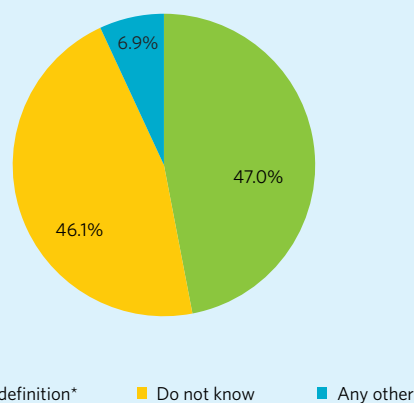
Key Takeaways:

1. 'No government support' came out to be the pre-dominant reason for not having a toilet at home. It was reported by 56% of the respondents.
2. 36.7% of the mothers said that they disposed of their child's faeces in open water bodies and 35.5% of them left the child's faeces in open. This shows that some mothers are not aware about the hygienic environment to be maintained, not only to ensure good health for their child, but also for the rest of the family and the community.

9. DIARRHOEA

This section identifies mother's knowledge about the causes, consequences and treatment of diarrhoea. It also captures the incidence of diarrhoea among less than one year old children and measures adopted to address it.

Figure 31: What do mothers understand about diarrhoea? (N = 347)



*When a child passes liquid faeces three or more times in a day

Table 29: Causes of diarrhoea according to mothers

Infant teething	3.1%
Weather change	13.3%
Drinking polluted water	8.5%
Eating contaminated food	12.4%
Unhygienic conditions	15.8%
Misconceptions (like evil eye)	0.6%
Do not know	43.8%
Ill effects of mother's food consumption	6.5%
Any other	29.7%

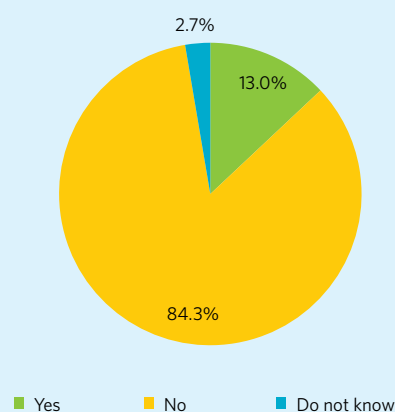
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 30: Consequences of diarrhoea according to mothers

Can lead to child's death	1.4%
Deficiency of water in child's body	9.6%
Deficiency of water and other important nutrients in child's body	5.6%
Nothing happens, it's normal	1.7%
Leads to weakness	57.9%
Do not know	30.8%
Any other	11.6%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

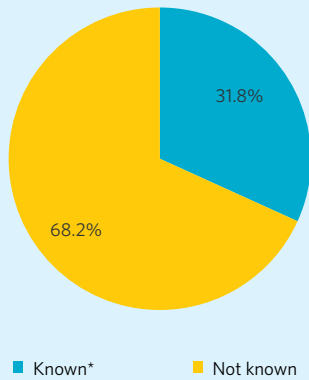
Figure 32: Did your child suffer from diarrhoea in the last two weeks/15 days? (N = 341)



Of those children who had diarrhoea, 96.5% were fed mother's milk (N = 53), and 65.3% were taken to a health worker (N = 52).

96% mothers had seen a packet of ORS (N = 352).

Figure 33: Knowledge about preparation and storage of ORS (N = 329)



*Mothers knew that 1 packet of ORS is needed to make 1 litre of solution and the solution can be used for 24 hours.



Key Takeaways:

1. 13% of children suffered from diarrhoea in the last two weeks/15 days before they survey was conducted.
2. 57.9% mothers related diarrhoea to weakness, however, only 1.4% could relate it to death. Less than half of the mothers (47%) knew the correct definition of diarrhoea.
3. While 96% mothers had seen a packet of ORS before, 68.2% did not know about the correct method of preparation and storage of ORS.

UDUPI (KARNATAKA)

KEY FINDINGS

Infant and Young Child Feeding and Supplementation		
1	Children aged 0-12 months who were breastfed	99%
2	Children under 6 months of age who were exclusively breastfed	77.8%
3	Children aged 6-8 months being fed a diverse diet (as per WHO guidelines)	7.8%
4	Children aged 9-12 months being fed a diverse diet (as per WHO guidelines)	16.9%
5	Children aged 6-12 months being given iron syrup in last 7 days as recommended	12.1%
6	Children aged 6-12 months being fed Anganwadi Centre food in last 15 days	33.3%
Health Services		
7	Children born with Low Birth Weight (<2.5 kgs)	12.1%
8	Mothers of children born with Low Birth Weight who perceived it normal	69%
9	Children whose weight was measured monthly	79.6%
10	Children whose growth chart was filled (observed)	38.1%
11	Children whose length was ever measured	42.9%
Maternal Nutrition and Supplementation during pregnancy		
12	Mothers who increased portions of milk and its products as recommended	34.1%
13	Mothers who consumed Anganwadi Centre food during pregnancy	55.2%
14	Mothers who consumed Iron and Folic Acid tablets for 180 days or more	91.2%
15	Mothers who consumed deworming tablet during pregnancy	39.2%
Drinking water, Sanitation and Hygiene		
16	Households in which drinking water was contaminated	55.3%
17	Mothers who were satisfied with quality of drinking water	99.3%
18	Mothers who reported that they purify drinking water for their child	97.4%
19	Households that had a fully constructed toilet	98.5%
20	Households that dispose child's faeces in open water body or leave it in open	4.7%
Diarrhoea		
21	Mothers who knew the correct definition of diarrhoea	82.6%
22	Children who suffered from diarrhoea in 15 days before survey	7.9%
23	Mothers who had correct knowledge about preparation and storage of ORS	47.5%

1. PROFILE OF CHILDREN

This section describes the general profile of the children and their parents in the district.

Figure 1: Age profile of the children (N = 622)

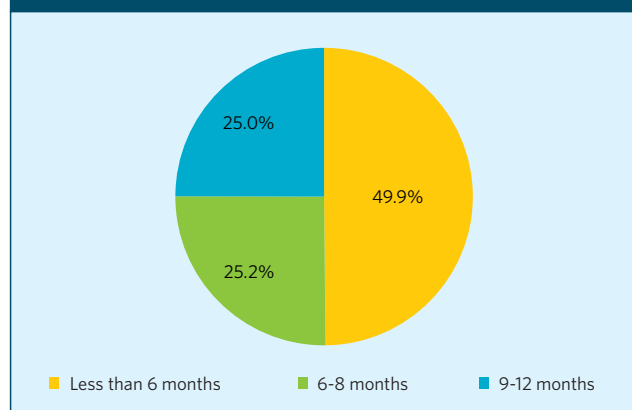


Figure 2: Sex distribution of the children (N = 621)

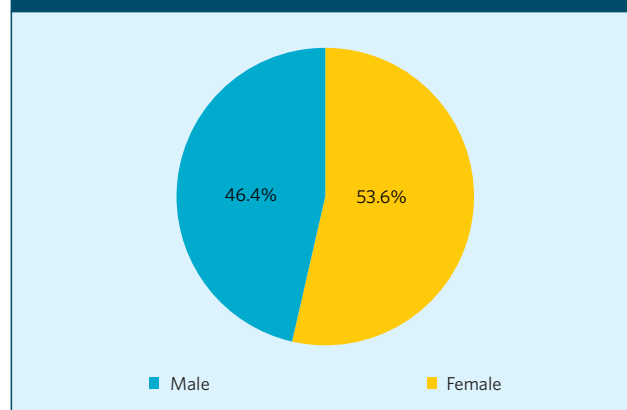


Figure 3: Birth order of the child (N = 622)

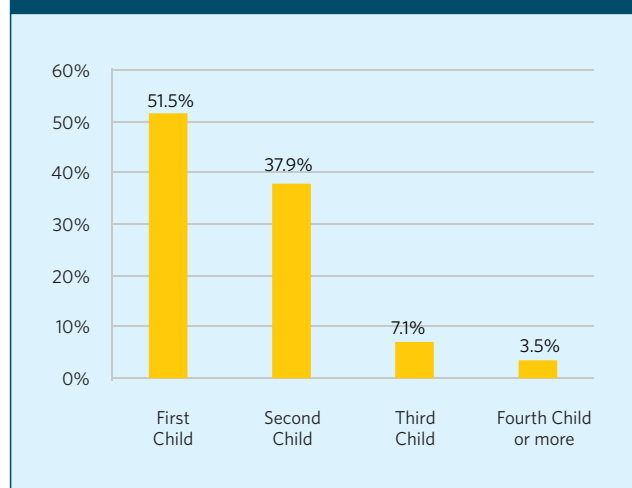


Table 1: Age profile of parents

Age in years	Mother (N = 622)	Father (N = 622)
20 or under	0.6%	0.0%
21-25	23.9%	1.6%
26-30	47.8%	16.0%
31-35	23.1%	47.7%
Older than 35	4.6%	34.7%

Table 2: Educational level of the parents (completed)

	Mother (N = 622)	Father (N = 618)
Never attended school	2.4%	0.6%
Primary	6.1%	10.5%
Upper primary	21.3%	27.0%
Secondary	47.9%	45.7%
Higher education	22.4%	16.2%

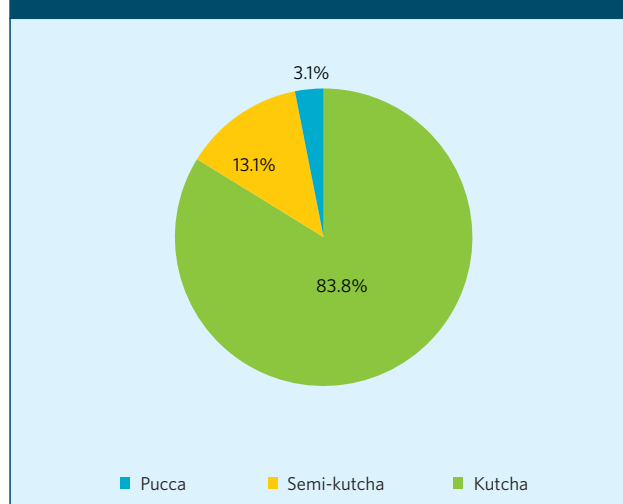
2. HOUSEHOLD INFORMATION

The ownership of household assets, land and livestock has been summarised in this section.

Table 3: Household asset ownership

	Observations	
Four-wheeler	601	25.3%
Two-wheeler	606	69.7%
Electricity in household	620	98.4%
Electricity on survey day	620	92.3%
TV in household	619	96.2%
Cable TV in household	616	85.6%
Mobile phone	621	99.4%
Smart phone	607	87.9%
Livestock	616	52.1%
Agricultural land	621	33.5%

Figure 4: Type of house (N = 618)

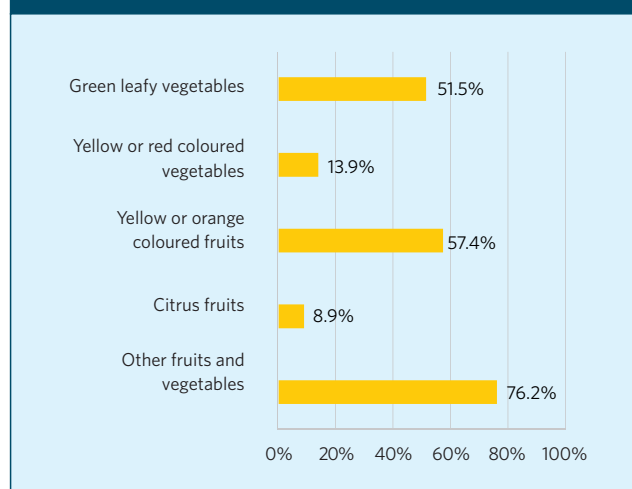


3. INFORMATION ON FRUITS AND VEGETABLES

This section focuses on home gardening of fruits and vegetables for family consumption.

47.1% households grow fruits and vegetables for their own consumption, either around their house or in their agricultural land itself (N = 618).

Figure 5: Types of fruits and vegetables grown for own consumption



Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 4: Reasons for not growing fruits and vegetables

Lack of money	3.2%
Lack of time	4.1%
Scarcity of water	35.6%
Lack of space	66.7%
Lack of knowledge	2.2%
Unavailability of seeds	1.3%
No specific reason	3.8%
Any other	11.1%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Key Takeaway:

47% of the households were growing some fruit or vegetable for family's consumption, citing the major reason for not doing so as 'Lack of space' (66.7%).

4. INFANT AND YOUNG CHILD FEEDING (IYCF)

This section presents data on breastfeeding, complementary and supplementary feeding patterns of children through a 24-hour rapid diet assessment.¹ This section assesses, among other indicators, how frequently the child is being fed and how diverse their diets are in terms of consumption of food groups.

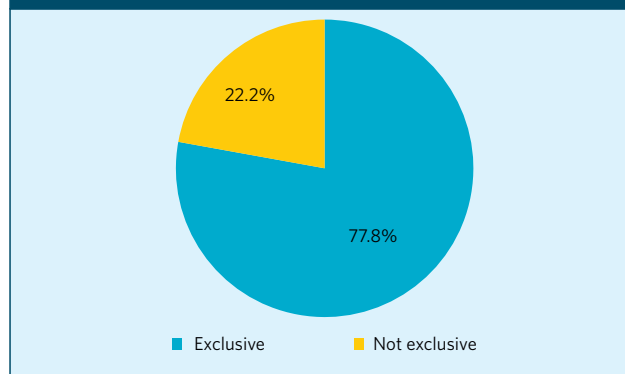
(i) Breastfeeding practices

Initiation timing	Percentage
Within 1 hour	65.1%
Within 24 hours	19.6%
After 24 hours	3.9%
Do not know/remember	7.5%
Any other	3.9%

*Breastfeeding should be initiated within one hour of birth.

99% of all children in age group of 0-12 months are currently breastfed (N = 621).

Figure 6: Exclusive breastfeeding for children under 6 months of age (N = 292)



(ii) Complementary feeding patterns of children aged 6-12 months

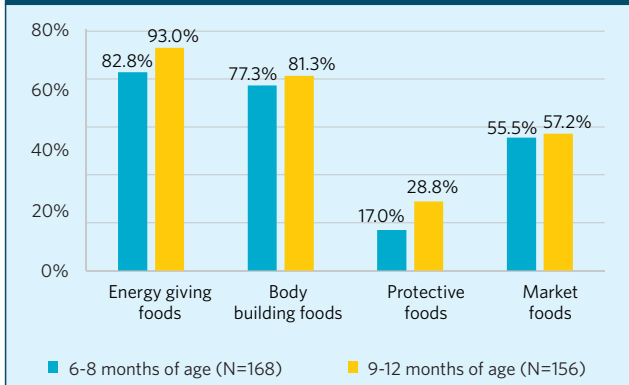
Number of milk feeds	6-8 months (N = 158)	9-12 months (N = 153)
0	15.3%	13.2%
1	10.8%	25.7%
2	22.4%	26.2%
3	20.8%	14.8%
4	13.9%	11.3%
5	7.7%	8.8%

Number of non-milk feeds	6-8 months (N = 157)	9-12 months (N = 153)
0	0.0%	0.9%
1	4.4%	4.5%
2	15.8%	16.0%
3	26.3%	26.1%
4	30.1%	30.1%
5	22.5%	22.4%

¹24-hour rapid diet assessment is an adaptation of the standardised 24-hour diet tool using a recall method to assess quality of diets.

²As reported on the day of the survey.

Figure 7: Inclusion of food groups in daily diets of children



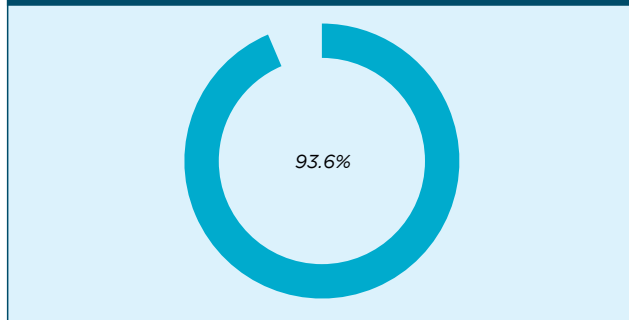
Market food refers to formula food, formula milk, sweet and salty snacks and unpackaged food.

Table 8: Inclusion of protective foods in daily diets of children 9-12 months old (N = 51)

Green leafy vegetables	15.7%
Yellow/red coloured fruits and vegetables	64.7%
Citrus fruits	5.9%
Other fruits and vegetables	54.9%

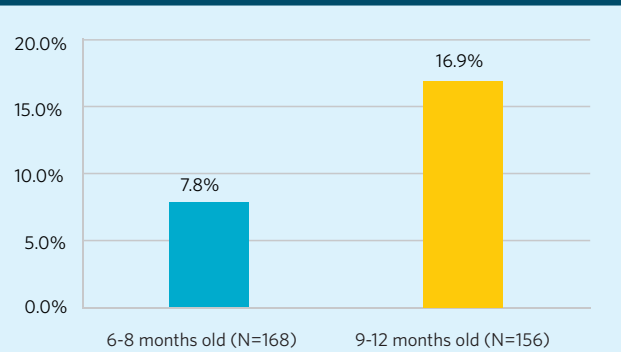
Data insufficient for 6-8 months old children.

Figure 8: Children over 6 months of age fed solid/semi-solid food in last 24 hours (N = 312)



According to Ministry of Health and Family Welfare (MoHFW) guidelines of enhancing optimal infant and young child feeding practices, solid and semi-solid foods must be given to children on reaching 6 months of age.

Figure 9: Children meeting guidelines for dietary diversity (WHO)



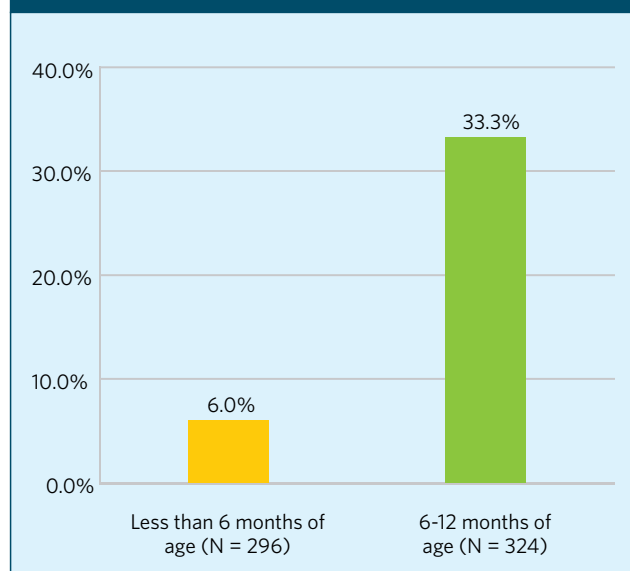
According to World Health Organisation guidelines for enhancing optimal infant and young child feeding practices "children should receive food from four or more food groups in the age group of 6-23 months". The food groups included:

- Group A: Grains, roots and tubers
- Group B: Legumes and nuts
- Group C: Dairy products
- Group D: Flesh foods
- Group E: Eggs
- Group F: Vitamin A rich fruits
- Group G: Other fruits and vegetables



(iii) Supplementary feeding

Figure 10: Consumption of AWC food by children*



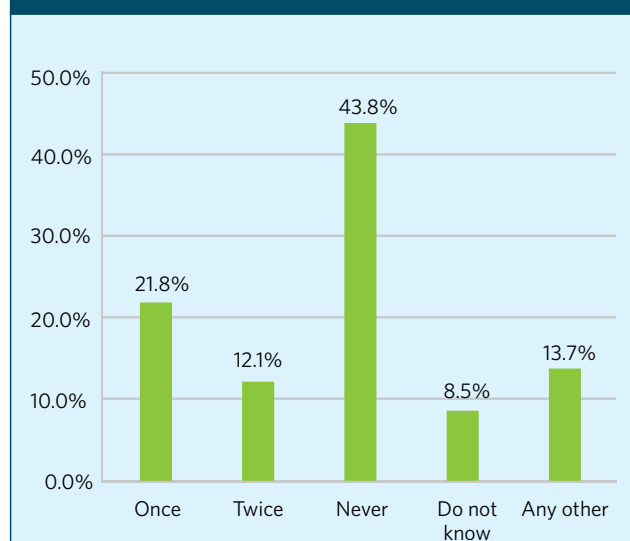
*In the reference period of 15 days prior to the day of the survey.

Table 9: Reasons for not feeding child AWC food (for 6 months of age and above)

Family members asked not to do so	18.7%
Did not like the taste	12.9%
No need for AWC food	6.7%
Did not get from AWC	17.7%
AWC is far away	8.6%
Did not know about the facility	9.6%
Poor hygiene	3.3%
Lack of time	2.4%
Child is too young	33.5%
No specific reason	16.3%
Any other	3.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 11: Consumption of iron syrup by children greater than 6 months of age in a week prior to survey (N = 321)



According to Anaemia Mukht Bharat guidelines, 1 ml of iron syrup (containing 20 mg of elemental iron and 100 mcg of folic acid) should be provided biweekly, to children above 6 months of age.

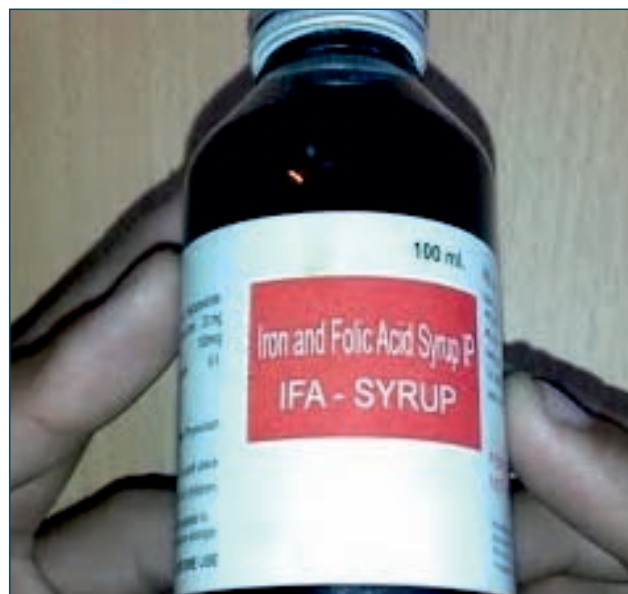
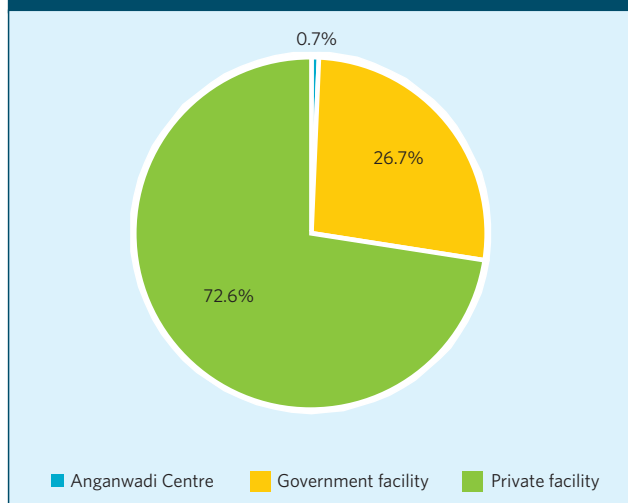
Table 10: Reasons for child not consuming iron syrup (for 6 months of age and above)

Family members asked to do so	34.3%
Did not like the taste	1.4%
No need	13.3%
Did not get	7.0%
AWC is far	1.4%
Did not know about facility	40.6%
Poor hygiene	0.0%
Lack of time	0.0%
Child too young	17.5%
No specific reason	27.3%
Any other	7.7%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.



Figure 12: Source of iron syrup (N = 112)



Key Takeaways:

1. 77.8% of children under the age of 6 months were exclusively breastfed, in accordance with IYCF practices recommended by MoHFW.
2. Inclusion of foods bought from the market in diets of children was significantly high. 55.5% children aged 6-8 months and 57.2% in 9-12 months received foods bought from market. This included formula feed, formula milk, sweet and salty snacks, unpackaged food.
3. Only 7.8% of children aged 6-8 months met WHO guidelines for minimum dietary diversity. This number almost doubles to 16.9% in age group 9-12 months.
4. Out of all the children over 6 months of age not consuming AWC food, the main reason for not doing so is that mothers think 'Child is too young' (33.5%). This points to a gap in mother's knowledge about the right age to begin complementary feeding for the child.
5. The main reason for children above 6 months of age not consuming iron syrup is that the mothers 'Did not know about the facility' (40.6%), where facility refers to the availability of iron syrup in the AWC.

5. HEALTH SERVICES

Important services like growth monitoring and immunisation are covered in this section. It focuses on the knowledge and practices of mothers and their reasons for not following the recommended practices.

Table 11: Place of delivery of child (N = 619)

Government facility	38.6%
Private facility	61.2%
Home	0.2%
Any other	0%

Table 12: Child's weight at birth (N =622)

<2.5 kgs (LBW)	12.1%
2.5-3 kgs	38.6%
> 3 kgs	49.3%

Birth weight of 97.4% children surveyed was observed from the Mother and Child Protection card.

Figure 13: Mother's perception of birth weight of child if the child was born with LBW (N = 75)

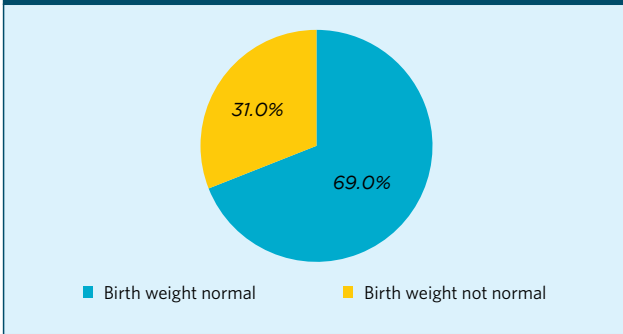


Table 13: If mother thinks that the child was born with LBW, what was done to improve weight of child? (N = 47)

Took child to doctor	25.2%
Fed child nutritious food	10.2%
Took child to AWW	0.0%
Fed mother's milk to child	48.8%
Did nothing	8.5%
Any other	7.4%

Table 14: Birth weight explained to mother/family member by health worker (N = 613)

Yes	70.8%
No	28.1%
Do not know	1.1%

Figure 14: Availability of filled growth chart (observed) (N = 620)

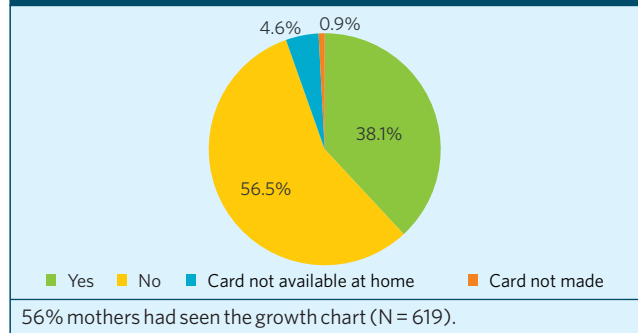


Figure 15: Mother's knowledge about usage of growth chart (N = 361)

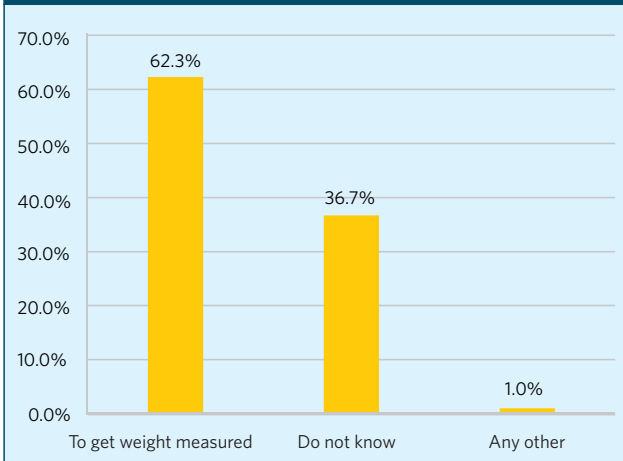


Figure 16: Is the child's weight measured every month? (N = 617)

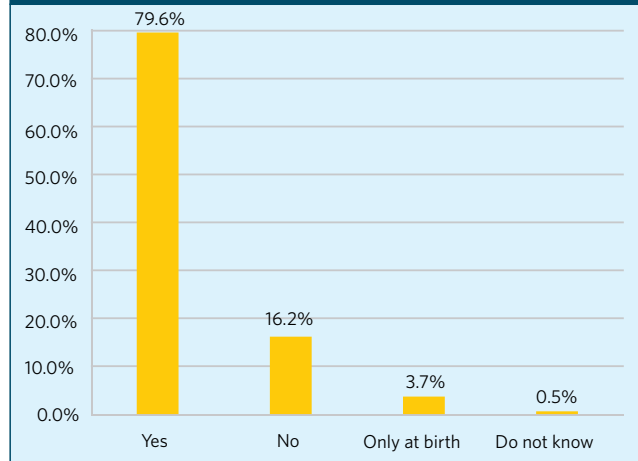


Table 15: Reasons for not measuring child's weight monthly

Family members asked to do so	61.8%
No one in family ever got it done	11.8%
Machine not available/working	10.9%
AWW did not call	15.5%
Do not know about this facility	9.1%
AWC is far away	2.7%
Lack of time	1.8%
No need	3.6%
Mother/child remains unwell	2.7%
Child is too young	24.5%
Misconceptions (like evil eye)	6.4%
Do not know	11.8%
Any other	9.1%
No specific reason	21.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 17: Has the child's length ever been measured? (N = 620)

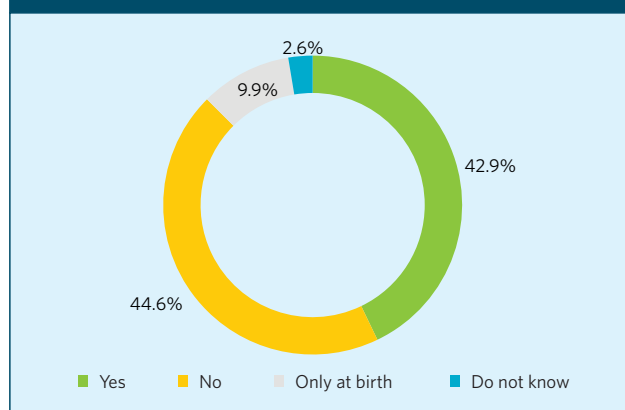


Figure 18: Availability of filled immunisation card (observed) (N = 612)

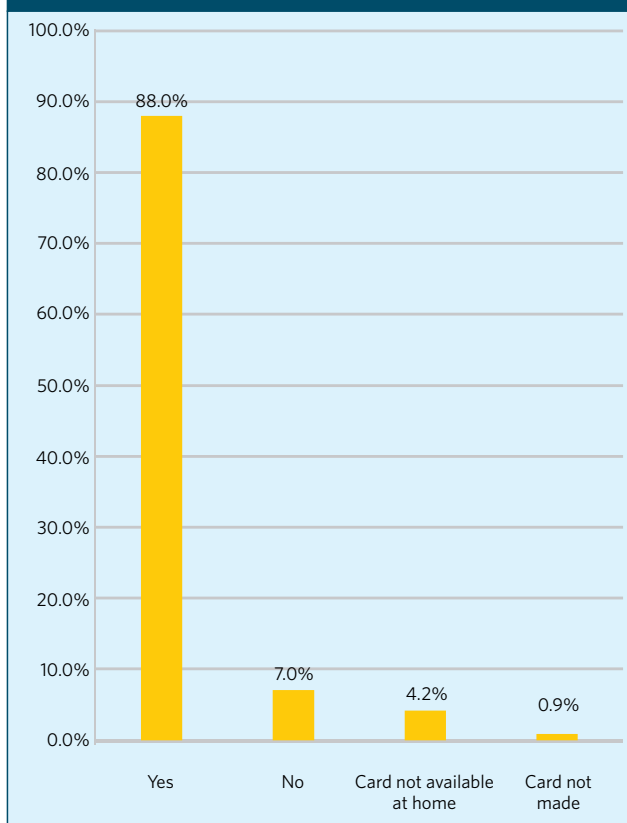


Table 16: Reasons for not measuring child's length monthly

Family members asked to do so	59.4%
No one in family ever got it done	18.4%
Machine not available/working	7.4%
AWW did not call	16.4%
Do not know about this facility	18.4%
AWC is far away	2.9%
Lack of time	1.2%
No need	3.3%
Mother/child remains unwell	1.2%
Child is too young	27.5%
Misconceptions (like evil eye)	1.2%
Do not know	16.8%
Any other	3.3%
No specific reason	13.5%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 17: According to mothers, is the immunisation card important?

Yes	91.5%
No	1.8%
Do not know	6.7%

Table 18: According to mothers, why is the immunisation card important?

Child's immunisation details are in it	52.3%
Vaccination schedule tells you when to go next	83.7%
Need it for school admission and in hospitals	18.2%
Do not know	2.1%
Any other	3.5%

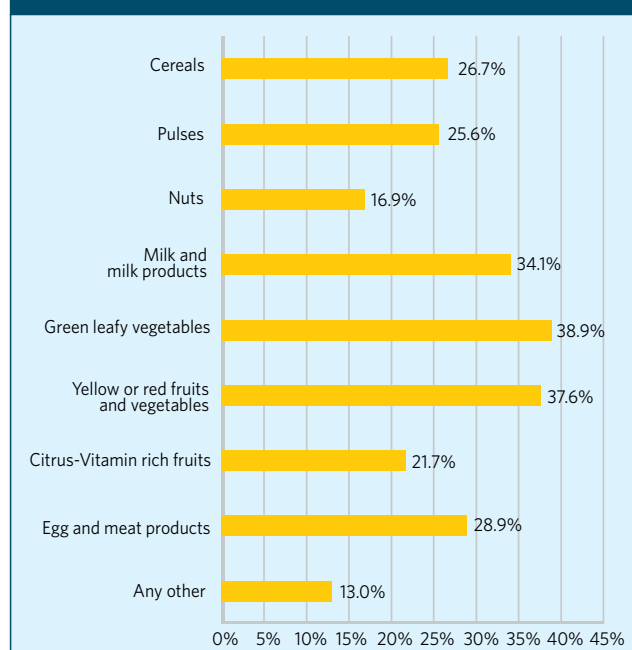
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Key Takeaways:

1. While 12.1% children were born with LBW, mothers of 69% of those children perceived the child's birth weight to be normal.
2. Major reason for not getting the children weighed every month turned out to be 'Family members asked to do so' (61.8%). Main reason for not getting child's length measured was also 'Family members asked to do so' (59.4%). This informs us about the role of family members in child rearing and decision-making process.

6. MATERNAL NUTRITION AND SUPPLEMENTATION DURING PREGNANCY

The section covers food habits of mothers during pregnancy and their reasons for making changes in their diets. It also highlights the practices related to use of services like Take Home Ration (from AWC), consumption of IFA tablets and deworming tablets.

Figure 19: Food items started/increased during pregnancy

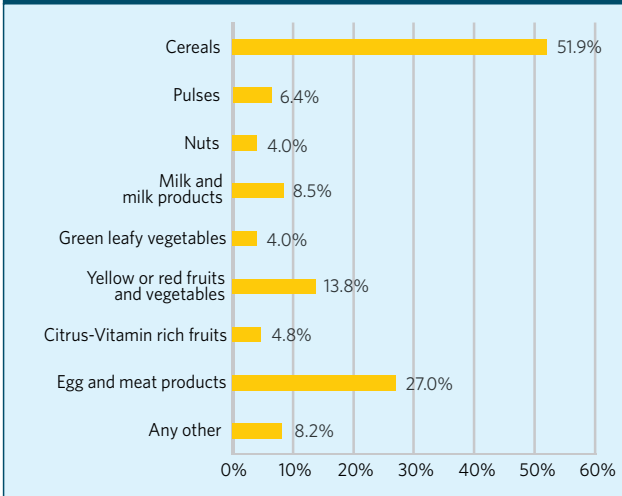
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 19: Reasons for increasing or starting consumption of food items during pregnancy

Family members asked to do so	4.0%
Liked the taste/felt like eating	37.3%
Nutritious for both, mother and child	54.9%
No specific reason	8.4%
Any other	4.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 20: Food items reduced/completely stopped during pregnancy



Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 20: Reasons for reducing or stopping consumption of food items during pregnancy

Family members asked to do so	6.7%
Did not like the taste/feel like eating	12.5%
Lack of money	0.3%
Side effects such as vomiting, dizziness, etc.	62.6%
Heat/miscarriage	8.2%
No specific reason	5.8%
Any other	8.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 21: Consumption of AWC food during pregnancy (N = 620)

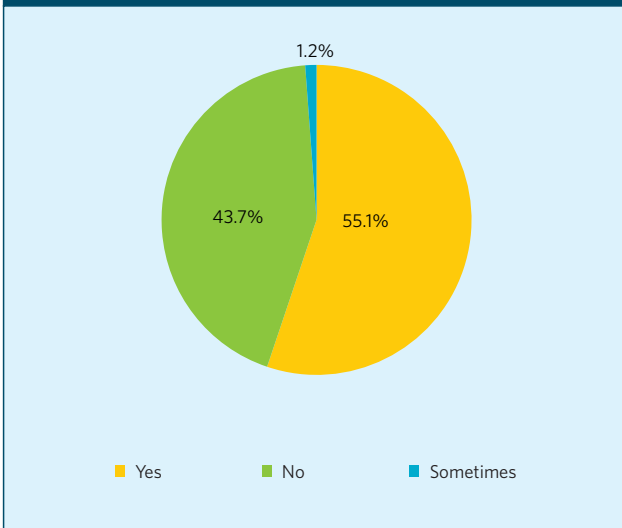
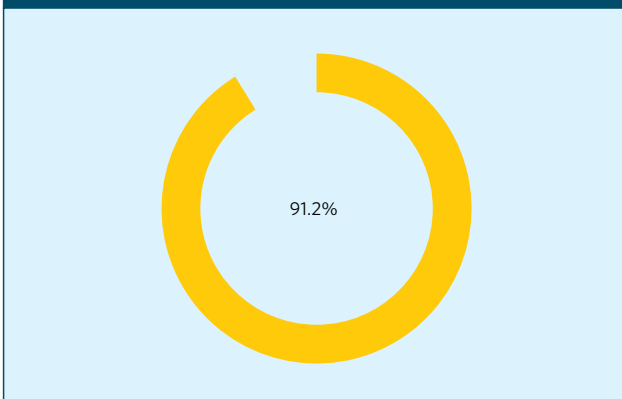


Table 21: Reasons for not consuming AWC food during pregnancy

Family members asked to do so	9.3%
Did not like the taste	10.0%
No need for AWC food	6.2%
Did not get food from AWC	19.6%
AWC is far away	32.0%
Did not know about facility	10.3%
Lack of cleanliness	1.0%
Lack of time	8.2%
No specific reason	11.7%
Any other	10.7%

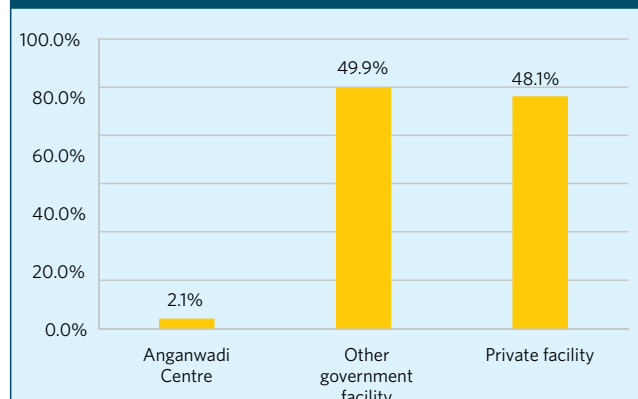
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 22: Consumption of IFA tablets for 180 days during pregnancy (N = 611)



According to Anaemia Mukht Bharat, pregnant women are recommended to take IFA tablets for 180 days during pregnancy, starting from the second trimester.

Figure 23: Source of IFA tablets (N = 609)



95% of the mothers felt that consuming IFA tablets was necessary (N = 617).

Table 22: Necessity of consuming IFA tablets

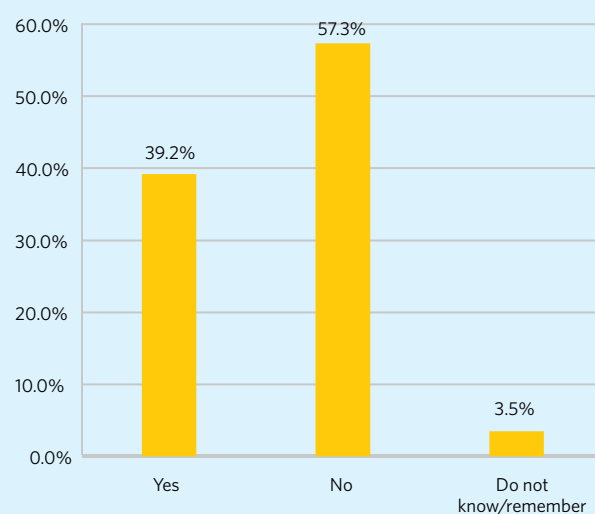
Family members asked to do so	4.1%
Beneficial for child/mother	72.3%
Advised by health workers (AWW/ANM/ASHA/doctor)	35.0%
Read or got advice from school/college	0.5%
From mass media (TV/newspaper/radio)	0.5%
Do not know	3.2%
Any other	1.4%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 23: Reasons for not consuming deworming tablet during pregnancy

Family members asked to do so	1.7%
Did not like the taste	2.0%
Did not know of facility	46.2%
AWC is far away	3.1%
Lack of time	0.3%
No specific reason	40.8%
Any other	6.5%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 24: Consumption of deworming tablet during pregnancy (N = 622)**Key Takeaways:**

1. MoHFW recommends pregnant women to increase the number of portions for food groups such as milk and milk products, green leafy vegetables, and other fruits and vegetables. 54.9% mothers said that they increased or started to eat those food groups because they are 'Nutritious for both, mother and child'.
2. 91.2% of mothers reported having consumed IFA tablets for 180 days or more.
3. Almost half of mothers (46.2%) said that they did not consume deworming tablet during pregnancy and the major reason for not doing so was that they 'Did not know about the facility', where facility refers to the availability of deworming tablets in the AWC.

7. DRINKING WATER

This section deals with the source, storage, handling and contamination level of household drinking water. It also captures purification techniques used for drinking water for less than one year old children.

Table 24: Sources of drinking water

Tap: inside home or in public	14.3%
Submersible pump	1.9%
Water works	2.6%
Hand-pump in community	1.6%
Hand-pump at home	0.5%
Water tanker	0.2%
Well	78.9%
Any other	1.8%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 25: Storage of drinking water (N = 617)

Covered	91.5%
Uncovered	6.6%
Directly from tap/hand-pump	0.5%
Any other	1.5%

Table 26: Ways of taking out drinking water from the vessel in the household (N = 600)

Using ladle	58.3%
Using hand, with contact	29.4%
Directly from tap/pump	3.0%
Any other	9.3%

Figure 25: Quality of drinking water (as per test) (N = 622)

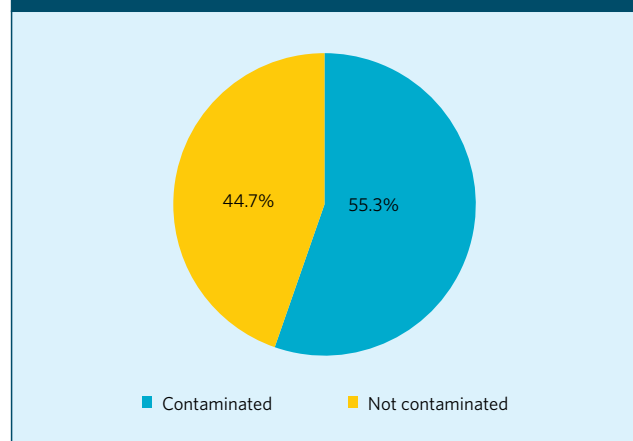


Figure 26: Quality of drinking water (mother's perception) (N = 620)

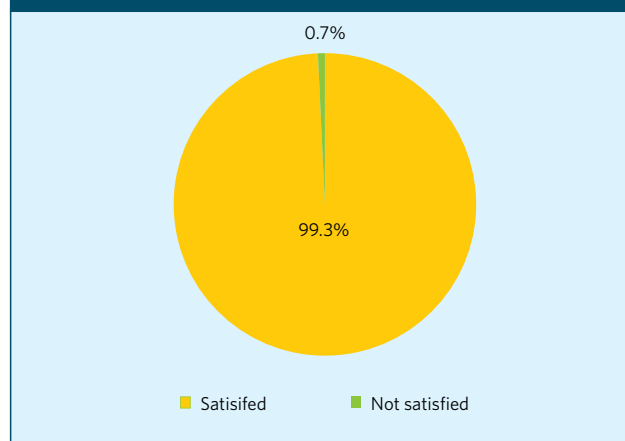


Figure 27: Water purified for less than 1 year old child (N = 610)

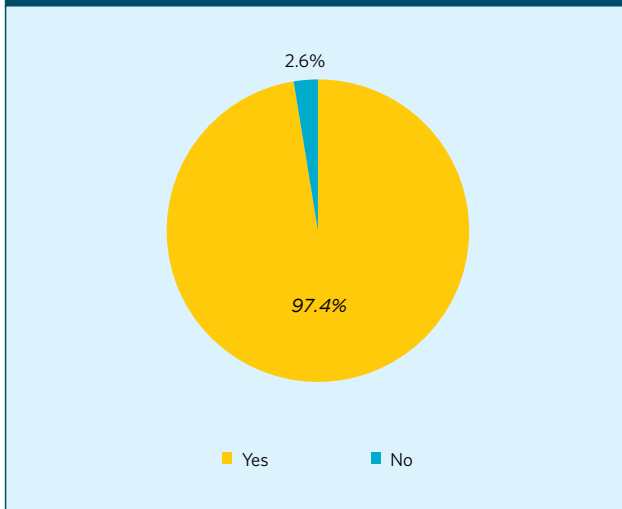
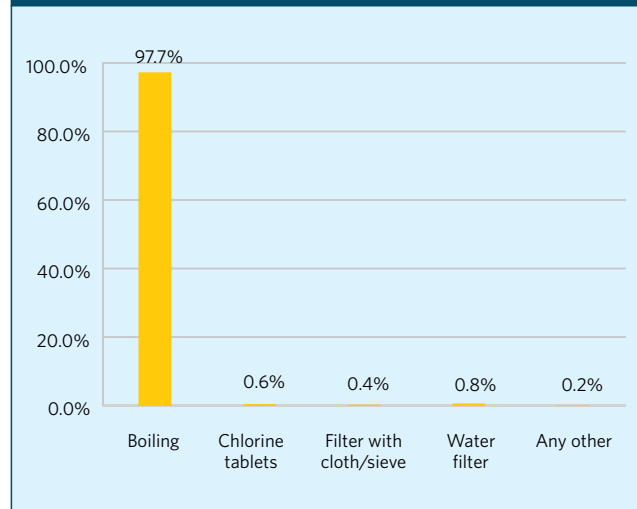


Figure 28: Methods adopted to purify water for less than 1 year old child



Note: Respondents could select multiple answers, thus, the total percentage exceeds 100%.

Key Takeaways:

1. While most of the mothers reported that they were satisfied with their drinking water (99.3%), 55.3% of the households had contaminated drinking water (according to the Hydrogen Sulphide³ test done by the surveyors).
2. 97.4% of the mothers said that they purify water for their less than one-year old child. The most popular method used for water purification was boiling (97.7% mothers adopted this method).

8. SANITATION

This section covers availability of toilets, practices related to disposal of child's faeces and hand washing practices.

Figure 29: Availability of a fully constructed toilet in the household (N = 621)

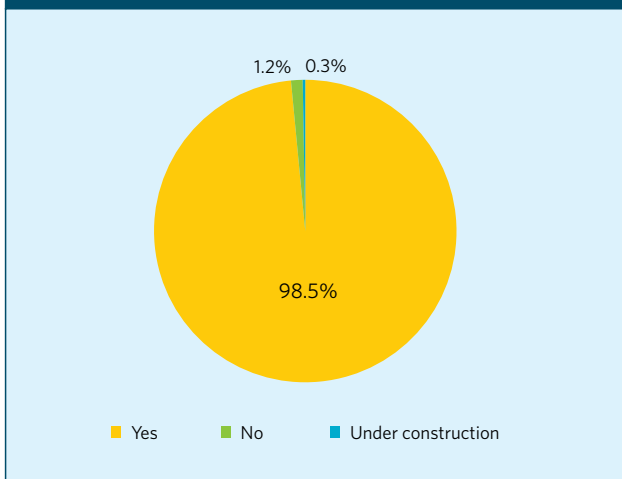
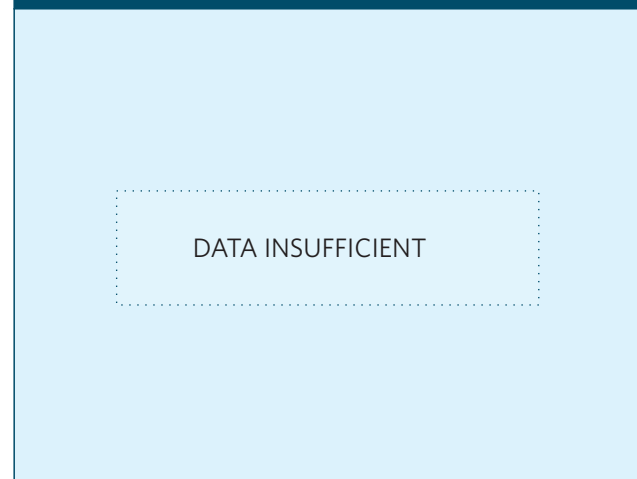


Table 27: Reasons for not having toilet at home



³Evaluation of the H₂S Method for Detection of Faecal Contamination of Drinking Water Test. Water, Sanitation and Health, Department of Protection and the Human Environment, World Health Organisation Geneva.

Retrieved online from https://www.who.int/water_sanitation_health/dwq/WSH02.08.pdf

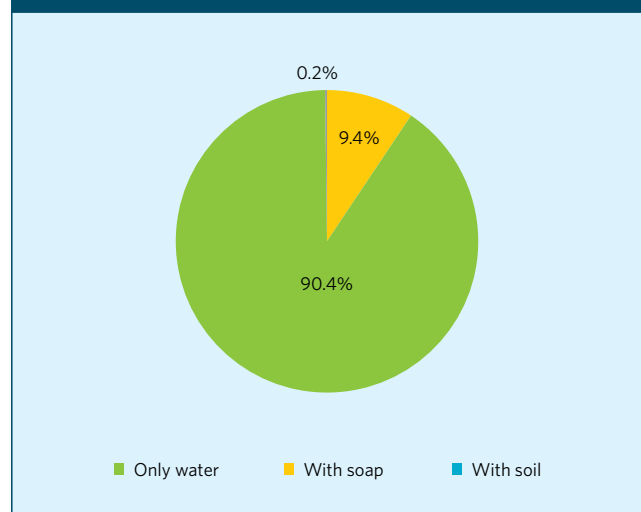
Table 28: Disposal of child's faeces (N = 618)

Wash in toilet	78.9%
Throw in garbage bin	5.1%
Bury in soil	1.9%
Wash in drain	2.0%
Left open	1.2%
In open water body	3.5%
Any other	7.4%

**Table 29: Chores during which mothers wash hands**

Before preparing food	73.5%
Before eating food	78.5%
After using washroom	79.9%
After cleaning	43.9%
After cleaning child's faeces	70.7%
After touching animals	25.2%
Before holding the child	65.8%
Any other	2.4%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

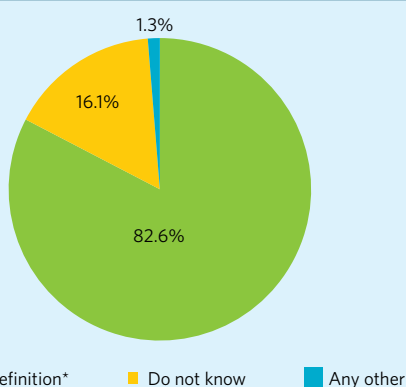
Figure 30: How do mothers wash their hands? (N = 616)**Key Takeaways:**

78.9% of mothers said that they disposed of their child's faeces in the toilet. This shows that most mothers are aware about the hygienic environment to be maintained, not only to ensure good health for their child, but also for the rest of the family and the community.

9. DIARRHOEA

This section identifies mother's knowledge about the causes, consequences and treatment of diarrhoea. It also captures the incidence of diarrhoea among less than one year old children and measures adopted to address it.

Figure 31: What do mothers understand about diarrhoea? (N = 618)



*When a child passes liquid faeces three or more times in a day

Table 30: Causes of diarrhoea according to mothers

Infant teething	28.1%
Weather change	6.1%
Drinking polluted water	38.4%
Eating contaminated food	61.1%
Unhygienic conditions	14.1%
Misconceptions (like evil eye)	5.8%
Do not know	13.8%
Ill effects of mother's food consumption	27.5%
Any other	3.1%

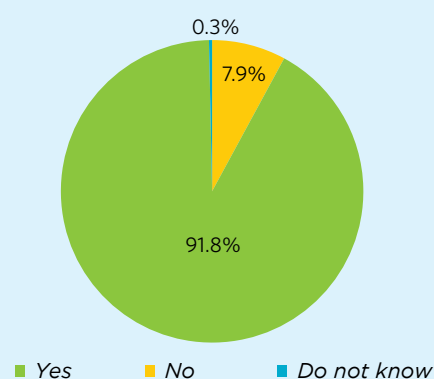
Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Table 31: Consequences of diarrhoea according to mothers

Can lead to child's death	5.5%
Deficiency of water in child's body	37.3%
Deficiency of water and other important nutrients in child's body	31.8%
Nothing happens, it's normal	2.4%
Leads to weakness	56.1%
Do not know	16.1%
Any other	3.5%

Note: Respondents could select multiple answers; thus, the total percentage exceeds 100%.

Figure 32: Did your child suffer from diarrhoea in the last two weeks/15 days? (N = 620)

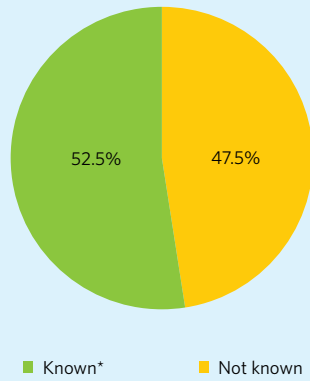


Of those children who had diarrhoea, 89.8% were fed mother's milk (N = 43), and 64% were taken to a health worker (N = 40).



73.5% mothers had seen a packet of ORS (N = 620).

Figure 33: Knowledge about preparation and storage of ORS (N = 474)



*Mothers knew that 1 packet of ORS is needed to make 1 litre of solution and the solution can be used for 24 hours.



Key Takeaways:

1. 7.9% of children suffered from diarrhoea in the last two weeks/15 days before they survey was conducted.
2. 56.1% mothers related diarrhoea to weakness, but only 5.5% could relate it to death. However, 82.6% mothers knew the correct definition of diarrhoea.
3. While 73.5% mothers had seen a packet of ORS before, 52.5% did not know about the correct method of preparation and storage of ORS.

IV. About ASER Health



Evolution

From the initial discussions in 2015, ASER Health was further developed and improved in an iterative and rigorous process over the course of 5 years. This process included consultations with experts, literature review and extensive piloting and surveying in several diverse areas in the country. Based on the ASER survey model, a methodology was developed, tested and refined to best fit both the purpose of the survey and the reality on the ground.

The final package - which retains all the key design elements of ASER - was applied in two district-level surveys in Sambalpur (Odisha) and Udupi (Karnataka) in 2019. The three main elements of the methodology were:

1. Survey tool

The questions in the survey tool were tested to check whether they would work well for our target group, ensuring biases are reduced and comprehension is eased. There was also a focus on developing the tool in a manner that would not cause respondent or surveyor fatigue. Therefore, there was an effort to keep the survey tool short, taking around 20-25 minutes to administer, while encompassing all the relevant areas and questions for investigation.

2. Sampling strategy

Since ASER Health had a narrower age range (0-1 year) compared to the ASER survey in education (3-16 years), the ASER sampling strategy had to be adapted and underwent several trials before being finalised, in order to maintain both the representativeness of the data and the feasibility of the survey. The final sampling strategy adopted for ASER Health was the modified 5th household rule and will be explained in more detail in the next section.

3. Operational model

Surveyor profile is an important element in the operational model. In order to assess the most suitable model, pilots were conducted using both trained professionals as well as citizen-volunteers with no specific expertise in health or nutrition, but trained by ASER Centre and Pratham staff. Evaluation of these alternatives led to the decision to use volunteers from local NGOs and universities, in order to keep the survey citizen-led, an important feature of ASER surveys. The participation of volunteers facilitates rapid scalability and aligns with the principle of citizen ownership, in line with the ASER approach.

Figure 1. Evolution of ASER Health

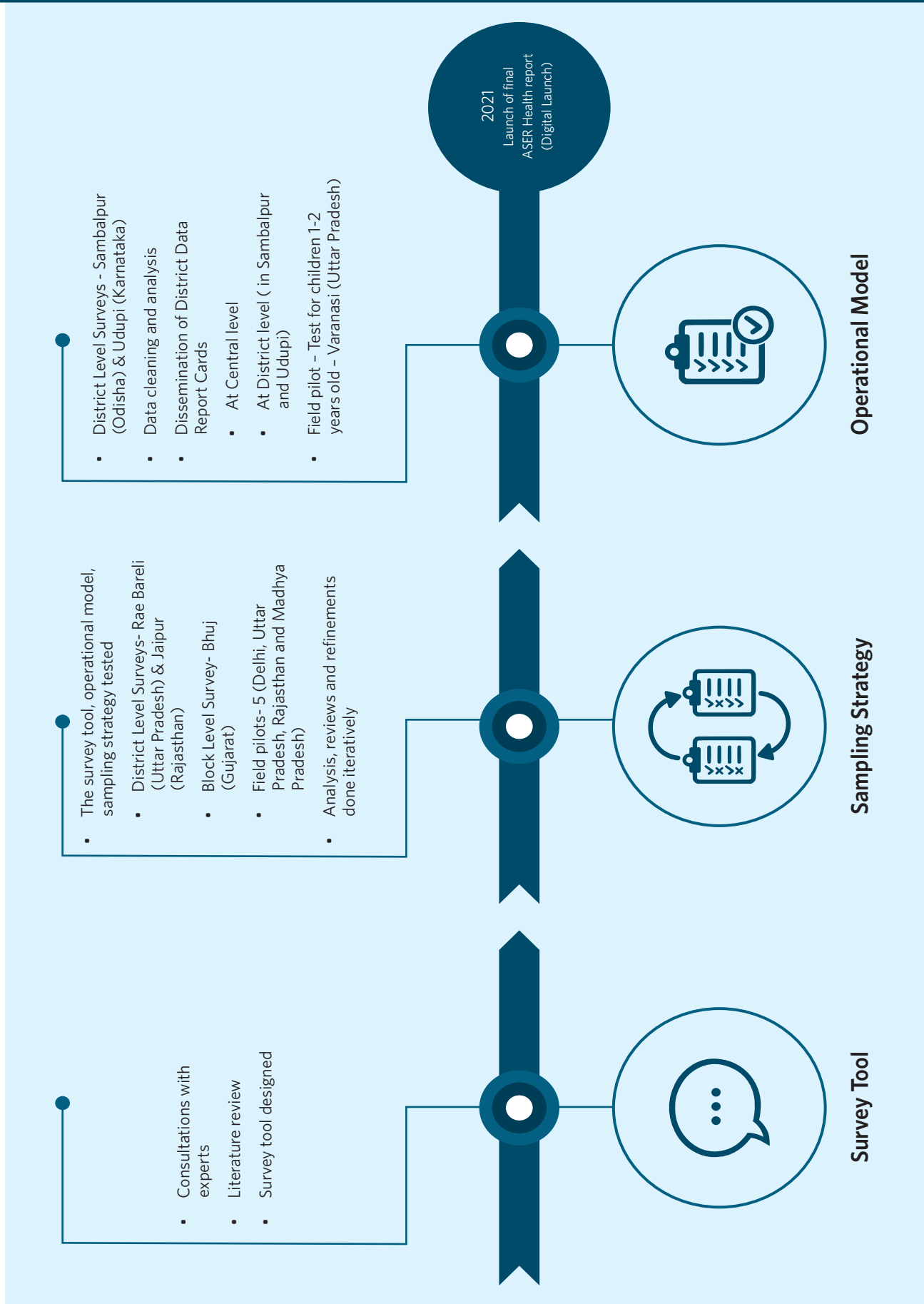


Figure 2: Timeline of pilots and surveys

Field pilots (February 2017)

- Operational model: Carried out by ASER Centre team
- Sampling strategy: NA
- Survey tool: First version, time taken to conduct one survey was more than an hour
- Location: Kamlabad and Badoli (Lucknow, Uttar Pradesh), Jabadh and Thikariya (Jaipur, Rajasthan), Kondli, Mayur Vihar (New Delhi)
- Coverage: 12 target children and their mothers surveyed
- Learnings/Challenges: The design of the survey tool was complicated for the surveyors
- Iterations for next round: Design of the tool was made simple for surveyor ease

Pilot 1 (March 2017)

- Operational model: Carried out by ASER Centre team
- Sampling strategy: ASER sampling approach (5th household rule)
- Survey tool: Questions were modified
- Location: Akhtiyarpur, Badapura and Narauli (Barabanki, Uttar Pradesh)
- Coverage: 33 target children and their mothers surveyed
- Learnings/Challenges: Due to the narrow target age range, the strategy did not yield adequate number of households with 0-1 year old children
- Iterations for next round: The sampling strategy was modified to ASER approach targeting households with 5th, 0-1 year old children (modified 5th household rule). Sample size per village was set at 20 households with 0-1 year old children

Pilot 2 (March 2017)

- Operational model: Carried out by ASER Centre team
- Sampling strategy: Modified ASER sampling approach (modified 5th household rule)
- Survey tool: No changes made
- Location: Kanchanpura and Bheta (Unnao, Uttar Pradesh), Gunsu and Sijiya (Tonk, Rajasthan)
- Coverage: 65 target children and their mother surveyed

- Learnings/Challenges: The target sample size could not be achieved using this strategy, due to the small population of 0-1 year old children in the village
- Iterations for next round: The sampling strategy was changed to Census of Anganwadi Centre list

Pilot 3 (April 2017)

- Operational model: Carried out by ASER Centre team
- Sampling strategy: Census of Anganwadi Centre list
- Survey tool: No changes made
- Location: Bisara, Lohramau, Rajwada, Narichak, Khanpur and Chandra Khera, (Unnao, Uttar Pradesh), Raholi, Sarsadi Rampura, Chanani, Kaneshr and Hanutiya Bugurg (Tonk, Rajasthan)
- Coverage: 219 target children and their mothers surveyed
- Learnings/Challenges: Sampling strategy found feasible, to be tested in a larger survey
- Iterations for next round: Questions in the survey tool were modified and any additional children in the village in the 0-1 year old age group were also to be surveyed

District level surveys (August 2017)

- Operational model: Paid surveyor model employed
- Sampling strategy: Census of Anganwadi Centre list and any additional children in the target age group of 0-1 in the village (Census approach)
- Survey tool: Modified questionnaire
- Location: Rae Bareilly (Uttar Pradesh) and Jaipur (Rajasthan)
- Coverage: 3300 target children and their mothers surveyed
- Learnings/Challenges: (i) Discrepancy in Anganwadi Centre data (ii) Anganwadi workers reluctant to share data of children; their hesitancy in sharing data caused delays (iii) Surveyor fatigue due to Census approach. It was found that survey tool can be administered successfully by surveyors after a three-day training process
- Iterations for next round: Questions were modified and volunteers to be recruited to carry out the survey

Figure 2: Timeline of pilots and surveys**Block level survey (December 2017)**

- Operational model: Unpaid surveyor model employed (University partner chosen)
- Sampling strategy: Census of Anganwadi Centre list and additional children in the target age group
- Survey tool: Questions were modified
- Location: Bhuj (Gujarat)
- Coverage: 600 target children and their mothers surveyed
- Learnings/Challenges: (i) Surveyor fatigue due to Census approach (ii) Sampling strategy not cost-effective (iii) Range of children vary significantly per village. It was found that the Survey tool can be administered successfully by volunteers after a three-day training process
- Iterations for next round: Sampling strategy was changed again to ASER approach targeting households with 0-1 year old children (modified 5th household rule). However, the sample size per village was set to 16 households with 0-1 year old children

Pilot 4 (September 2018)

- Operational model: Carried out by ASER Centre team.
- Sampling strategy: Modified ASER sampling approach targeting 0-1 year old children, aiming for 16 households per village
- Survey tool: No changes made
- Location: Bhadana, Jirota Kalan and Bhar Kheda (Dausa, Rajasthan)
- Coverage: 28 target children and their mothers surveyed
- Learnings/Challenges: Target sample size was not achieved due to narrow age range of the target population
- Iterations for next round: The sample size per village was reduced to 12 households with 0-1 children (without compromising the representativeness of the sample)

Pilot 5 (January 2019)

- Operational model: Carried out by ASER Centre team.
- Sampling strategy: Modified ASER sampling approach targeting 0-1 year old children, aiming for 12 households per village
- Survey tool: No changes made
- Location: Khajuri Sadak, Telakheda (Bhopal, Madhya Pradesh)
- Coverage: 20 target children and their mothers surveyed.
- Learnings/Challenges: Sampling strategy was found to be feasible, and it was possible to complete the survey in a village in two days
- Iterations for next round: Questions were modified

District level surveys (February-March 2019)

- Operational model: Unpaid surveyor model employed (NGO partners chosen)
- Sampling strategy: Modified ASER sampling approach targeting 0-1 year old children, aiming for 12 households per village
- Survey tool: Modified questionnaire used
- Location: Sambalpur (Odisha) and Udupi (Karnataka)
- Coverage: 976 target children and their mothers surveyed

Pilot 6 (September-December 2019)

- Operational model: Carried out by ASER Centre team
- Sampling strategy: Modified ASER sampling approach targeting 1-2 year old children
- Survey tool: A few questions on access to government schemes and services were added
- Location: Varanasi (Uttar Pradesh)
- Coverage: 76 target children and their mothers surveyed
- Learnings/Challenges: This tool and methodology works well for 1-2 year old children as well

Coverage

Nearly 4000 children and their mothers were surveyed across 168 villages in India in numerous pilots, block and district level surveys, during which the survey tool, sampling strategy and operational model were refined iteratively. The surveys were undertaken in different geographical regions in order to ensure regional diversity and context to inform future scale-up. The final survey, incorporating all the learnings and using the refined survey tool, sampling strategy and operational model was carried out in Sambalpur (Odisha) and Udupi (Karnataka), covering almost 1000 children aged 0-1 years and their mothers across 120 villages in the surveyed districts.

Figure 3: Field testing through pilots and surveys

(i) Pilots

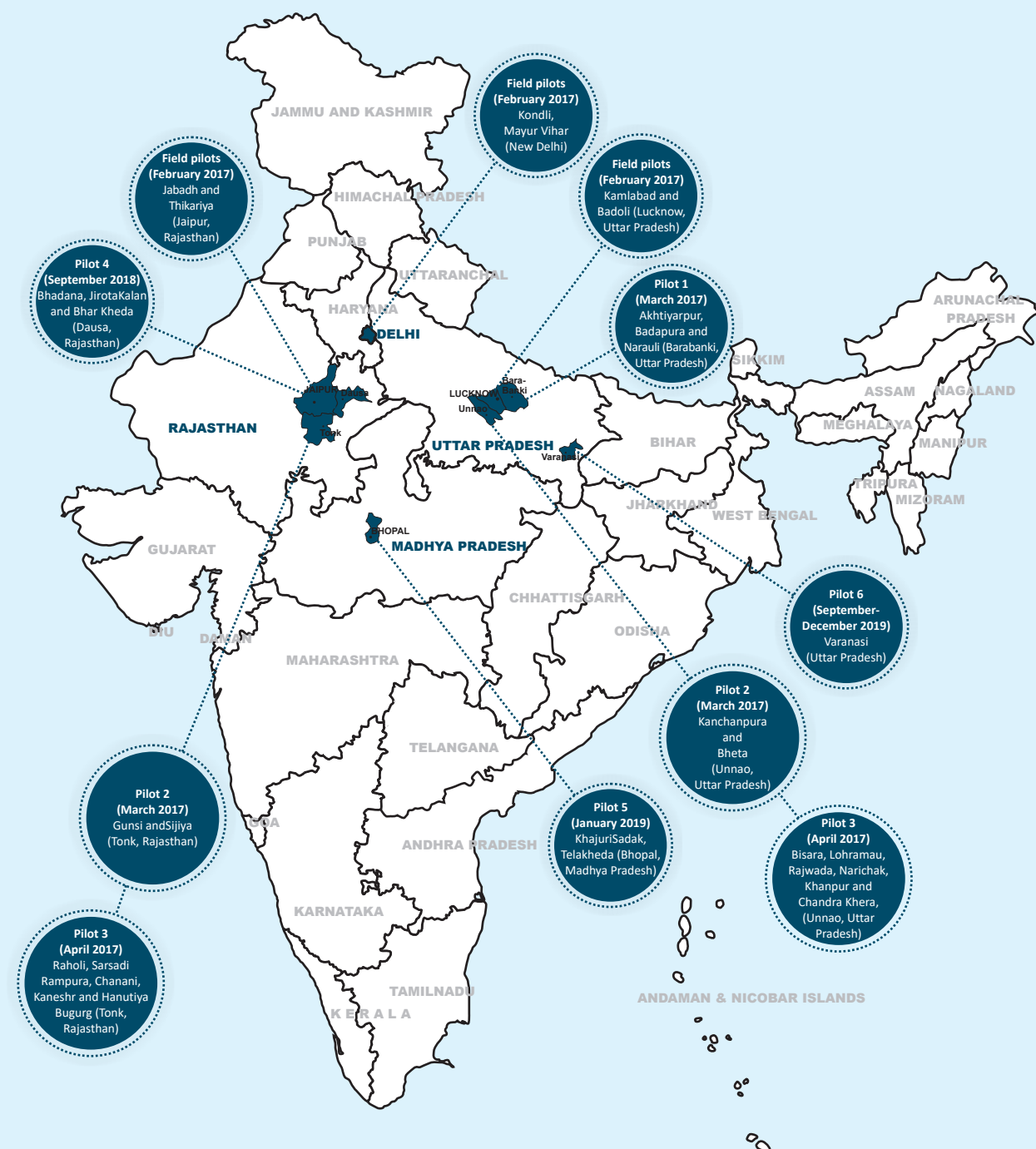


Figure 3: Field testing through pilots and surveys

(ii) Surveys

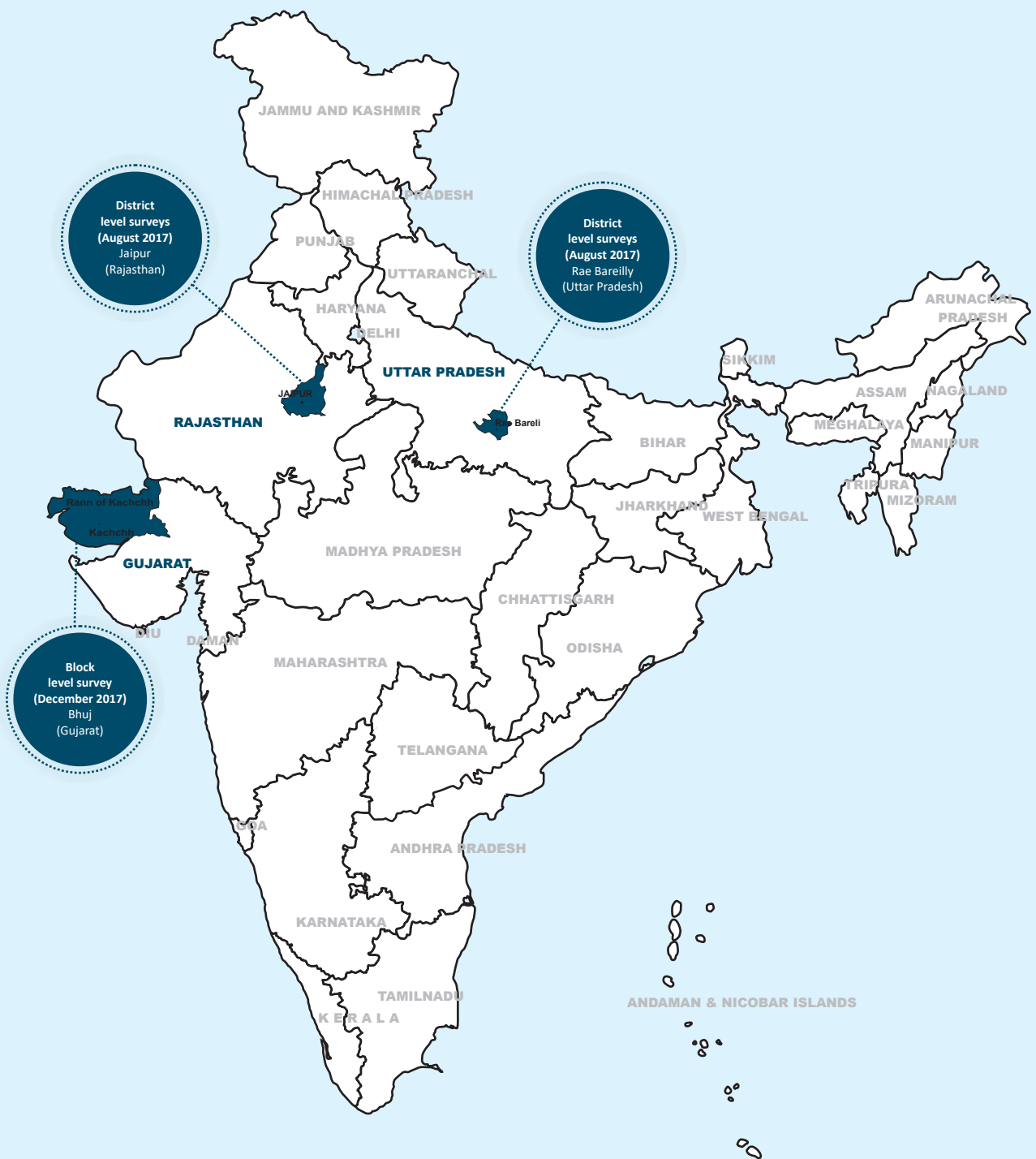


Figure 4: Deploying the final survey package



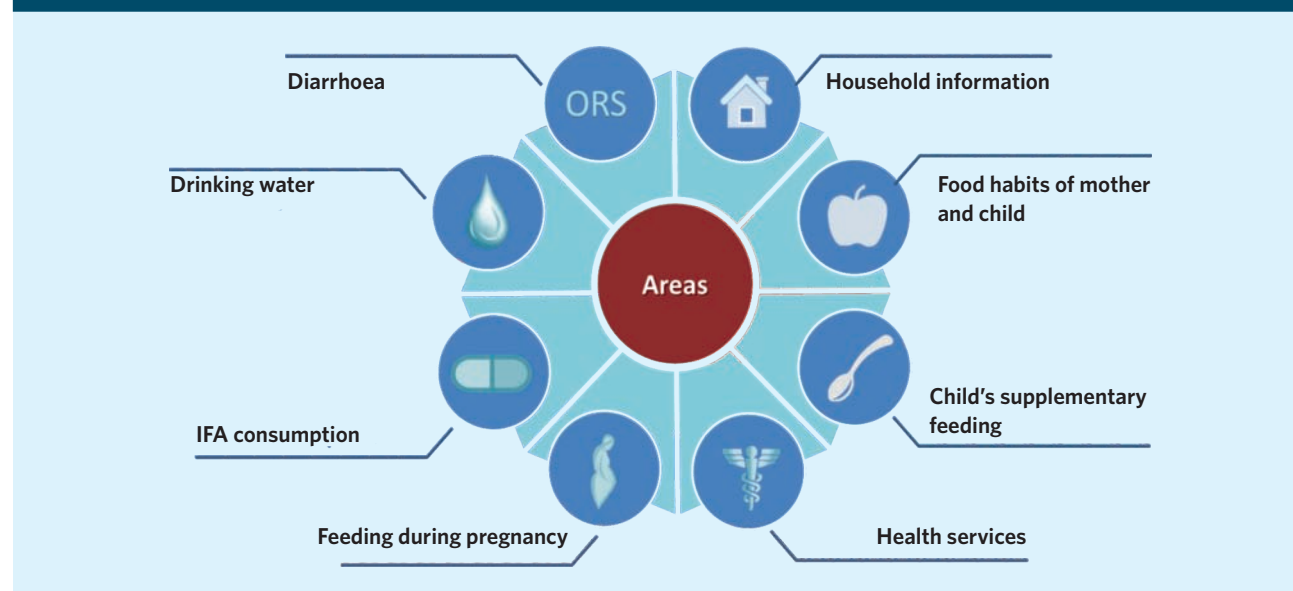
Domain explored

Infant and Young Child Feeding and Health (IYCF&H)

The first domain of ASER Health focuses on health and nutrition of children aged less than 1 year and their mothers, a critical period which is part of the first 1000 days of life, also referred to as “the window of opportunity”. Given that the “window of opportunity” also encompasses the gestational period, practices during pregnancy were also assessed.

In terms of scope, the first domain of ASER Health attempts to unpack the multifactorial nature of IYCF&H. Eight areas were included in the survey, as depicted in Figure 5. Exploring these areas are fundamental to understanding IYCF&H and the reasons behind following those practices, as well as to understand its impact on children’s health and nutrition.

Figure 5: Key areas covered in the survey tool



It is widely recognised that there is mutual dependence of these factors; rather than silos, they interact and influence each other, directly or indirectly. For instance, the prevalence of diarrhoea is closely related to the quality of drinking water and the practices to handle and store drinking water. Access to health services is likely to influence other areas, such as IFA consumption and food habits of mother and child. Therefore, while these areas offer a relevant framework for addressing different dimensions of IYCF&H, they need to be looked at through a holistic and integrated lens, mindful of their interrelation, especially at the household level.

Framework

In relation to the above areas of inquiry, the survey aimed to uncover practices and reasons behind those practices in a comprehensive yet easily understandable manner.

In order to achieve this aim, a Knowledge-Access-Practice framework was used in the design of the survey tool, to provide information about gaps in knowledge, access and practices in IYCF&H. This framework provides action-oriented data and is particularly relevant to identify entry points for interventions to improve outcomes. The framework enables an understanding of:

- **Knowledge:**

What do people know of the basic concepts about health issues of interest? This component allows to identify gaps in knowledge of the recommended practices.

- **Access:**

Are people aware of the relevant government programs and services? Do they access these services? What are their reasons for not using these services? This component provides inputs on awareness level of services and information on reasons for access or lack of access and uptake of these services.

- **Practice:**

What do people do in their daily lives with regard to the specific behaviours of interest? This component attempts to understand what are the concrete practices that households follow and the reasons behind those choices as well as what are the gaps with regard to recommended practices.

Figure 6: Knowledge-Access-Practice framework

Knowledge - What do you know?

- To identify the gaps in knowledge of IYCF&H

Access - What are the provisions and uptake of services?

- To identify gaps between provisions in IYCF&H and level of participation, and capturing reasons for non-participation

Practice - What do you do?

- To identify practices related to IYCF&H that people follow and their reasons

Areas covered

The eight areas covered a total of 90 questions, arranged into 11 sections in the survey tool which was administered to mothers of infants. Questions were designed to easily flow from one section to another, taking 20-25 minutes to administer per respondent thereby limiting both, surveyor and respondent fatigue. Surveyors did not prompt the respondents unless asked to do so.

Section 1 - Information on fruits and vegetables

This section covers the household practice of growing any type of fruit or vegetable in one's courtyard or agricultural land for family consumption. It aims to capture information regarding efforts taken to ensure nutrition security for the family, as micronutrient deficiency has been an area of concern for decades. The section also attempts to ascertain the reasons behind the family's practice.

Questions asked in survey:

- Whether any fruits and vegetables are grown for own consumption
- Types of fruits and vegetables grown
- Reasons for not doing so

Section 2 - Food habits of the Child

This section covers the feeding pattern of the child. It focuses on the breastfeeding practices of children less than a year of age. The aim of this section is to understand the gaps in knowledge and practices regarding breastfeeding, water consumption and health of the child.

Questions asked in survey:

- Breastfeeding practices
 - Whether child consumes mother's milk currently
 - Mother's knowledge about initiation of breastfeeding
- Consumption of water by child in past 24 hours
- Whether there was a feast or fast in the household in the past 24 hours is used as proxy to determine any anomaly in the eating pattern of the child
- Health of the child in past 24 hours

Section 3 - Dietary Diversity of the Child

This section covers the frequency of the child's meals and the extent of diet diversity using a rapid diet assessment. Quantities of food items are not within the scope of the survey as the focus is on capturing the diversity in a child's diet.

Section 3.1 - 24-hour rapid diet assessment of the child

This Rapid Diet Assessment is an adaptation of the standard 24-hour recall method to assess diet adequacy. This section covers the complementary feeding pattern of the child based on intake on the day previous to the survey. Everything that was fed to the child along with its ingredients are captured in detail excluding mother's milk, water, dry spices, supplements or medicines.

Questions asked in survey:

- Dietary diversity of child using 24-hour diet recall
- Consumption of AWC food by the child in last 24 hrs
- Animal milk/packet milk feeds given to child in last 24 hrs
- Total number of feeds (other than milk feeds) given to child in last 24 hrs
- Solid/semi-solid food fed to child in last 24 hrs

Section 3.2 - Child's Food Intake

This sub-section categorises the child's food intake into broad food groups: energy giving foods, body building foods, protective foods and foods bought from the market, such as ready to eat packaged/unpackaged food items/snacks (eg, samosa, fryums, chips). This section also aims to capture the dietary diversity of the child. The section is filled by the surveyor from the information recorded in the previous section. This is done once the surveyor has left the household, as separating the food into different categories is a time-consuming task.

Section 4 - Supplementary feeding of the child

This section covers the supplementation provided to the child. The aim is to understand the gaps in knowledge and practices regarding supplementary feeding. Undernutrition and iron deficiency in particular are serious issues for young children and this is why information on supplementary feeding is important to capture.

Questions asked in survey:

- Consumption of AWC food² by the child in last two weeks³
- Reasons for not consuming AWC food
- Consumption of iron syrup^{4,5} and frequency of consumption
- Reasons for not consuming iron syrup
- Source of iron syrup

Section 5 - Other Health Services

In this section, the knowledge, access and practice with respect to some important health services pertaining to the child are recorded.

Questions asked in survey:

- Place of delivery of child
- Weight of child at birth⁶
- Mother's perception about weight of child at birth
- Steps taken to improve weight of child
- Monthly weight measurement of child
- Reasons for not getting child's weight measured monthly
- Measurement of child's length
- Reasons for not getting child's length measured
- Check whether growth chart is filled

²Children in this age group are entitled to ration from Anganwadi Centres.

³This question also serves as a confirmation for whether food from Anganwadi Centre was consumed by the child in the past 24 hours, asked in the previous section.

⁴In the reference period of 7 days before the survey was conducted.

⁵As per the Anaemia Mukht Bharat program, children aged six months or more must be given 1 ml of iron syrup twice a week.

- Check whether immunisation card is filled
- Reasons for considering the immunisation card important

Section 6 - Feeding during pregnancy

This section covers the modifications made by the mother in her dietary patterns during the time of pregnancy. Information is recorded on the food items either taken in reduced quantities/completely stopped and food items that the mother started consuming/increased consumption of during the time of pregnancy. To aid memory, prompts were offered on broad food groups like - cereals, pulses, nuts, milk and milk products, green leafy vegetables, yellow or red coloured fruits and vegetables, citrus fruits, egg and meat products.

Questions asked in survey:

- Dietary changes made during pregnancy
- Reasons for making these dietary changes
- Consumption of AWC food (Take Home Ration⁷)
- Reasons for not consuming AWC food

Section 7 - Medication during pregnancy

This section aims to understand the gaps in knowledge and practices regarding maternal supplementation and medication during pregnancy such as consumption of iron supplements and deworming tablets. It comprises of questions related to knowledge and awareness of the mother regarding the importance of supplementation and medication and to identify problem areas.

Questions asked in survey:

- Consumption of IFA tablets⁸
- Importance of consuming IFA tablets
- Source of IFA tablets
- Consumption of deworming tablets⁹
- Reasons for not consuming IFA tablets and deworming tablets

Section 8 - Drinking water

Unsafe drinking water is associated with a number of water-borne diseases to which young children are most susceptible, hence this section holds great importance for a child's health. This section covers questions related to access to safe drinking water and water handling practices at the household level. The main highlight of this section is ascertaining the quality of drinking water of the household through a bacterial contamination test.

Questions asked in survey:

- Source of drinking water
- Storage of drinking water
- Handling of drinking water
- Satisfaction with quality of drinking water
- Purification of drinking water for child
- Method of water purification used for the child's consumption
- Checking for contamination of household drinking water - done via Hydrogen Sulphide (H₂S) test by the team

⁶Weight of child at birth is noted down from the Mother and Child Protection card (MCP). If it is not available, then the mother is asked to recall the weight of the child at birth.

⁷Pregnant women are entitled to Take Home Ratio (THR) available at Anganwadi centres.

⁸As per the Anaemia Mukht Bharat program, IFA tablets are to be consumed for 180 days starting from second trimester.

⁹One dose of deworming tablet in the second trimester is recommended.

Section 9 - Hygiene

This section focuses on the knowledge, access and practices related to ensuring a hygienic environment for the child.

Questions asked in survey:

- Fully constructed toilet in the household
- Main reasons for not having a toilet in the household
- Disposal of child's faeces
- Washing of hands before chores
- Materials used to wash hands

Section 10 - Diarrhoea

Diarrhoea is the second leading cause of death for children under five years of age; hence, assessing related knowledge and practices becomes key to informing positive actions.

Questions asked in survey:

- Mother's understanding about diarrhoea
- Mother's knowledge about causes and consequences of diarrhoea
- Incidence of diarrhoea¹⁰
- Treatment during diarrhoea
- Breastfeeding during diarrhoea
- Mother's knowledge about preparation and storage of ORS solution

Section 11 - Household Indicators

The last section aims to collect some household indicators to gauge the household affluence and socioeconomic status instead of directly asking for income levels of the family.

Questions asked in survey:

- Mother's education level
- Father's education level
- Number of siblings of the child
- Number of people who eat from the same stove
- Type of house
- Ownership of motorised 2-wheeler, 4-wheeler
- Ownership of agricultural land
- Ownership of livestock
- Observe whether there was electricity on the day of survey
- Presence of television, smartphone in the household

¹⁰Reference period of 2 weeks/15 days before the survey was conducted.

Sampling strategy

Several sampling strategies were tested in various pilots and surveys between February 2017 to January 2019 to arrive at the final model. These pilots and surveys were done to determine the best fit survey tool, sampling strategy and operational model. The final package was deployed in two district level surveys in Sambalpur (Odisha) and Udupi (Karnataka) in February-March 2019.

There were a few considerations in selecting these two districts for deploying the final package. Firstly, since the northern and western parts of India had been covered in the earlier rounds of pilots and surveys, it was decided to test the final package in the southern and eastern parts of the country for reasons of geographical diversity. Secondly, accessibility to and within these districts was considered in order to enable stress-testing the model in different conditions and situations. Finally, these districts were chosen based on availability of partner organisations and their ability to provide volunteers during the survey period.

Like ASER, the ASER Health survey also has a two-stage sampling design. In the first stage, in each surveyed district, villages are randomly selected from the Census 2011 village directory. In the second stage, households are randomly selected using a modified version of the “5th household rule”¹¹ in each of the villages selected in the first stage. This sampling strategy generates a representative picture of each district.

In each surveyed district, 60 villages¹² are sampled from the Census 2011 frame using the probability proportional to size (PPS) sampling method in the first stage. This method allows villages with larger populations to have a higher chance of being selected in the sample. It is most useful when the first stage sampling units vary considerably in size, because it ensures that households in larger villages have the same probability of getting selected into the sample as those in smaller villages, and vice versa¹³. In the second stage, households with children in the age group of 0-1 year are surveyed in each sampled village.

There are various issues that could complicate the second stage sampling. First, the issue of sparse populations. The best solution to this problem is to create a listing of the target population for a particular cluster and sample from that, thus employing a stratified sample. However, given the rapid assessment nature of ASER and several resource constraints, ASER does not stratify at the second stage – there is no house listing done at the village level.

Second, the absence of a house listing creates additional problems in surveys that are representative at multiple levels of aggregation. In these surveys, estimates have to be weighted¹⁴ with appropriate weights to account for different underlying population sizes – a more populous state like Uttar Pradesh will have a higher weight in the national estimate than a less populous state like Himachal Pradesh. The calculation of these weights requires the underlying population proportion of the target group of interest. So, if the household were the unit of sampling, then one would need the number of households in the village to calculate the weights. On the other hand, if children in the age group of 0-1 year were the target population, the total number of such children would be needed to calculate the weights. A house listing of the village would provide not only the frame for sampling these infants, but also the total number of infants in the village.

In the education surveys, ASER resolves both these problems by sampling households. The sample in ASER is defined in terms of households and not children. In the usual ASER education survey, all children in the age group of 3-16 years living in the sampled households are surveyed. Therefore, to get a representative sample of the household distribution, even households with no children in the target age group are counted as part of the sample.

Given that the objective was to retain as much of the original ASER architecture¹⁵ as possible in ASER Health, house listing at the village level was not a preferred approach. However, following the ASER sampling strategy would have given a representative distribution of households but may not have generated a large enough sample size for the target population, given that the age range for target population in ASER Health is significantly narrower than the one for ASER

¹¹The “5th household rule” is the method used in the ASER survey, whereby the selected village is divided into four sections, and the survey team begins the survey from the centre of each section, selecting every 5th household found on the left. For the ASER survey, 5 households are sampled in each section of the village (totalling 20 households per village), including those that do not have children in the targeted age of 3-16 years. For ASER Health, this approach was modified to sample 12 households with children aged 0-1 year. For example, if the 5th household on the left does not have a child in this age group, the neighbouring house is approached, until the team finds one with the target child of 0-1 year.

¹²The number of villages per district is double as compared to ASER, so as to get a larger district sample.

¹³Most large household surveys in India, like the National Sample Survey and the National Family Health Survey also use this two-stage design and use PPS to select villages in the first stage.

¹⁴The weight associated with each sampling unit, i.e. household in ASER, is the inverse of the probability of it being selected in the sample.

¹⁵Household based survey of children; activity-based nature of survey with easy to understand tools; community (volunteer) involvement in the actual survey; quick availability of the estimates; and rigorous methodology yielding reliable estimates at the different levels of aggregation.

Education surveys. This is a sample size problem and can be overcome in a number of ways – e.g., by sampling more villages per district and/or more households per village¹⁶. However, both strategies have consequences: increasing the number of villages has cost implications and increasing the household sample in a village does not necessarily result in higher precision if the intra-cluster correlation is high.

Another strategy could be to sample only households with members of the target population as is done in the National Family Health Survey. However, as discussed earlier, this would require creating a frame of the target population in the village, which would be used to both sample and calculate weights.

After thorough analysis, a sampling strategy that modified the ASER approach was adopted to get a sufficient sample size and be able to calculate weights without creating a house listing in the village. The standard ASER sampling approach in the village is to mimic simple random sampling without doing a house listing. Volunteers walk around the village, make a village map, divide the village into four parts and sample 3 households in each of the four sections of the village using the 5th household rule to get 12 households in the village.

In the ASER Health survey, this approach was modified to cover sufficient numbers of 0-1 year old children. The process is described below:

1. Walk around the village and make a map and divide the village into four parts.
2. In each part of the village, go to a central location and use the 5th household rule starting from the left to sample households.
3. If the household has children in the 0-1 year age group currently residing the household, record the household number, and the number of such children. Administer the survey to the mothers of all children in the target age group in the household and collect information on the household. Proceed to the next 5th household.
4. If the household has children in the 0-1 year age group who are not currently residing in the household, record the household number and the number of such children, and proceed to the adjacent household to the left and continue the survey process.
5. If the household has no children in the 0-1 year age group, record the household number and the fact that it has no children in the target age group and move to the next household. Note that unlike ASER Education survey, ASER Health does not record household characteristics in households with no children in the target age group¹⁷.
6. If the household has children in the 0-1 year age group but the mother has passed away or moved to a different place or does not live there anymore, record the household number and the number of children in the target age group and move to the next household.
7. If there are two or more regularly living mothers of 0-1 year old children in the selected household, survey all such mothers in the selected household.
8. If the mother in the selected household has two or more 0-1 year old children, conduct the survey with respect to all such 0-1 year old children.
9. If the household is locked or does not want to participate in the survey, record the household number and the fact that it was locked or a non-response household and move to the next household.
10. Continue this procedure until the survey has been administered in 3 households in each of the four sections of the village.

¹⁶For example, in most of our research studies, 60 villages per district are sampled.

¹⁷This was done to save time since the survey is much longer as compared to the usual ASER.

At the end of the survey in the village, this procedure should yield the required number of 12 households with completed survey information, as well as the total number of households visited to achieve this number. This latter information is needed for the calculation of correct weights¹⁸.

To summarise, ASER Health employs a two-stage clustered sampling design. In the first stage, 60 villages are sampled from the Census 2011 village directory using PPS. In the second stage, 12 households with resident children in the age group of 0-1 year are surveyed in each sampled village. Ideally, this gives a sample of 720 children in each district¹⁹.

¹⁸The probability that household j gets selected in village i (p_{ij}) is the product of the probability that village i gets selected (p_i) and the probability that household j gets selected ($p_{j|i}$). This is given by: $p_{ij} = p_i \cdot p_{j|i} = (n_i \cdot v_{pop} / d_{pop}) \cdot (n_h / v_{pop}) = n_i \cdot n_h / d_{pop}$, where n_i is the number of villages sampled in the district, v_{pop} is the household population of village i , d_{pop} is the number of households in the district, and n_h is the number of households visited in the village (to get the 12 sampled households). The weight associated with each sampled household within a district is the inverse of the probability of selection. Note that the sum of the weights of the households will give the district population and the sum of the weights for all children in the sample will approximate to the population of children in the 0-1 year age group in the district.

¹⁹All children in the target age group are surveyed in the sampled households. Therefore, the ideal sample size in terms of children is at least 720 per district. As the target population is quite narrow, i.e., 0-1 year old children and their mothers, in practice it might not be possible to find the respondents as initially estimated, since there might not be 12 children in this age group in a given village. For example, in some villages in Sambalpur, a Census approach was undertaken (going to every household with children aged 0-1) and we were still unable to reach 12 households in every village. Any other sampling strategy would have led to the same number of surveyed households. Thus, in practice, the target number of 720 children per district may not be met.

V. ASER Health Process



Training

Intensive training was held to orient the surveyors on the survey tool and process. For the district-level surveys undertaken in 2019, these trainings were conducted at the state level and at the district level in each of the two districts surveyed.

The ASER Centre Central team conducted the trainings in the two selected states, Odisha and Karnataka. The ASER State teams were trained over a period of 2 days, which involved both classroom sessions and field practice sessions. Following the training at the state level, trainings were done at the district level for the volunteers. These trainings were led by the ASER Centre State teams, who were the Master Trainers in these trainings; supported by the ASER Centre Central team. The training at the district level lasted for 3 days prior to the start of the survey.

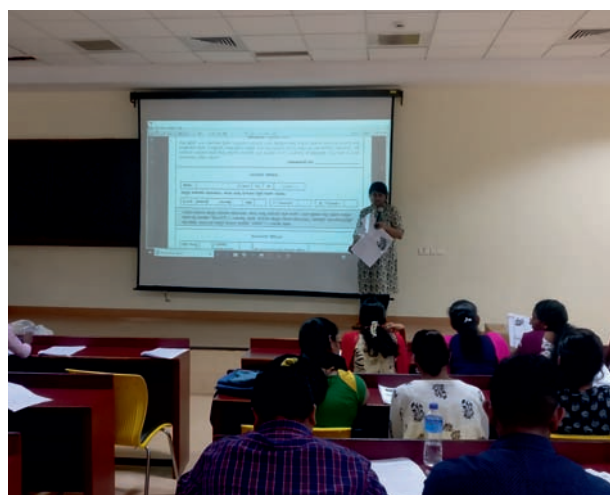
The key features of the 3-day district-level trainings were:

i. Classroom sessions

These were designed to provide an understanding of the survey process, sampling strategy and survey tool, and lasted for 2 days. Detailed instruction manuals, role plays, videos, energisers, and presentations are used to make the classroom sessions effective and engaging.

ii. Field practice

Practicing the survey process and administering the survey in the field was done over 1 day. This was a crucial component of the training, as this helped the surveyors apply the processes learnt in the classroom sessions to real survey conditions, which helped them anticipate challenges/questions that they might have encountered during the actual survey. The surveyors were accompanied by the trainers in groups, so that every surveyor got an opportunity to practice, clarify doubts and correct mistakes, if any.



iii. Quizzes

Quizzes were administered in order to ensure that every participant understood the survey content and other processes thoroughly, as well as identify possible gaps in understanding. Post the classroom training and field practice, additional sessions were organised to address the learning gaps identified through the quiz results. This also helped the master trainers to organise the survey teams more optimally by forming these based on the quiz scores to ensure a high-quality survey across all teams.

Village survey process

The ASER Health survey generally takes 2 days per village. One village is assigned to two surveyors. The following steps are followed when the survey team goes to the village:

i. Meeting and talking to the Sarpanch

The purpose was to inform the Sarpanch¹ about the ASER Health survey process and request cooperation for the survey. The survey team met with the Sarpanch and gave her/ him a letter explaining the importance of conducting the survey in the village. In case the Sarpanch was not present, then the surveyor met with a village representative, such as the Panchayat Secretary.

ii. Collecting Village Information

The purpose was to understand the basic characteristics of the village that was being surveyed. The Village Information Sheet is the first page of the survey booklet that needs to be filled. After informing the concerned authority (Sarpanch/ Panchayat Secretary, as applicable) and asking for their cooperation in undertaking the survey, the surveyors would walk around the village to collect information about the village. While doing this activity, the surveyors looked out for the basic facilities as listed in the Village Information Sheet. Only if the facilities are observed, the appropriate box is ticked. If they are unable to observe these facilities, the surveyors ask the people in the village about it. However, they are required to verify the information themselves.

Figure 7: Basic Village Information Sheet

Village Information Sheet					
State name:		District name:			
Block name:		Village name:			
1) Surveyor name:		2) Surveyor name:			
Survey date:		Survey day:			
Please tick (✓) the relevant box			Did you see the following facilities/services in the village yourself? (Tick (✓) Yes/No based on your own observation)		Instructions
Basic facilities	1	Pucca road leading to the village?	Yes	No	
	2	Bank (any type) in the village?	Yes	No	Any type of bank (Government/Private/Cooperative)
	3	Govt. Ration/PDS shop in the village?	Yes	No	Only Govt. shop/PDS (Public Distribution System) should be there.
	4	Govt. Primary/Sub Health Centre in the village?	Yes	No	
	5	Private Health Clinic in the village?	Yes	No	It could be any type of clinic or doctor. Do not include any hakim or vaid available in your village
	6	Anganwadi Centre in the village?	Yes	No	Observe or ask about the Anganwadi Centers in the village and write down the total number of Anganwadi centres in the box
	7	Vegetable and Fruit market in village?	Yes	No	Observe/ask village people

¹Sarpanch is the elected head of a village in India.

iii. Making a map and dividing the village into sections

The purpose was to divide the village into hamlets/sections and to select households within these sections. The map is also used later for the recheck process.

The surveyors walked around the village and talked to the villagers. They asked them how many hamlets/sections were there in the village and where they were located, where these start and end in the village. Sometimes, the surveyors asked the villagers/village children to take them around. As they walked around, they drew a rough map of the village layout. This rough map helped the surveyors in understanding the pattern of habitations in the village. The surveyors took the help of the villagers to see the main landmarks, such as places of worship, river, schools, bus stops, panchayat bhavans, anganwadis, ponds, clinics, ration shops, etc. and then marked the main roads/streets/pathways through the village prominently on the map. Once this was done, the surveyors asked the Sarpanch or any other person who knew the village well to verify the rough map. After the map was finalised, it was drawn again in the survey booklet for future reference.

After this, the surveyors divided the map into four sections/hamlets contingent on the following situations:

Case 1: Continuous village

In this case, the village was divided into 4 sections geographically and each section was assigned a number. A total of 3 households were chosen from each section.

Case 2: Village with hamlets/sections

- If the village had 2 hamlets/sections, each of those was further divided into 2 parts to get a total of 4 hamlets/sections. A total of 3 households were chosen from each hamlet/section.
- If there were 4 hamlets/sections, a total of 3 households were chosen from each hamlet/section.
- If there were 3 hamlets/sections, a total of 4 households were chosen from each hamlet/section.
- If there were more than 4 hamlets/sections, the surveyors randomly picked any 4 hamlets/sections, marked it on the map and a total of 3 households were chosen from each hamlet/section.

iv. What to do in each hamlet/section?

In each hamlet/section, the purpose was to:

- Select 12 households with mothers who regularly live there with their 0-1 year old children, following the modified 5th household rule
- Keep a record of all households approached in the survey.

In each hamlet/section, households were chosen using the modified 5th household rule. ASER Education surveys use the 5th household rule. The modified 5th household rule is that the surveyor starts from their left and goes to the 5th household. If the house has a child in the target age group of 0-1 year, then it is included in the survey. If it doesn't, then the surveyor goes to the house next to the current one and asks the same question. Here, the 5th household did not become a part of the sample if it did not have a child in the target age group. Some basic information about every household selected was recorded in the Household Log Sheet. However, the ASER Health survey was conducted only in those households where there was a regularly living mother of 0-1 year old child.

The following rules are followed during the survey:

1. When the surveyors entered the sampled house, they asked whether there was a mother of a 0-1 year old child residing in the household who was regularly living in the house (living there for 6 months or more). The survey was not conducted in the following cases; however, some basic household information was recorded in the Household Log Sheet²:

- (i) A 0-1 year old child did not live in the household
 - (ii) A 0-1 year old child and his/her mother did not live regularly (living there for 6 months or more) in the household
 - (iii) A 0-1 year old child lived in the household but the mother had passed away
 - (iv) A 0-1 year old child lived in the household but the mother had moved to a different place/ did not live there anymore
 - (v) The sampled house was locked or gave no response
2. If in the selected household, a child aged 0-1 year regularly lived along with the mother, the survey is conducted and the Household Log Sheet is filled. Following the left-hand rule, the surveyors went to the next 5th household to continue the survey process.

v. What was done in the selected household?

The purpose was to explain to the mother the objective of the survey and to obtain consent from the mother before surveying her and the child. The following points were asked/confirmed before the survey began:

1. Consent from the mother:

Before filling in the tool, a written consent was taken from the mother. The following paragraph was in the consent form (in the regional language):

"We have come from an NGO called ASER. We are conducting a survey on the health and nutrition of mothers with less than one year old children and their child. For this, we will ask a few questions about your child's health and practices followed by you during pregnancy. This should take around 20-25 minutes. Do you agree to give us this information?"

2. Important documents in the household:

- (i) Three important documents at the household helped the surveyor in filling out certain sections of the survey tool; these documents were - (a) Mother and Child Protection (MCP) Card (b) Immunisation Card and (c) Growth Chart. These documents helped the surveyor in filling out certain sections of the tool.
- (ii) In case the MCP Card was not available, the surveyors asked for the Discharge Card.

Household indicators

All information on household indicators was recorded, based as much as possible on observation. If for some reason these indicators could not be observed, respondent's/household member's response was noted. In case of assets like television and mobile phone, the surveyors asked the respondents whether it was there in the household and whether it was owned by the household.

- i. Type of house (the child lives in) are categorised as follows:
 - Pucca House: A pucca house is one which has walls and roof made of the following material:
 - (a) Wall material: Burnt bricks, stones (packed with lime or cement), cement concrete, timber, ekra, etc.
 - (b) Roof material: Tiles, GCI (Galvanised Corrugated Iron) sheets, asbestos cement sheet, RBC (Reinforced Brick Concrete), RCC (Reinforced Cement Concrete), timber, etc.

²The Household Log Sheet records basic information such as household number, whether the house was locked, number of 0-1 year old children, name of head of the household. This sheet is filled for all households visited during the survey.

- Semi-kutcha house: A house that has fixed walls made up of pucca material but roof is made up of material other than those used for pucca houses.
 - Kutcha House: The walls and roof are made of material other than those mentioned above like unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc.
- ii. Motorized 2-wheeler: It was marked 'Yes' if the household owned a motorized 2-wheeler like a motorcycle/scooter and marked 'No' if it didn't.
 - iii. Motorized 4-wheeler: It was marked 'Yes' if the household owned a motorized 4-wheeler like a car/jeep and marked 'No' if it didn't.
 - iv. Electricity in the household: It was marked 'Yes' if it was observed that the household had wires, electric metres, fittings, bulbs etc. and marked 'No' if it didn't.
 - v. Electricity on the day of survey: It was marked 'Yes' if the household had electricity at any point during the day of the survey and marked 'No' if it didn't.
 - vi. Television: It was marked 'Yes' if the household owned a television and marked 'No' if it didn't.
 - vii. Cable television: If the household had a television, then the respondent was asked whether it has cable.
 - viii. Mobile phone: It was marked 'Yes' if the household owned a mobile phone and marked 'No' if it didn't.
 - ix. Smartphone: It was marked 'Yes' if the household owned at least one smartphone and marked 'No' if it didn't. A smartphone was defined as a phone with internet access.
 - x. Completion of 12th standard: It was marked 'Yes' if anyone (apart from the mother and father whose information had been recorded at the start of the survey) in household had completed 12th standard and marked 'No' if there was no such member in the household.
 - xi. Livestock (cow, buffalo, goat, hen, sheep etc.): It was marked 'Yes' if the household owned livestock and marked 'No' if it didn't.
 - xii. Agricultural land: It was marked 'Yes' if the household owned agricultural land and marked 'No' if it didn't.

³The format of the MCP card can vary depending on states and districts. It might also be called/ recognised by different names. Sometimes, the MCP card contains both the immunisation card and the growth chart. In some villages, separate cards are provided to the mothers. In such cases, it is necessary to ask for the immunisation card and the growth charts for specific questions as mentioned in the instruction manual and the survey tool.

Quality control

Quality control forms an integral part of the ASER architecture, and quality control processes are reviewed and improved each year in order to ensure the credibility of ASER data. These processes were incorporated at every level of the survey and mechanisms were put in place pre-survey, during the survey and post-survey which ensures high quality data. For ASER Health, these processes were laid out for every stage of the survey and executed by ASER Centre Central and State team members in the surveyed districts.

Monitoring

Monitoring during the survey was the first step of the quality control process, where, during the survey, oversight of field activities in selected villages was done while the survey was in progress. The monitoring process comprised of two kinds of activities:

- i. Field monitoring: ASER Health survey in each district was led by Central and State team members who trained, monitored and provided support to the surveyors in the field during the survey process. ASER Centre teams monitored approximately 30% of the villages out of the 60 villages surveyed in each district.
- ii. Phone monitoring: The ASER Centre teams made phone calls to all the surveyors as the survey rolled out in a district. Information regarding the progress of survey activities was collected during the calls and surveyors' doubts were clarified. This helped to provide immediate corrective action and to avoid any mistakes.

Recheck

Information collected during the survey was verified at various levels. The following recheck activities were conducted:

- i. Desk recheck: On the completion of the survey, ASER Centre teams conducted desk rechecks of the survey booklets received for all surveyed villages. Desk recheck was done in front of the surveyors to make sure that the booklets were completely filled and ASER Centre State team members could ask surveyors clarifying questions for any missing/seemingly incorrect information. All the survey booklets were desk rechecked by ASER Centre State team members.
- ii. Phone recheck: In addition, ASER Centre teams telephoned all of the 12 surveyed households in each village. This procedure of speaking to the respondents enabled quick identification of households and villages which were not surveyed correctly.
- iii. Field recheck: Based on the information collected from the desk and phone rechecks, villages were identified⁴ for an in-person field recheck by the ASER Centre teams. In each identified village, 50% of all surveyed households were rechecked. This process involved verification of the key aspects of the survey, such as – whether the sample was identified correctly, whether the survey was done in the household on record and whether all the questions in the survey tool were asked. If feedback from the desk and phone rechecks did not highlight any issues with the survey, then villages were selected for field recheck on the basis of surveyor evaluation (quiz) done during the training process or by random selection.

Data entry

Data for the survey was recorded in hard copy survey booklets. To compile and then process this data for analysis, it was entered into a database using MS Access. For each question in the survey, rules and validations were in place to control for incorrect entries⁵.

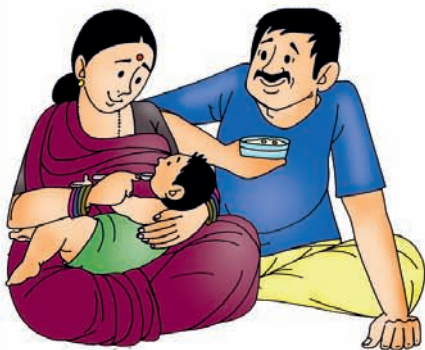

⁴To identify the villages to be selected for field recheck, first the sections on basic information of child, and other selected sections were checked. If the information appeared to be inconsistent, that village would be selected.

⁵For example, data mapping to keep a check on entries.

Annexure



A.1 - Survey tool

	 <h3 style="text-align: center; margin: 0;">SURVEY TOOL</h3> <p style="text-align: center; margin: 0;">for Mothers of less than 1 year Old Children</p>																															
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Serial no.</td> <td></td> </tr> <tr> <td>Survey Start time:</td> <td></td> </tr> </table>	Serial no.		Survey Start time:																												
Serial no.																																
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<p>CONSENT (Read Aloud)</p> <p>"We have come from an NGO called ASER. We are conducting a survey on health and nutrition of mothers with less than one year old children and their child. For this, we will ask a few questions about your child's nutrition and health and practices followed by you during pregnancy. This should take around 20-25 minutes. Do you agree to give us this information?"</p> <p style="text-align: right;">Signature/thumb impression of the respondent: _____</p>																																
<p>Child's information</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Name:</td> <td style="width: 15%;"></td> <td style="width: 10%;">Sex:</td> <td style="width: 10%; text-align: center;">M</td> <td style="width: 10%; text-align: center;">F</td> <td style="width: 25%;"><small>Tick (✓) the response</small></td> </tr> </table> <p><small>(See date of birth from Mother and Child Protection Card)</small></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">D.O.B.</td> <td style="width: 10%;">Date</td> <td style="width: 10%;"></td> <td style="width: 10%;">Month</td> <td style="width: 10%;"></td> <td style="width: 10%;">Year</td> <td style="width: 10%;"></td> <td style="width: 10%;">1. *Recorded</td> <td style="width: 10%;"></td> <td style="width: 10%;">2. * Reported</td> <td style="width: 10%;"></td> </tr> </table> <p style="font-size: small;"><i>*If you get the date of birth from a record such as the Mother and Child Protection Card, Birth Certificate or Discharge card, tick (✓) "Recorded". If you get the date from the parents/family members due to unavailability of any other record, then tick (✓) "Reported".</i></p>		Name:		Sex:	M	F	<small>Tick (✓) the response</small>	D.O.B.	Date		Month		Year		1. *Recorded		2. * Reported															
Name:		Sex:	M	F	<small>Tick (✓) the response</small>																											
D.O.B.	Date		Month		Year		1. *Recorded		2. * Reported																							
<p>Household Information:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">House No. <small>(from the HH log sheet)</small></td> <td style="width: 15%;"></td> <td style="width: 15%;">Hamlet/Section no. <small>(from the map)</small></td> <td style="width: 15%;"></td> <td style="width: 40%;">Name of head of the family:</td> <td style="width: 10%;"></td> </tr> <tr> <td colspan="4">No. of people who eat food made from the same stove:</td> <td style="width: 10%;"></td> <td>No. of siblings of the child:</td> <td style="width: 10%;"></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="3" style="text-align: center;">Information on the mother</td> <td colspan="3" style="text-align: center;">Information on the father</td> </tr> <tr> <td style="width: 20%;">Name</td> <td style="width: 10%;">Age</td> <td style="width: 70%;"><small>Till what standard did she complete her education? (Write '0' if he never went to school)</small></td> <td style="width: 20%;">Name</td> <td style="width: 10%;">Age</td> <td style="width: 70%;"><small>Till what standard did he complete his education? (Write '0' if he never went to school)</small></td> </tr> <tr> <td style="height: 30px;"></td> <td></td> <td></td> <td style="height: 30px;"></td> <td></td> <td></td> </tr> </table>		House No. <small>(from the HH log sheet)</small>		Hamlet/Section no. <small>(from the map)</small>		Name of head of the family:		No. of people who eat food made from the same stove:					No. of siblings of the child:		Information on the mother			Information on the father			Name	Age	<small>Till what standard did she complete her education? (Write '0' if he never went to school)</small>	Name	Age	<small>Till what standard did he complete his education? (Write '0' if he never went to school)</small>						
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Section 1 - Information on fruits and vegetables

Q1. Do you grow any fruits or vegetables (in your own land or courtyard) for your own consumption?

- a. Yes b. No

Q2. If yes, what fruits and vegetables do you grow? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- a. Green leafy vegetables like: palak, methi, etc.
- b. Yellow or Red coloured vegetables: pumpkin, tomato and carrot
- c. Yellow or Orange coloured fruits: mango and papaya
- d. Citrus fruits like: lemon, orange, guava, amla etc.
- e. Other fruits and vegetables like: banana, ladies' finger etc.

Q3. If no, why do you not grow fruits or vegetables? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- | | |
|---|---|
| a. Lack of money <input type="checkbox"/> | e. Lack of knowledge <input type="checkbox"/> |
| b. Lack of time <input type="checkbox"/> | f. Unavailability of seeds <input type="checkbox"/> |
| c. Scarcity of water <input type="checkbox"/> | g. No specific reason <input type="checkbox"/> |
| d. Lack of space <input type="checkbox"/> | h. Any other (.....) <input type="checkbox"/> |

Section 2 - Food habits of the Child

Q1. Do you feed mother's milk to the child currently?

- a. Yes b. No

Q2. Within how many hours of birth should the child be given mother's milk?

- | | |
|---|---|
| a. Within 1 hour <input type="checkbox"/> | d. Do not know/do not remember <input type="checkbox"/> |
| b. Within 24 hours <input type="checkbox"/> | e. Any other (.....) <input type="checkbox"/> |
| c. After 24 hours <input type="checkbox"/> | |

Q3. Was the child given water in the last 24 hours?

- a. Yes b. No

Q4. Was the child fed anything apart from mother's milk in last 24 hours? (Plain Water, Medicines & Supplements should not be included as food)

- a. Yes b. No

If the answer to Q4. is "b. No", then skip Sections 3.1 & 3.2

Q5. Was the child well in the last 24 hours?

a. Yes b. No

Q6. Was there any feasting/fasting day in the last 24 hours?

a. Yes b. No

Section 3.1 - 24 hours rapid diet assessment of the child

Ask only if the child has been fed anything other than mother's milk, plain water, supplements or medicines



RECORD CHILD'S FEEDS TIME WISE CAREFULLY IN THE TABLE BELOW.

What was fed to the child in the last 24 hours (other than mother's milk, plain water, supplements or medicine):

When (Feed Time)	What was fed?	Ingredients (Do not write about dry spices)
Feed 1		
Feed 2		
Feed 3		
Feed 4		
Feed 5		

Fill Q.1 to Q.4 and section 3.2 based on what the child was fed as recorded above:

Q1. Total no. of animal milk/packet milk feeds given to the child during the last 24 hours.

• Mother's milk should not be considered.

Write No.

Q2. Total no. of feeds given to the child other than any type of milk during the last 24 hours.

• If multiple food items given at one feed time then consider all those as one feed.

• Water, medicines, and supplements should NOT be included as food

• Milk as an ingredient in any other dish like milk-biscuit, sooji-milk, kheer etc. should be included

Write No.












Q3. Was the child fed food received from the Anganwadi centre in the last 24 hours? a. Yes b. No












Q4. Was any solid/semi solid food item fed to the child during last 24 hours? a. Yes b. No
(Any thick or solid food is to be considered here. Example thick khichdi or pulses, biscuit, rice etc.)

Section 3.2 - Child's Food Intake

Ensure that this table is filled before you go to the next household. **FILL FROM RECORD TAKEN IN SECTION 3.1. DO NOT PROMPT.**

Q 1. Fill the information in the table given below from the child feed record taken in Section 3.1.
(If the child has been fed the items even once during the day, put code 1.)

S.No.	Food Product (Given even once during last 24 hours)	Write code (1=Yes; 2=No)
(A)	Cereals like rice, roti made of attar/bajra/makki/maida, bread/pav	
(B)	Roots like potato, sweet potato	
(C)	Visible fat (butter/ghee/oil)	
(D)	Nuts like peanuts, almonds etc.	
(E)	Sugars like sugarcane, jaggery, jam etc.	
1 - Energy Giving Foods		
(F)	Pulses like soyabean, moong, rajma, urad etc.	
(G)	Milk (Animal Milk-cow/buffalo/sheep)	
(H)	Milk in Tea	
(I)	Milk products like curd, paneer, buttermilk, khoya	
(J)	Egg	
(K)	Meat and meat products like chicken/mutton/meat/fish etc.	
2-Body Building Foods		

S.No	Food Product (Given even once during last 24 hours)	Write code (1=Yes; 2=No)
(L)	Green Leafy Vegetables like: methi, palak, bathua etc	
(M)	Dark Yellow and Red Colored Vegetables: pumpkin, carrots, tomato	
(N)	Other Vegetables like: cauliflower, brinjal, lady finger etc	
(O)	Citrus-Vitamin C rich fruits like: orange, mausami, lime, amla, guava etc	
(P)	Dark Yellow Colored Fruits/Fresh fruit Juices: papaya and mango	
(Q)	Other fruits/Fresh fruit Juices: like apple, banana etc.	
3-Protective Foods		
(R)	Formula food/Formula milk/ Powder milk	
(S)	Sweet & Salted Snacks like biscuits, namkeens	
(T)	Aerated Cold drinks like cola, packed juice	
(U)	Unpackaged foods like samosa, kachori, etc	
(V)	Black Tea	
4- Foods bought from market		
5.		

Section 4 - Supplementary feeding of the child



Q1. In the last 2 weeks or 15 days, was the child fed any food received from the Anganwadi centre? (please ask specifically about whether it was fed to the child, not just whether it was received from the Anganwadi centre)

a. Yes

b. No

Q2. If no, why was the child not fed food from the Anganwadi centre (AWC)? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

a. Family members asked to do so

b. Did not like the taste

c. No need for Anganwadi centre food

d. Did not get from Anganwadi centre

e. Anganwadi centre is far away

f. Did not know about the facility

g. Poor hygiene

h. Lack of time

i. Child is too young

j. No specific reason

k. Any other (.....)



Q3. In the last 1 week or 7 days, how many times was the child given iron syrup?

a. Once

b. Twice

c. Never

d. Do not know

e. Any other (.....)

Q4. If never, why wasn't the child given iron syrup? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

a. Family members asked to do so

b. Did not like the taste

c. No need for the iron syrup

d. Did not get from the Anganwadi centre

e. Anganwadi centre is far away

f. Did not know about the facility

g. Poor hygiene

h. Lack of time

i. Child is too young

j. No specific reason

k. Any other (.....)

If the answer for Q3. is "a. Once" or "b. Twice", then ask Q5

Q5. If once or twice, where do you usually get the iron syrup from?

a. Anganwadi centre

b. Government facility

c. Private facility

d. Do not know

Section 5 - Other Health Services

Q1. Where was the child delivered?

- a. Government facility
- b. Private facility
- c. Home
- d. Any other (.....)

Q2. Look at the Mother and Child Protection Card or any other record available, to note down the weight of the child at the time of birth.

- a. kgs : gms b. Record not available

Q3. If the record is not available then ask, what was the weight of the child at the time of birth?

- a. kgs : gms b. Not weighed b. Do not know

Q4. According to you, was your child's birth weight normal?

- a. Yes b. No

Q5. If no, what did you do to improve the weight of the child?

- a. Took the child to the doctor
- b. Fed the child nutritious food
- c. Took the child to the Anganwadi worker
- d. Fed mother's milk to the child
- e. Did nothing
- f. Any other (.....)

Q6. Did any health worker explain to you or any family member anything regarding your child's birth weight?

- a. Yes
- b. No
- c. Do not know

Q7. Do you get your child's weight measured every month?

- a. Yes
- b. No
- c. Only at birth
- d. Do not know

If the answer for Q7. is "b. No" or "c. Only at birth", then ask Q8

Q8. Why did you not get your child's weight measured? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- | | |
|---|--------------------------|
| a. Family members asked to do so | <input type="checkbox"/> |
| b. No one in the family ever got weight measurement done | <input type="checkbox"/> |
| c. Went, but machine was unavailable/not working/facility was unavailable/did not do it | <input type="checkbox"/> |
| d. Anganwadi Didi did not call us | <input type="checkbox"/> |
| e. Do not know about this facility | <input type="checkbox"/> |
| f. Anganwadi centre is far away | <input type="checkbox"/> |
| g. Lack of time | <input type="checkbox"/> |
| h. No need for it | <input type="checkbox"/> |
| i. Mother/child remains unwell | <input type="checkbox"/> |
| j. Child is too young | <input type="checkbox"/> |
| k. Misconceptions (like evil eye) | <input type="checkbox"/> |
| l. Do not know | <input type="checkbox"/> |
| m. Any other (.....) | <input type="checkbox"/> |
| n. No specific reason | <input type="checkbox"/> |

Q9. Have you ever got your child's length measured?

- | | |
|---------------------------------|---|
| a. Yes <input type="checkbox"/> | c. Only at birth <input type="checkbox"/> |
| b. No <input type="checkbox"/> | d. Do not know <input type="checkbox"/> |

If the answer for Q9 is "b. No" then ask Q10

Q10. Why do you not get your child's length measured? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

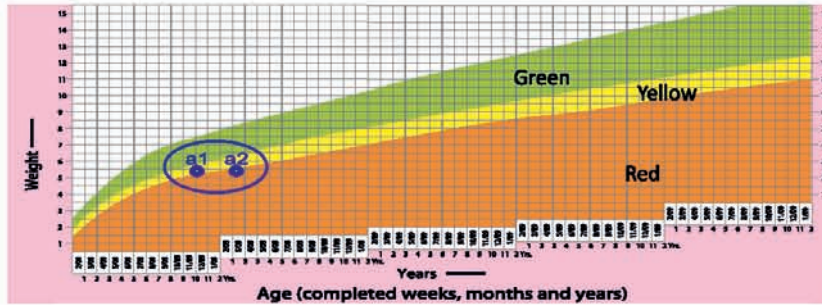
- | | | | |
|---|--------------------------|-----------------------------------|--------------------------|
| a. Family members asked to do so | <input type="checkbox"/> | h. No need for it | <input type="checkbox"/> |
| b. No one in the family ever got length measurement done | <input type="checkbox"/> | i. Mother/child remains unwell | <input type="checkbox"/> |
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| e. Do not know about this facility | <input type="checkbox"/> | l. Do not know | <input type="checkbox"/> |
| f. Anganwadi centre is far away | <input type="checkbox"/> | m. Any other (.....) | <input type="checkbox"/> |
| g. Lack of time | <input type="checkbox"/> | n. No specific reason | <input type="checkbox"/> |

Q11. Observe, if growth chart of the child is filled or not?

- | | |
|---------------------------------|--|
| a. Yes <input type="checkbox"/> | c. Card not available at home <input type="checkbox"/> |
| b. No <input type="checkbox"/> | d. Card not made <input type="checkbox"/> |

Q12. Have you ever seen a growth chart? (Show the growth chart in the MCP Card. In case MCP Card is not available then show the chart below)

- a. Yes b. No



Q13. If yes, then what is this chart used for?

- a. To get weight measured b. Do not know c. Any other (.....)

Q14. Observe, if the immunisation card of the child is filled or not?

- a. Yes c. Card not available at home
 b. No d. Card not made

Q15. Is the immunisation card important?

- a. Yes b. No c. Do not know

Q16. If yes, why is the immunisation card important? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- a. Child's immunisation details are in it
- b. Vaccination schedule tells you when to go next
- c. Need it for school admission and in hospitals
- d. Do not know
- e. Any other (.....)



Section 6 - Feeding during pregnancy

Q1. During pregnancy, what all food items did you avoid or completely stop eating? (You can tick (✓) MORE THAN ONE option)

(PROMPT ONLY GROUP NAMES, DO NOT PROMPT THE EXAMPLES)

- a. Cereals such as: Bajra, Wheat etc.
- b. Pulses such as: Arhar, Moong etc.
- c. Nuts such as: Peanut, Almond etc.
- d. Milk & Milk products such as: Curd, Paneer, Khoa etc.
- e. Green leafy Vegetables such as: Palak, Methi etc.
- f. Yellow or Red Fruits & Vegetables: Mango, Pumpkin, Carrot, Tomato, Papaya
- g. Citrus-Vitamin rich fruits: Lemon, Mausami, Guava, Amla
- h. Egg and meat products such as: Meat, Fish etc.
- i. Any other (.....)
- j. Did not avoid or stop eating any food items

Q2. If avoided or stopped eating anything during pregnancy, then why? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- a. Family members asked to do so/Nobody eats in the family
- b. Did not like the taste/did not feel like eating
- c. Lack of money
- d. Side effects such as vomiting, dizziness etc.
- e. Heat/Miscarriage
- f. No specific reason
- g. Any other (.....)

Q3. During pregnancy, what all food items did you increase or start consuming? (You can tick (✓) MORE THAN ONE option)

(PROMPT ONLY GROUP NAMES, DO NOT PROMPT THE EXAMPLES)

- a. Cereals such as: Bajra, Wheat etc.
- b. Pulses such as: Arhar, Moong etc.
- c. Nuts such as: Peanut, Almond etc.
- d. Milk & Milk products such as: Curd, Paneer, Khoa etc.
- e. Green leafy Vegetables such as: Palak, Methi etc.
- f. Yellow or Red Fruits & Vegetables: Mango, Pumpkin, Carrot, Tomato, Papaya
- g. Citrus-Vitamin rich fruits: Lemon, Mausami, Guava, Amla
- h. Egg and meat products such as: Meat, Fish etc.
- i. Any other (.....)
- j. Did not increase or start consuming any food item

Q4. If included any new food item or increased any during pregnancy, then why? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- a. Family members asked to do so/family members eat this
- b. Liked the taste/felt like eating
- c. It is nutritious for both mother and child and helps in growth (Anemia and Vitamin A deficiency)
- d. No specific reason
- e. Any other (.....)

Q5. Did you consume any food given from Anganwadi Centre during your pregnancy? (Ask specifically if the food was consumed by the mother and not just received from the Anganwadi centre.)

- a. Yes b. No c. Sometimes

Q6. If no or sometimes, why did you not eat food received from Anganwadi Centre regularly? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- a. Family members asked to do so
- b. Did not like the taste
- c. No need for Anganwadi food
- d. Did not get food from Anganwadi Centre
- e. The Anganwadi Centre is far away
- f. Did not know about the facility
- g. Lack of cleanliness
- h. Lack of time
- i. No specific reason
- j. Any other (.....)

Section 7 - Medication during pregnancy

Q1. Did you consume IFA tablets during your pregnancy? (You can tick (✓) on ONLY ONE option) DO NOT PROMPT

- a. Yes
- b. No
- c. Do not know/do not remember



Q2. If yes, for how many months during your pregnancy did you consume IFA tablets? (You can tick (✓) on ONLY ONE option) DO NOT PROMPT

- a. 6 or more months c. Do not know/do not remember
- b. Less than 6 months

Q3. If yes, where do you usually get it from? (You can tick (✓) on ONLY ONE option) DO NOT PROMPT

- | | | | |
|------------------------------|--------------------------|--------------------------------|--------------------------|
| a. Anganwadi Centre | <input type="checkbox"/> | c. Private facility | <input type="checkbox"/> |
| b. Other government facility | <input type="checkbox"/> | d. Do not know/do not remember | <input type="checkbox"/> |

Q4. If no, then why did you never consume IFA tablets during pregnancy? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- | | | | |
|--|--------------------------|--------------------------------------|--------------------------|
| a. Family members asked to do so | <input type="checkbox"/> | g. There is no need for it | <input type="checkbox"/> |
| b. Did not get from the Anganwadi Centre | <input type="checkbox"/> | h. Lack of money | <input type="checkbox"/> |
| c. Anganwadi Centre is far away | <input type="checkbox"/> | i. Lack of time | <input type="checkbox"/> |
| d. Did not know about the facility | <input type="checkbox"/> | j. Did not know where to get it from | <input type="checkbox"/> |
| e. Did not like the taste | <input type="checkbox"/> | k. No specific reason | <input type="checkbox"/> |
| f. Vomiting or any other side effects | <input type="checkbox"/> | l. Any other (.....) | <input type="checkbox"/> |

Q5. According to you, is it necessary to consume iron tablets during pregnancy?

- | | | | | | |
|--------|--------------------------|-------|--------------------------|----------------|--------------------------|
| a. Yes | <input type="checkbox"/> | b. No | <input type="checkbox"/> | c. Do not know | <input type="checkbox"/> |
|--------|--------------------------|-------|--------------------------|----------------|--------------------------|

Q6. If yes, why is it necessary to consume Iron tablets? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- | | |
|---|--------------------------|
| a. Family members asked to do so | <input type="checkbox"/> |
| b. Beneficial for child/mother (to support extra blood formation protects from anemia, boost energy and avoid weakness) | <input type="checkbox"/> |
| c. Advised by health workers such as AWW, ANM, ASHA, doctor | <input type="checkbox"/> |
| d. Read or got advice from school/college | <input type="checkbox"/> |
| e. From mass media like TV/Newspaper/Radio | <input type="checkbox"/> |
| f. Do not know | <input type="checkbox"/> |
| g. Any other (.....) | <input type="checkbox"/> |

Q7. Did you consume Deworming tablet during your pregnancy?

- | | | | | | |
|--------|--------------------------|-------|--------------------------|--------------------------------|--------------------------|
| a. Yes | <input type="checkbox"/> | b. No | <input type="checkbox"/> | c. Do not know/do not remember | <input type="checkbox"/> |
|--------|--------------------------|-------|--------------------------|--------------------------------|--------------------------|

Q8. If no, then why did you never consume Deworming tablet during pregnancy? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

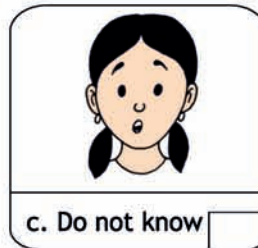
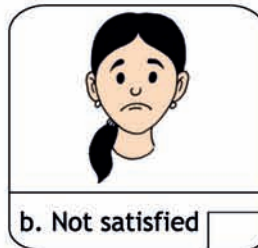
- | | | | |
|--|--------------------------|-----------------------|--------------------------|
| a. Family members asked to do so | <input type="checkbox"/> | e. Lack of time | <input type="checkbox"/> |
| b. Did not like the taste | <input type="checkbox"/> | f. No specific reason | <input type="checkbox"/> |
| c. Did not know of the facility | <input type="checkbox"/> | g. Any other (.....) | <input type="checkbox"/> |
| d. Anganwadi Centre/Sub Centre is far away | <input type="checkbox"/> | | |

Section 8 - Drinking water

Q1. What is the source of collecting drinking water? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- | | | | |
|------------------------------------|--------------------------|----------------------|--------------------------|
| a. Tap: Inside your home or public | <input type="checkbox"/> | e. Hand-pump at home | <input type="checkbox"/> |
| b. Submersible pump | <input type="checkbox"/> | f. Water tanker | <input type="checkbox"/> |
| c. Water works | <input type="checkbox"/> | g. Well | <input type="checkbox"/> |
| d. Hand-pump in the community | <input type="checkbox"/> | h. Any other (.....) | <input type="checkbox"/> |

Q2. Are you satisfied with the quality of drinking water?



Q3. Is drinking water purified for your less than one year old child?

- a. Yes b. No c. Have not started giving water to the child

Q4. If yes, how do you purify the drinking water for your less than one year old child? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

- | | | | |
|-------------------------------|--------------------------|----------------------|--------------------------|
| a. Boil it | <input type="checkbox"/> | d. Use water filter | <input type="checkbox"/> |
| b. Put chlorine tablets in it | <input type="checkbox"/> | e. Any other (.....) | <input type="checkbox"/> |
| c. Filter it with cloth/sieve | <input type="checkbox"/> | | |



Q5. Try to observe or ask, how is the drinking water stored in the household?

- | | |
|--|--------------------------|
| a. Covered (in a covered bottle, bucket or in a covered pot) | <input type="checkbox"/> |
| b. Uncovered (in bottle, bucket or pot) | <input type="checkbox"/> |
| c. Water is taken directly from a tap or hand-pump | <input type="checkbox"/> |
| d. Any other (.....) | <input type="checkbox"/> |

Q6. Try to observe or ask, how is drinking water taken out from the storage vessel in your household?

- | | |
|--|--------------------------|
| a. With the help of a ladle (utensil with a long stick) | <input type="checkbox"/> |
| b. Directly putting hand with the help of another utensil | <input type="checkbox"/> |
| c. Water is taken directly from a tap/hand-pump/by tilting the utensil | <input type="checkbox"/> |
| d. Any other (.....) | <input type="checkbox"/> |



Test the quality of drinking water by taking a sample from the household



Water in H₂S vial turned Black within 24-48 hours (contaminated)



Water in H₂S vial did not turn Black within 24-48 hours (not contaminated)

Steps for testing water quality using H₂S vials

- Take a small sample of drinking water from the household from the container where the household stores drinking water.
- Open the seal of the H₂S bottle and carefully pour water into the bottle.
- Do not fill the water to the brim. Keep to the "fill-line" shown.
- Close the bottle tightly. The bottles will have label on which you should write the 'Date, Time, Child name, Village name and Serial Number'.
- This is extremely important.
- Keep the bottle upright and check after 24-48 hours. If the water has turned black within this period, it is contaminated. If not, the water is not contaminated.
- Accordingly tick (✓) Q7.

Q7. Check the water sample taken from the household after 48 hours. Is it contaminated?

a. Contaminated

b. Not Contaminated

Section 9 - Hygiene

Q1. Is there a fully constructed toilet in the house?

a. Yes

b. No

c. Under construction

Q2. If no, what are the main reasons for not having a toilet in the house? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT

a. Expensive/lack of money

f. No government support

b. Use public toilet

g. Lack of space

c. Unhygienic

h. No specific reason

d. It is better to go outside

i. Any other (.....)

e. No water facility

Q3. Usually, how is the less than one year old child's faeces disposed off?(You can tick (✓) on ONLY ONE option) DO NOT PROMPT.

a. Wash in toilet

e. Left open

b. Throw in garbage bin

f. In open water body

c. Bury in soil

(like river, pond, lake etc.)

d. Wash in drain

g. Any other (.....)

Q4. While doing which chores, do you wash your hand?(You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- | | | | |
|--------------------------|--------------------------|----------------------------------|--------------------------|
| a. Before preparing food | <input type="checkbox"/> | e. After cleaning child's faeces | <input type="checkbox"/> |
| b. Before eating food | <input type="checkbox"/> | f. After touching animals | <input type="checkbox"/> |
| c. After using washroom | <input type="checkbox"/> | g. Before holding the child | <input type="checkbox"/> |
| d. After cleaning | <input type="checkbox"/> | h. Any other (.....) | <input type="checkbox"/> |

Q5. Usually, what do you wash your hands with? You can tick (✓) on ONLY ONE option) DO NOT PROMPT.

- | | | | |
|--------------------|--------------------------|--------------|--------------------------|
| a. With only water | <input type="checkbox"/> | c. With soil | <input type="checkbox"/> |
| b. With soap | <input type="checkbox"/> | d. With ash | <input type="checkbox"/> |

Section 10 - Diarrhoea

Q1. What do you understand by diarrhoea?

- | | |
|--|--------------------------|
| a. When a child passes liquid faeces for more than 3 times a day | <input type="checkbox"/> |
| b. Do not know | <input type="checkbox"/> |
| c. Any other (.....) | <input type="checkbox"/> |

Note: Before asking Q2, explain what Diarrhoea is - When a child passes liquid faeces for more than 3 times a day

Q2. According to you, what are the causes of diarrhoea? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- | | | | |
|-----------------------------|--------------------------|---|--------------------------|
| a. Infant teething | <input type="checkbox"/> | f. Misconceptions (like evil eye etc.) | <input type="checkbox"/> |
| b. Weather change | <input type="checkbox"/> | g. Do not know | <input type="checkbox"/> |
| c. Drinking polluted water | <input type="checkbox"/> | h. Ill effects of mother's food consumption | <input type="checkbox"/> |
| d. Eating contaminated food | <input type="checkbox"/> | i. Any other (.....) | <input type="checkbox"/> |
| e. Unhygienic conditions | <input type="checkbox"/> | | |

Q3. What consequences or problems for the child can occur because of diarrhoea? (You can tick (✓) MORE THAN ONE option) DO NOT PROMPT.

- | | |
|--|--------------------------|
| a. Can lead to the child's death | <input type="checkbox"/> |
| b. Deficiency of water in child's body | <input type="checkbox"/> |
| c. Deficiency of water and other important nutrients in body | <input type="checkbox"/> |
| d. Nothing happens, it is normal | <input type="checkbox"/> |
| e. Leads to weakness | <input type="checkbox"/> |
| f. Do not know | <input type="checkbox"/> |
| g. Any other (.....) | <input type="checkbox"/> |

Q4. Did your child suffer from diarrhoea in the last two weeks/15 days?

- | | |
|----------------|--------------------------|
| a. Yes | <input type="checkbox"/> |
| b. No | <input type="checkbox"/> |
| c. Do not know | <input type="checkbox"/> |



Q5. If yes, did you continue giving mother's milk to the child when your child had diarrhoea?

a. Yes

b. No

Q6. If yes, did you take the child to the health worker?

a. Yes

b. No

Note: If the answer for Q6 is "b. No", then ask Q7

Q7. If no, then what did you do to cure the child's diarrhoea?

- a. Gave ORS solution
- b. Gave salt and sugar solution
- c. Gave Zinc tablet to the child
- d. Gave liquid substances made at home
- e. Gave medicines
- f. Did nothing special
- g. Any other (.....)

Q8. Have you seen the Oral Rehydration Solution (ORS) packet? (Show the packet available with you. If not available, show the image in the survey tool)

a. Yes

b. No



Q9a. If yes, how much water is needed to prepare one full packet of ORS solution?

a. One litre/Five glasses

b. Do not know

c. Any other (.....)

Q9b. If yes, within how many hours should the ORS solution be consumed?

a. 24 hours

b. Do not know

c. Any other (.....)

Section 11 - Household Indicators

Q1. For the questions below, please observe and then mark the answer. (In case you're unable to observe, please ask)

i. Type of house			ii. Motorized 4-wheeler		iii. Motorized 2-wheeler		iv. Electricity connection (Look for wires and fittings)	
a. Kutcha	b. Semi kutcha	c. Pucca	a. Yes	b. No	a. Yes	b. No	a. Yes	b. No

v. If yes, was there electricity today?		vi. T.V. in the household		vii. If yes, is there cable T.V.?		viii. Has anyone in the household completed 12th standard?	
a. Yes	b. No	a. Yes	b. No	a. Yes	b. No	a. Yes	b. No

Note: *Apart from mother and father of the target child

ix. Mobile phone in the household		x. If yes, is there a smart phone?	
a. Yes	b. No	a. Yes	b. No

Q2. Do you own any livestock like cow, buffalo, goat, hen, sheep etc.

a. Yes b. No



Q3. Do you own an agricultural land?

a. Yes b. No



Mobile no. of the household:

Survey end time:

1. Please revisit the tool and check if you have missed anything.

2. Did you take consent and signature from the mother?

A.2 - Frequently Asked Questions

Overview

- **What is ASER?**

ASER stands for Annual Status of Education Report. It is a household-based survey of children's enrollment and learning status. Enrollment status is recorded for children in the age group 3 to 16 years, and children in the age group 5 to 16 years are tested for their ability to read simple text and do basic arithmetic. It is a nationwide citizen-led survey in the rural districts of India and has become the only periodic source of information on learning outcomes of children in India. ASER had been conducted every year since 2005 except in 2015. Since 2016, this 'usual' ASER is conducted every alternate year, with every other year focusing on a different age category of children. For example, in 2017, ASER focused on children in the age group 14-18 years ('Beyond Basics') and in 2019 ASER focused on children in the age group 4-8 years ('Early Years').

- **What is ASER Health?**

ASER Health uses an approach similar to the ASER surveys in education for the health and nutrition sector. In line with the ASER approach, these surveys are citizen-led, low-cost, easy to understand, yet rigorous and reliable.

The first domain of ASER Health is focused on IYCF&H, targeting 0-1 year old children and their mothers. The thematic areas covered are food habits of mother and child, child's supplementary feeding, health services, feeding during pregnancy, IFA consumption, drinking water and diarrhoea. Household information is also collected. The survey undertaken for this domain uses the framework of Knowledge, Access and Practice.

- **There are other organisations also working on assessments on health and nutrition. How is ASER Health different from other initiatives in this area?**

While there are several health and nutrition surveys in India, these surveys typically collect data on long-term health outcome indicators which are slow to change; the frequency of these surveys is also often not annual. In this context, there is a need for rapid and regular surveys like ASER Health that can also capture intermediate outcome indicators and the underlying behaviour that results in such outcomes. Hence, surveys like ASER Health could inform specific interventions at the district level, results of which could be achieved in a relatively short period of time, and help monitor progress on these outcomes.

- **Will ASER Health always focus on Infant and Young Child Feeding and Health?**

For the first domain of ASER Health, it was decided to focus on IYCF&H, given the dire need of improvements in this area, the opportunity for early intervention and potential for long-term impact. In the future, ASER Health may expand its coverage beyond IYCF&H. ASER Health surveys could be developed and undertaken for other domains, target groups and geographies.

- **What is the geographical coverage of the ASER Health Survey?**

Nearly 4000 children and their mothers were surveyed across 168 villages in India in numerous pilots, block and district level surveys, during which the survey tool, operational model and sampling strategy were refined in an iterative process. The states in which these pilots and surveys were undertaken are Delhi, Uttar Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Odisha and Karnataka. The final package, incorporating all the learnings and using the refined and fit to purpose survey tool, sampling strategy and operational model was deployed in Sambalpur (Odisha) and Udupi (Karnataka), covering almost 1000 children aged 0-1 years and their mothers across 120 villages in these surveyed districts.

- **Who collects the data in ASER Health?**

ASER Health survey is conducted by volunteers from local partner organisations, such as NGOs and universities. The process of recruiting, training, and monitoring partners and volunteers is led by ASER Centre. In the process of development of the methodology, data collection with paid surveyors was also tested in a few locations (Uttar Pradesh and Rajasthan), but the final model adopted by ASER Health comprises surveys undertaken by locally recruited and trained volunteers, similar to ASER surveys in education.

- **Does ASER Health intend to track in the future the children already surveyed to measure changes over time?**

The current model of ASER Health provides data that is representative at district level through a random selection of households. If applied in different points in time, it can provide comparable data and show changes and trends. Although the current model was not initially designed to track the same cohort of children over time, this can be done, particularly if there is a specific need to follow a particular group of the target population, for example, to assess the effects of a given programme.

About sampling strategy

- **Why does ASER Health select 60 villages per district and 12 households per village? How are villages selected? What happens if a village no longer exists, or has become an urban area?**

Like ASER, ASER Health uses a two-stage sampling strategy which enables one to generate a representative picture of each district. In the first stage, 60 villages are sampled from each district using Probability Proportional to Size (PPS) based on the Census 2011 village directory. In the second stage, 12 households with 0-1 year old children are selected in each sampled village using the modified 5th household rule. Thus, the total sample size for each district is ideally $60 \times 12 = 720$ households. This technique differs from the ASER technique, which uses the 5th household rule, where the target is the household and not the child. This two-stage design for ASER Health ensures that every household in the district has an equal probability of being selected. In the case that a village no longer exists or has become an urban area, ASER Centre replaces the village from the village list.

- **What is the 5th household rule?**

The 5th household rule is the method used in the ASER survey, whereby the selected village is divided into four sections, and in each section the survey team begins the survey from its centre and surveys every 5th household found on the left. For the ASER survey, 5 households are sampled in each section of the village, totaling 20 households per village including those that do not have children in the targeted age of 3-16 years.

- **What is the modified 5th household rule?**

For ASER Health, the 5th household approach was modified to sample 12 households, but all of which have children aged 0-1 year. For example, if the 5th household on the left does not have a child in this age group, the neighbouring house is approached, until the survey team finds a household with a child of 0-1 year.

- **According to the sampling strategy, there should be 720 respondents in each district. However, in the district level surveys carried out the sample size is smaller. Why is that?**

As the target age group is quite narrow, i.e., 0-1 year old children and their mothers, it was difficult to find the required number of respondents in every village. In some villages in Sambalpur, for example, even though a complete village census was undertaken, the survey team was still unable to reach the required 12 households.

- **How can I find out which villages have been surveyed?**

This information is not in the public domain; the ASER Health village list is confidential. In all surveys and research studies, it is standard practice to maintain the confidentiality of respondents. This means that all information that could enable someone to identify particular individuals, households, or villages is removed. This includes village names, respondent names, and so on.

- **Is ASER Health data representative? At what levels?**

ASER Health is designed to provide data that is representative at the district level.

- **Why does ASER Health aim to generate district level estimates?**

Most official statistics in India produce estimates only at the state and national level. Even poverty estimates in India, obtained from the National Sample Survey Organisation, are available only at state or regional level, not at the district level. However, planning and allocation of resources is often done at the district level. ASER Health aims to produce district level estimates for this very reason. Data representative at the district level can also support decentralised and context-based solutions, rather than a top-down approach.

- **Who designed this sampling strategy?**

The sampling strategy for the ASER education survey was developed by the in-house experts at ASER Centre in collaboration and consultations with institutions such as Indian Statistical Institute, New Delhi. Inputs were also received from experts at the then Planning Commission of India and the National Sample Survey Organisation. The ASER Health sampling strategy uses a modified version of this strategy and was finalised after several rounds of pilots and surveys in an iterative process.

- **Do the ASER estimates for a district also apply to individual villages or blocks in that district?**

No, they don't. ASER estimates are representative only at the district level. The sampling is not representative at the village or block level. The situation in individual villages or blocks can be different. To understand the status of a particular village or block, a different sampling strategy would be required.

- **What were the inclusion criteria and exclusion criteria?**

In households selected using the sampling strategy described above, only mothers whose children were less than 1 year old were surveyed.

- **Why so much emphasis on a rapid survey?**

There are several other health and nutrition surveys in India, such as National Family and Health Survey (NFHS), Comprehensive National Nutrition Survey (CNNS), District Level Household Survey (DLHS) and Rapid Survey on Children (RSOC), which provide data on key indicators. However, there has also been demand for rapid and more frequent surveys in health and nutrition, which can inform actions that can be implemented in a relatively short period of time.

- **What is the definition of 'rural' that is used in ASER Health data?**

ASER Health uses the Census village directory as the sampling frame. Therefore, the definition of rural habitations according to the Census is used. It does not refer to rural districts, since the Census itself does not define districts as either rural or urban.

- **Do you also collect information about the household?**

Yes. In addition to collecting information on key areas of IYCF&H, some basic information about the household is collected, such as number of family members, ownership of household assets and parents' education.

- **Do you collect information about Anganwadi Centres?**

It is only observed if the village has one or more Anganwadi Centres and their number is recorded. In doing so, a sense is got whether the respondents have access to basic health and nutrition services that are delivered through Anganwadi Centres. In the households, information about the respondent's uptake of services provided by the Anganwadi Centres is recorded.

- **Why household surveys? Why not do the survey in a different setting such as Anganwadi Centre?**

For this domain of IYCF&H, ASER Health was designed as a household survey to avoid any selection bias and present a more comprehensive assessment of the target population. Undertaking this survey in public or private institutions, such as Anganwadi Centres, could create a selection bias in the sample to include only those who have access to these institutions and services.

About tools and testing

- **How was the tool designed?**

The survey tool was designed by ASER Centre and has evolved over time to what it is today. At the start, the tool comprised of over a hundred questions, which went through several rounds of pilots and surveys before finalisation through an iterative process to align it with the approach of a simple, rapid and citizen-led assessment.

- **How do you capture questions regarding behaviour?**

The unique feature of this survey tool is capturing the reasons behind certain practices. The respondents are asked a question to understand their practice related to IYCF&H, which is followed by asking the reasons for that particular practice. An extensive list of reasons is available in the survey tool, which were generated after several field visits and pilots. Options are not prompted but respondents are probed to recall.

- **Do you measure height and/or weight?**

No height and/or weight measurements are taken in the survey. Reasons for not doing so are: a) Increases in survey cost and time for training at all levels; b) Respondents might view the survey as a replacement to their regular service for such measurements; c) Maintenance and repair of measurement equipment at local level could become challenging.

- **How many questions are there in the survey tool?**

There are 90 questions in total covering 8 areas: household information, food habits of mother and child, child's supplementary feeding, health services, feeding during pregnancy, IFA consumption, drinking water and diarrhoea. In order to effectively carry out the survey, the questions in these 8 areas are organised into 11 sections in the survey tool. This is done to ensure that the questions easily flow from one section to another.

- **How much time does it take to administer the survey?**

It takes 20-25 minutes to administer the survey per respondent. Surveyors are trained to initiate a dialogue with the respondents and mark answers rather than treating it merely as a task, which enables an easy and efficient

flow of the survey. This time of 20-25 minutes to administer the survey per respondent is optimised to ensure that there is no surveyor or respondent fatigue.

About implementation

- **Why does ASER Health use volunteers?**

ASER Health is envisioned as a citizens initiative, implemented by partner organisations. It is designed to be simple to understand, quick to implement and easy to communicate. The entire design of ASER thus centres around its aim to reach and involve citizens rather than paid surveyors, promoting the engagement of these citizen-volunteers in their own communities.

- **Are the volunteers capable and well trained to undertake the survey? How do you ensure data quality?**

Volunteers are trained intensively prior to the survey, including through classroom training and field practice where they practice every procedure that will be implemented during the actual survey. During training, their performance is carefully monitored and documented. Once the survey is underway, master trainers monitor their work and help sort out any problems that are encountered in the field. Quality monitoring processes are put in place at every stage of the process, from training of master trainers and surveyors, to monitoring the survey implementation in the field, and recheck of the data collected once the survey is complete.

- **How do volunteers collect the data and how long does it take to complete a survey in a village?**

To conduct the survey, a team of two volunteers is assigned to each sampled village. They work together to complete the survey of 12 households in a village, usually over a period of two days per village.

About ASER Health results

- **Is raw data available in the public domain?**

ASER Health report can be downloaded from the ASER Centre website (www.asercentre.org). ASER Health raw data sets are not available in the public domain for these two district level surveys undertaken.

About impact

- **What response do you get from mothers you survey or from the community in general?**

In the village, there is usually a great deal of curiosity during the ASER Health survey. For this domain of IYCF&H, the survey asks pertinent questions related to health and nutrition of the infant and her/his mother during her pregnancy. Mothers are very responsive and make a strong effort to engage with the process. This kind of a survey helps parents and community members to engage with relevant issues in health and nutrition. In addition, as citizen-volunteers are recruited from areas closer to the surveyed communities, it leads to an increase in their awareness and ownership of these important issues within their own/similar communities. Overall, such an engagement of volunteers and communities creates the social nudges for positive action.

