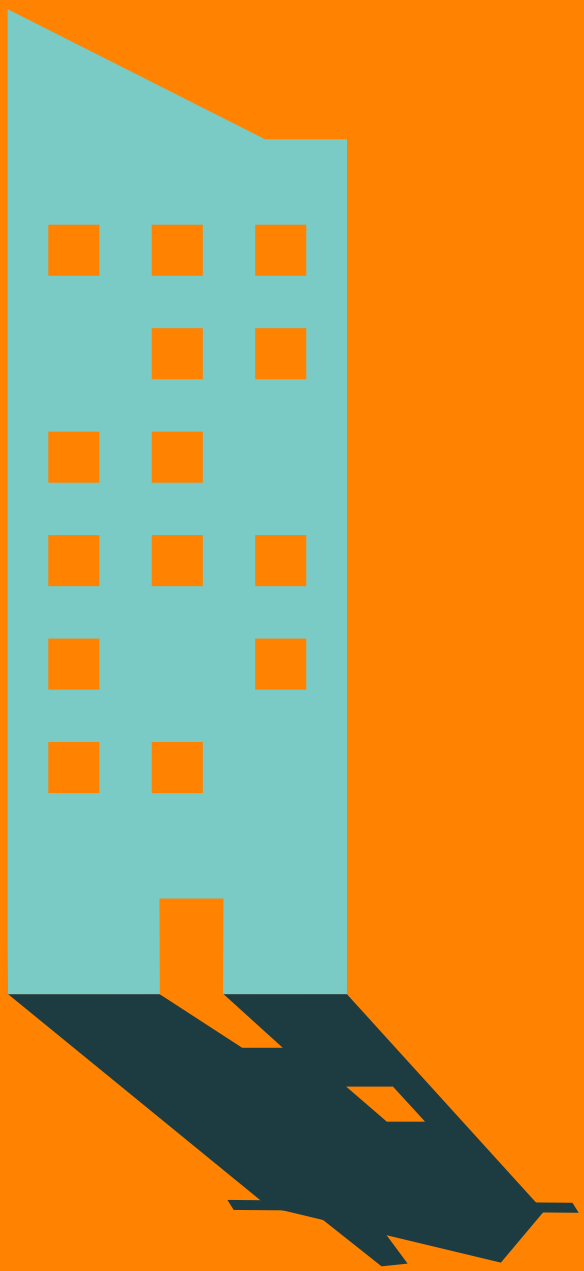
URBAN HUNGaMA REPORT

Nutrition And The City



Pic: Claude Avezard

CONTeNTS

Preface

Naandi Foundation was established in 1998 with the objective of creating a new model of working directly with communities and complementing the efforts of the government to enhance the quality of life of poor people in the country. Over the years, Naandi Foundation has partnered with over 14 state governments in urban, rural and tribal areas.

Currently the three large scale programmes of Naandi that complement government efforts are: Project Nanhi Kali - jointly managed with KC Mahindra Education Trust – which guarantees ten years of schooling to girl children and has already touched a quarter million lives; Mahindra Pride School that has over 600 classrooms all over India in which underprivileged youth are skilled, trained and subsequently placed in jobs; and biodynamic agriculture with seed-to-market support to small and marginal farmer households impacting over 100,000 lives. Cumulatively, Naandi's direct work with communities has reached out to 5 million lives.

Our work with girls, farmers and school children on a large scale in different parts of the country led us to believe that creating primary data based evidence would be invaluable not just to Naandi but to governments and all concerned with policy creation and design of development programmes. The first step in this direction was the HUNGaMA (Hunger and Malnutrition) Survey in 2011. Spurred on by the Citizens Alliance against Malnutrition, of which Naandi is a member, 100,000 children in over hundred rural districts were surveyed and the report published, all within one year. These survey findings continue to be used till today, by researchers and policy makers alike, and continue to help keep child malnutrition on top of different state governments' agenda. Naandi's own action research over four years has proven that individual child growth tracking and increasing family's knowledge can positively impact child nutrition.

Buoyed by the advocacy impact created by HUNGaMA Survey 2011 and guided by discussions with government, civil society and businesses, we carried out the URBAN HUNGaMA Survey in 10 most populous Indian cities. The findings are in this report. We hope this will give further fillip to the movement for eradication of malnutrition.

Acknowledgements

For their generous funding support towards this survey
Mahindra & Mahindra
and
Global Alliance for Improved Nutrition

For taking us deeper into the survey findings and capturing the essence
Dr Victor Aguayo

For guidance from an academic and economist's perspective
Dr Isher Ahluwalia

For being the primary data contributors and for their invaluable time and patience
Over 12,000 young mothers in 10 cities

To our partners - thank you
Dr Sulabha Parasuraman
Pranav Chaudhuri - Sunai Consultancy
Nevin John

Executive Summary

The objective of the URBAN HUNGaMA Survey 2014 was to assess the nutrition status of children aged 0-59 months living in the 10 most populous cities of India, namely: Mumbai, Delhi, Bengaluru, Hyderabad, Ahmedabad, Chennai, Kolkata, Surat, Pune and Jaipur.

The survey was implemented between April and July 2014. It used a three-stage systematic sampling methodology to select a representative sample of 11,955 households. A total of 12,286 mothers were interviewed and 14,616 children aged 0-59 months were measured. Interviews and measurements were carried out according to internationally agreed upon tools, methodologies and indicators.

The proportion of children born with low birth weight (i.e. less than 2.5 kg) was 15.7%, ranging from 13.5% in Hyderabad to 25.1% in Kolkata. In all, 22.3% of children under five years of age were stunted (chronic undernutrition) and 7.6% were severely stunted. The prevalence of stunting ranged from 14.8% in Chennai to 30.6% in Delhi was significantly higher among children whose mothers had five years of schooling or less (35.3% compared to 16.7% among children whose mothers had 10 or more years of schooling) and children from households in the lowest wealth quintile (29.3% compared to 15.0% among children from households in the highest wealth quintile). Overall, 13.9% of children were wasted (acute undernutrition) and 3.2% were severely wasted.
The prevalence of wasting ranged from 10.8% in Jaipur to 19.0% in Mumbai.
As in the case of stunting, the prevalence of wasting was significantly higher among children whose mothers had five years of schooling or less (17.6% compared to 12.2% among children of mothers with 10 or more years of schooling) and children from households in the lowest wealth quintile (16.7% compared to 10.5% among children from households in the highest wealth quintile). The prevalence of overweight in children was 2.4%, ranging from 0.7% in Hyderabad to 3.7% in Chennai. The prevalence of overweight was significantly higher among children from the highest wealth quintile (3.6% compared to 1.8% among children from households in the lowest wealth quintile).

The Ministry of Health and Family Welfare, Government of India has issued

recommendations on infant and young child feeding (IYCF) practices, and the survey revealed sub-optimal compliance with those recommendations: 37.7% of children aged 0-23 months were breastfed within one hour of birth (ranging from 13.3% in Jaipur to 66.8% in Chennai); 30.47% of children aged 0-5 months were exclusively breastfed (ranging from 12.0% in Chennai to 38.7% in Kolkata); 45.2% of children aged 6-8 months were fed complementary foods (ranging from 29.1% in Jaipur to 70.5% in Chennai); 47.2% of children aged 6-23 months met the standard of minimum meal frequency (ranging from 21.8% in Delhi to 88.8% in Mumbai); and 37.8% of children aged 6-23 months received at least a minimum number of food groups (dietary diversity) (ranging from 22.7% in Ahmedabad to 59.4% in Kolkata). On indicators of minimum dietary requirements (breastmilk/milk, minimum meal frequency, and minimum dietary diversity) 22.5% of children aged 6-23 months were fed in accordance with all three (ranging from 9.7% in Surat to 47.3% in Kolkata).

The findings of the URBAN HUNGaMA Survey 2014 indicate that in the 10 most populous cities of India, one in four children has stunted growth and development due to chronic nutrition deprivation. Poor infant and young child feeding practices, compounded by the poor status of women, the prevalence of household poverty and lack of government service delivery centre seem to be three major drivers of stunting among urban children. Less than one in four children (22.5%) were fed a diet that meets the minimum requirements for healthy growth and development.

Perhaps the idea emerging out of these findings is the need to bring young mothers and adolescent girls into the centre of things and invest in them as the key catalysts. The current national focus on financial inclusion and digitisation provides a broad area of opportunity going forward. There is of course also the imperative to stay alert on the trend towards obesity.

Rationale

Naandi Foundation, a not-for-profit headquartered in Hyderabad, is working in 15 states of India with portfolios ranging from primary education, specific support to girl children and child nutrition to sustainable livelihoods and safe drinking water. Its work has impacted lives of about 5 million Indians. From 2010, Naandi began focused work on child nutrition, an area in need of urgent action. Not only did India have one of the highest rates of child malnutrition in the world, it also had a massive data deficit in this space.

In a bid to change the scenario of high rates of child malnutrition in India, Naandi Foundation joined hands, in 2010, with the Citizens Alliance against Malnutrition, an advocacy platform which brought together young parliamentarians from across political parties. The Citizens Alliance, after several years of travelling to different corners of India and meeting young mothers and Anganwadi Workers, realised that the existing data on the subject was old and requested Naandi to do a rapid survey of children's nutrition status so that their advocacy efforts could be further sharpened on the basis of recent data. It was against this background that Naandi Foundation collected large scale data on child nutrition and created a hungama. The survey captured nutrition status of over 100,000 children in 112 rural districts of the country. The findings of the HUNGaMA Survey 2011 revealed that in the 100 most challenged districts of India, every second child was malnourished. The Prime Minister of India, while releasing the report of this survey, conveyed his anguish by calling it a 'national shame'.

The HUNGaMA Survey 2011, which also captured the voice of 74,000 young mothers, created intense interest in India and abroad for a number of reasons:

01 **It was the first time a non-government entity collected large scale nutrition data**

02 **It incorporated the voices of young mothers for the first time in the history of the country**

03 **It was the first time since 2004 that district level data had been reported**

04 **It was the first demonstration of rapid (within a period of one year) and large-scale capture, analysis and publication of information on child nutrition.**

The years immediately following the HUNGaMA Survey 2011 saw significant increase in interest, dialogue, research and even policy action in the area of child nutrition. The Government of India almost doubled the budget for the ICDS programme, the key government intervention for addressing child malnutrition. The state government of Maharashtra commissioned a survey to capture nutrition status of children in their state. Within two years two large national surveys were rolled out – one of them, the Rapid Survey of Children (RSOC), for the first time in the history of India, captured nutrition data of children in every district of the country. The second survey – the fourth round of the National Family Health Survey also, in a first, reported nutrition data at the district level. The conference/seminar 'calendar' of the country began to feature child nutrition as the theme more than ever before.

As HUNGaMA Survey 2011 continued to create ripples at policy, research and ground levels, Naandi and the Citizens Alliance turned their attention to the situation in urban India. As a country that is moving steadily towards urbanisation - the percentage of population living in urban areas has gone up from 27.81% in 2001 to 31.16% in 2011 - it was important to understand how well our cities are able to look after their children.

The 2011 Census reported that for the first time since independence the absolute increase in population is more in urban areas than in rural areas. Urban areas present an entirely different set of challenges when it comes to addressing child malnutrition - lack of space resulting in miserable hygiene and sanitation, absent Anganwadi Centres, nuclear families with parents working long hours, easier access to junk and adulterated food.

In this context, Naandi Foundation took the decision to conduct the URBAN HUNGaMA Survey 2014, to generate data and strengthen the evidence base on nutrition, and thereby empower citizens and policymakers with information to fight child nutrition in URBAN India.

Objectives

The URBAN HUNGaMA Survey 2014 was conducted to capture essential nutrition data of children aged 0-59 months in the 10 largest cities of India, using internationally accepted indicators and methodologies. Apart from the four metropolitan areas – Mumbai, New Delhi, Chennai and Kolkata – six more cities were included: Bengaluru, Hyderabad, Ahmedabad, Pune, Surat and Jaipur (Table 1). The survey was designed to provide reliable information with sufficient detail to drive better planning, strategizing and resource allocation and to help citizens, policy makers and implementers remain accountable for progress.

Table 1. **Demographic data of cities covered by the URBAN HUNGaMA Survey 2014**

	City	Total Population	Total Male Population	Total Female Population	Population 0-6 years
1	Mumbai	124,42,373	67,15,931	57,26,442	12,03,770
2	Delhi	163,68,899	87,61,005	76,07,894	19,55,738
3	Bengaluru	84,43,675	43,91,723	40,51,952	9,16,441
4	Hyderabad	69,93,262	35,76,640	34,16,622	7,99,397
5	Ahmedabad	55,85,528	29,42,922	26,42,606	6,21,829
6	Chennai	46,46,732	23,35,844	23,10,888	4,59,324
7	Kolkata	44,96,694	23,56,766	21,39,928	3,39,323
8	Surat	44,67,797	25,43,623	19,24,174	5,49,882
9	Pune	32,74,923	16,84,558	15,90,365	3,51,575
10	Jaipur	30,46,163	16,03,125	14,43,038	3,87,354
	Total	**697,66,046**	**369,12,137**	**328,53,909**	**75,84,633**

Source: Census 2011

URBAN HUNGaMA Survey 2014 locations

Methodology

The survey provides estimate of the nutritional status of children aged 0-59 months in the 10 most populous cities in India. These 10 cities account for 5.3% of India's population and 4.1% of the child population aged 0-71 months. The survey also provides estimated percentages of stunting, underweight, wasting and overweight by city and separately for boys and girls.

In each city, 1,200 children were selected following a systematic sampling method at three stages. At the first stage 40 city wards were selected. At the second stage, two Census Enumeration Blocks (CEB) were selected from each of the 40 wards. Then, 15 households with at least one child aged 0-59 months were selected from each of the 80 CEBs. Children in orphanages, jails (with mothers), hospitals and other institutions did not participate in this survey.

Naandi implemented the survey in partnership with Sunai Consultancy, an agency Naandi has worked with on a number of surveys prior to this one. Jointly Naandi and Sunai teams provided standardized training to local surveyors on how to carry out the survey to the highest standard of quality. An advisory board of nutrition experts reviewed and honed all survey formats prior to implementation to ensure that the survey would provide a clear picture of essential information on child nutrition.

All surveyors attended five days of training – including at least one full day in the field – to become proficient in administering the survey questionnaires and measuring child anthropometry. The essential parameters for determining nutrition status of children are age, height and weight. To take the measurements, the survey teams were given an anthropometric measurement kit that included a weighing scale, a length board and a local event calendar to assist in ascertaining birthdates when children's birthdates were not available. Weighing scales were tested before being assigned to the survey teams and every scale was calibrated each week thereafter to ensure continued accuracy.

A City Team Leader was assigned to each surveyed city and was responsible for every aspect of data collection. This included managing the following tasks: obtaining the maps of Census Enumeration Blocks from the local Census office; ensuring that team members were adequately trained; conducting daily field visits to ensure high quality in data collection and anthropometry processes; supporting surveyors in gaining entry into neighbourhoods that were unfriendly; providing regular and timely payment to surveyors; carrying out regular calibration of weighing scales; checking in regularly on the quality of data entry; and despatching completed questionnaires to the head office.

Reporting to each City Team Leader were two supervisors. Each supervisor had a team of eight surveyors reporting to him/her. For the entire survey, there were 10 City Team Leaders, 20 supervisors and 160 surveyors.

A team of two surveyors collected data; in each household one administered the questionnaire while the other built a rapport with the child and collected anthropometric measurements. A pair of surveyors aimed to collect data from at least 15 households per day. The supervisors were in the field every day, supporting the survey pairs by either 'spot-checking' or 'back-checking' (visiting households surveyed to ensure that the answers were consistent with those filled in by the surveyors).

In each household, surveyors collected general household information, data on all children below age 5, and measurements of height and weight. Recording the correct date of birth is essential in a child nutrition survey to determine the adequacy of children's weight and height for age. In most cases during the URBAN HUNGaMA Survey 2014, families of respondent children were able to furnish official documents certifying the child's date of birth. In some cases there was no documentary support, but a family member was able to recall confidently the date of birth. Surveyors attempted to verify this using a calendar of local events of the last five years. There were also a few cases where the family was neither able to provide documents nor recall the exact date of birth. In such cases the local event calendar was used – using a process whereby first the year of birth was ascertained, then the month of the year (in relation to the season/weather), and then the date (in relation either to a major festival or to the phase of the moon).

Data collected in URBAN HUNGaMA Survey 2014

Nutrition

Weight, height and age of child 0-59 months

General Household

Parent's years of schooling, religion, type of home, access to services

As a quality control check, the City Team Leaders visited over 70% of survey units (households) along with the survey teams. They spent time observing the surveyors, providing feedback and later 'back-checking' survey results.

Table 2 summarizes the measures and degrees of malnutrition.

Table 2. **Classification of malnutrition for stunting, underweight, wasting and overweight based on Z scores**

Measuring Malnutrition

Underweight
(Weight-for-Age or WfA)

A child with low WfA is called underweight (too light for her age), which is seen as a composite of acute and chronic malnutrition.

Stunting
(Height-for-Age or HfA)

A child with low HfA is called stunted (too short for her age), an indication that she is chronically malnourished (malnourished over a long period of time)

Wasting
(Weight-for-Height or WfH)

A child with low WfH is called wasted (too thin for her height), an indication that she is acutely malnourished (malnourished presently)

Degree Of Malnutrition

Undernutrition

Severe Malnutrition
Z score less than (<) –3SD

Moderate Malnutrition
Z score between –3SD and –2SD

Acute Malnutrition
Z score less than (<) –2SD

Overnutrition

Overweight
Z score between +2SD and +3SD

Obese
Z score more than (>) +3SD

Source: World Health Organization, 2006.

Pic: Nevin John

Findings

Description of Children's Environment

The survey was conducted in the 10 largest cities of India from April to July 2014. In total, 11,955 households were surveyed, 12,286 mothers were interviewed and 14,616 children aged 0-59 months were measured. The number of children measured in each city ranged from 1,338 in Kolkata to 1,575 in Hyderabad. City-wise sample details are given in Table 3.

Table 3. **Sample size of URBAN HUNGaMA Survey 2014, by city**

CITY	HOUSEHOLDS	MOTHERS	GIRLS	BOYS	CHILDREN
Mumbai	1,168	1,203	662	736	1,398
Delhi	1,194	1,205	671	772	1,443
Bengaluru	1,197	1,233	697	756	1,453
Hyderabad	1,200	1,211	765	810	1,575
Ahmedabad	1,186	1,238	641	789	1,430
Chennai	1,216	1,226	684	766	1,450
Kolkata	1,203	1,219	628	710	1,338
Surat	1,198	1,250	656	843	1,499
Pune	1,197	1,234	708	776	1,484
Jaipur	1,196	1,267	720	826	1,546
Total	**11,955**	**12,286**	**6,832**	**7,784**	**14,616**

Source: URBAN HUNGaMA Survey 2014, India.

Households

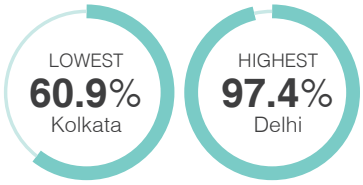
The average household size was **5.4** (No. of members)

Average **5.4**

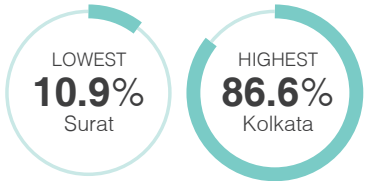
Chennai **4.6**

Jaipur **6.2**

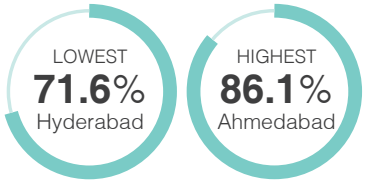
Average percentage of households in which LPG (Liquified Petroleum Gas) was used **86.6%**



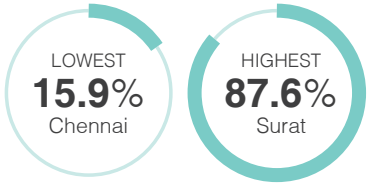
Average percentage of households that accessed a PDS (Public Distribution System) outlet in last one month **37.4%**



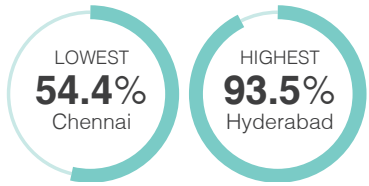
The religion of head of household was Hindu for **79.2%**



Average households with piped water into the dwelling were **53.9%**



Average households with atleast 1 member having an Aadhar Card **81.8%**



Average percentage of households in which at least one woman member had a savings account **44.7%**

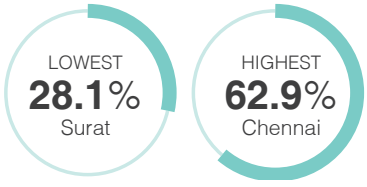


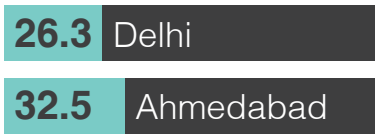
Table 4. Household characteristics, by city

Household characteristics	Mumbai	Delhi	Bengaluru	Hyderabad	Ahmedabad	Chennai	Kolkata	Surat	Pune	Jaipur
Average size of household - number of members	5.6	5.6	4.9	4.9	5.9	4.6	5.5	5.8	5.4	6.2
Percentage										
Households headed by a Hindu	73.6	75.8	80.3	71.6	86.1	76.2	79.2	84.6	78.6	85.9
Households using LPG as main fuel for cooking	87.2	97.4	90.2	88.3	86.3	93.2	60.9	78.4	95.5	88.4
Households having piped water into the dwelling	54.9	52.5	56.1	27.6	74.0	15.9	23.2	87.6	72.3	74.6
Households that have accessed a PDS outlet in last one month	41.7	22.5	24.8	49.5	20.2	77.9	86.6	10.9	27.5	12.5
Households with at least one woman member having a savings account (bank/post office)	49.4	38.9	46.2	28.8	47.3	63.0	38.3	28.1	56.9	50.2
Households with at least one member having an Aadhar Card	92.7	89.9	87.4	93.5	74.4	54.4	79.9	67.8	90.6	87.5

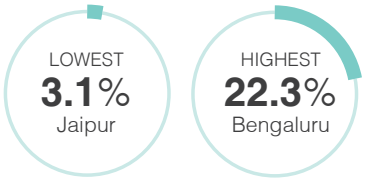
Source: URBAN HUNGaMA Survey 2014, India.

Parents

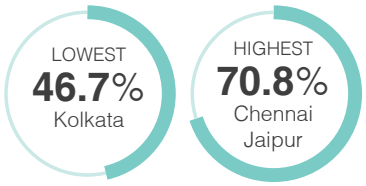
Average age of mothers of children 0-59 months old 28.9 years



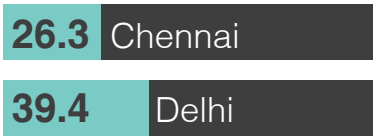
Average percentage of mothers who had never been to school 11.9%



Average age of mothers with 10 or more years of schooling 59.0%



Average age of fathers of children 0-59 months old 33.6 years



Average percentage of fathers who had never been to school 8.8%

Average percentage of fathers with 10 or more years of schooling 65.1%

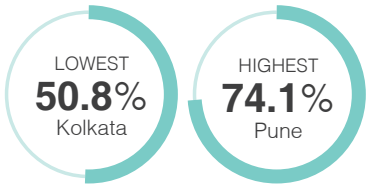


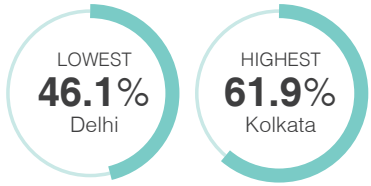
Table 5. Parent characteristics by city

Parent characteristics	Mumbai	Delhi	Bengaluru	Hyderabad	Ahmedabad	Chennai	Kolkata	Surat	Pune	Jaipur
Average age of mothers at time of survey (years)	28.7	26.3	28.1	30.4	32.5	28.3	29.2	28.8	29.4	27.7
Percentage of mothers with 10 or more years of schooling	47.8	68.4	50.8	54.3	58.9	70.8	46.7	53.5	67.5	70.8
Percentage of mothers who have never been to school	17.7	15.5	22.3	9.9	7.9	9.1	11.1	17.1	5.1	3.1
Average age of fathers (years)	30.7	39.4	35.6	33.1	34.9	26.3	33.5	34.2	35.3	32.5
Percentage of fathers with 10 or more years of schooling	58.7	69.1	60.1	62.9	68.9	71.3	50.8	64.7	74.1	70.4
Percentage of fathers who have never been to school	8.9	14.7	15.9	5.2	4.1	9.3	9.4	9.7	3.6	7.6

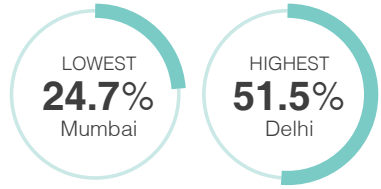
Source: URBAN HUNGaMA Survey 2014, India.

Children

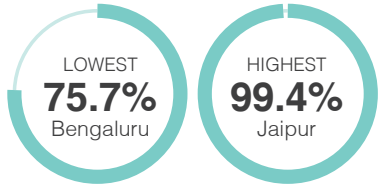
Percentage of first-born among children surveyed **53.4%**



Average percentage of mothers who had a Cesarean section(C-section) **37.1%**



Average percentage of children born in a hospital **94.4%**



Overall percentage of children weighed at birth **88.6%**

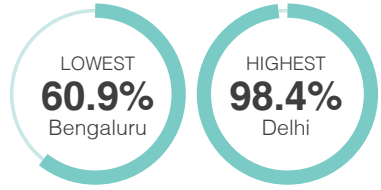
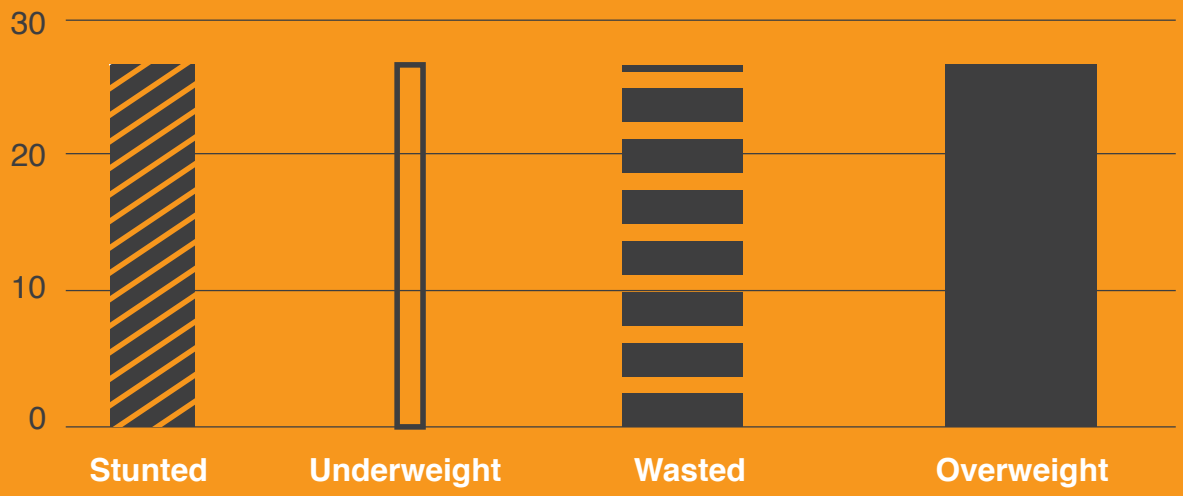


Table 6. Characteristics of surveyed children, by city (%)

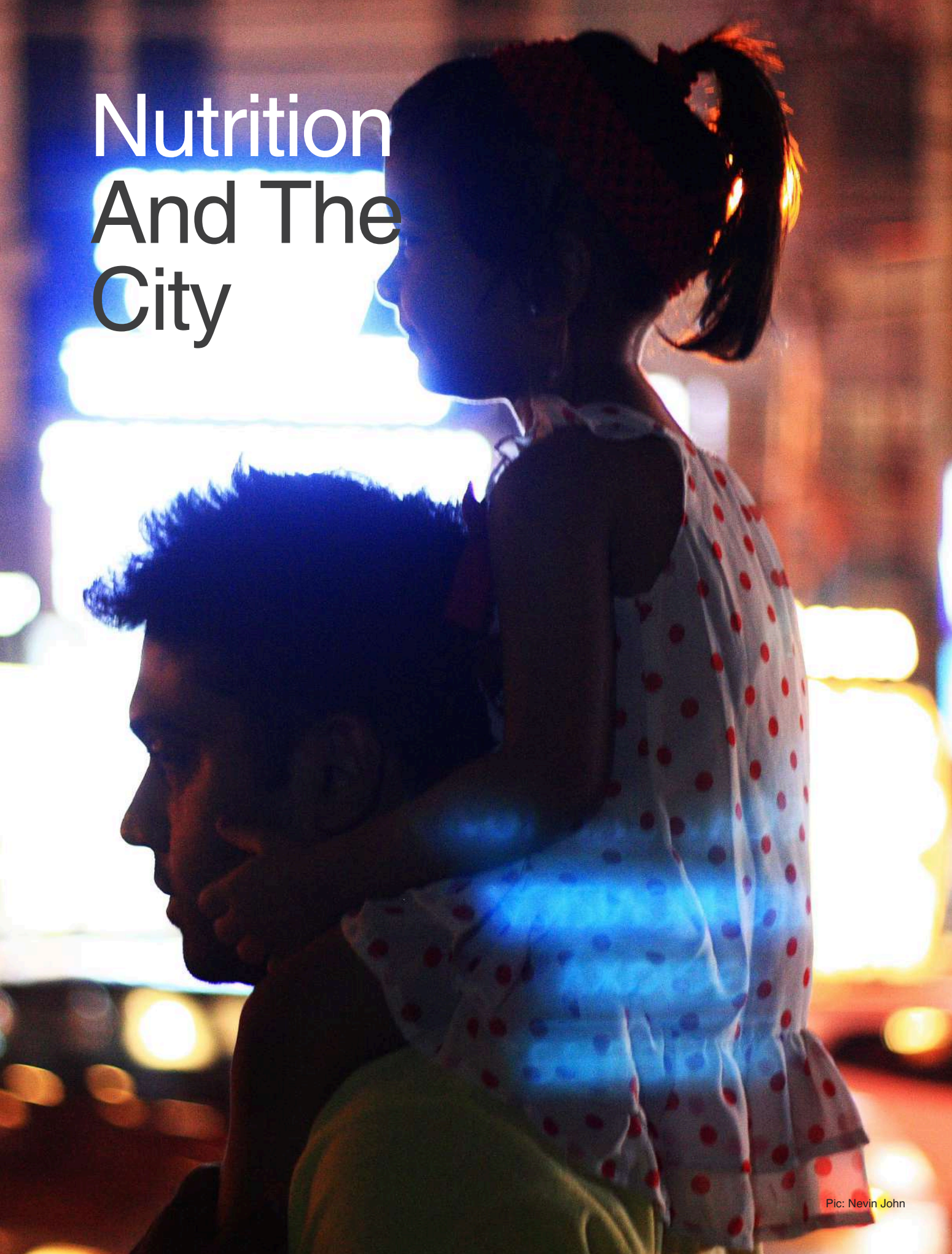
Child characteristics	Mumbai	Delhi	Bengaluru	Hyderabad	Ahmedabad	Chennai	Kolkata	Surat	Pune	Jaipur
Child was mother's first-born	52.6	46.1	51.8	54.4	51.9	55.9	61.9	47.4	55.1	56.7
Child was born in hospital	91.5	98.3	75.7	98.3	96.8	97.0	94.8	94.0	97.8	99.4
Child was delivered by C section	24.7	51.5	26.0	35.4	28.4	41.7	48.0	34.5	35.2	45.1
Child was weighed at birth	90.5	98.4	60.9	92.2	93.2	92.9	89.0	77.0	93.5	97.9

Source: URBAN HUNGaMA Survey 2014, India.

What the bars represent in the following pages:



Nutrition And The City



Pic: Nevin John

Nutrition And The City

In the 10 surveyed cities, 22.3% of children under age 5 were stunted, 21.4% were underweight and 13.9% were wasted. About 2.4% of children were overweight. The sex-disaggregated findings for nutrition status show a very small difference between boys and girls: boys were found to be slightly more malnourished than girls in every measure of malnutrition - 22.7% of boys were stunted, while 21.8% of girls were stunted. The prevalence of underweight was 21.9% in boys and 20.7% in girls. In the case of overweight, the proportion of boys (2.5%) was slightly higher than that of girls (2.3%). Only in the case of wasting was there a difference of more than 1.5 percentage points: of all boys measured, 15.2% were wasted and of all the girls surveyed, 12.4% were wasted.

The findings show a significantly higher prevalence of malnutrition among children whose mothers had little or no schooling. For example, the prevalence of stunting among children whose mothers had five or less years of schooling was 35.3%, compared to 16.7% among children whose mothers completed at least class 10. A similar pattern was observed in the prevalence of underweight and wasting. The prevalence of underweight among children whose mothers had five or less years of schooling was 33.1%, compared to 16.1% among children whose mothers completed at least class 10.The prevalence of overweight was 3.2% among children whose mothers had five or less years of schooling, compared to 2.5% among children whose mothers completed 10 or more years of schooling.

The combined 10-city sample shows that the prevalence of child malnutrition among children from households in the higher wealth quintiles was significantly lower than among children from households in lower wealth quintiles. For example, the prevalence of stunting among children from households in the lowest wealth quintile was 29.3%, while the prevalence of stunting among children from households in the highest wealth quintile was 15.0%.

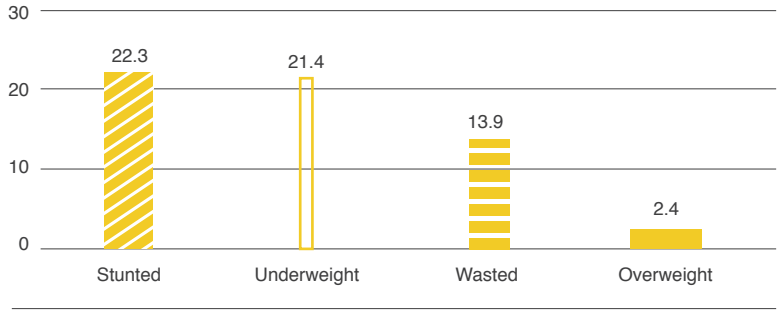
In the case of overweight/obesity however, the prevalence of child overweight was higher among children from households in the highest wealth quintile than among children from households in the lowest wealth quintile (3.9% vs. 1.8%).

The findings by age group on the status of malnutrition show an increase in stunting and underweight prevalence among children aged 6-36 months. In the case of wasting, the prevalence remains around 15% on average throughout the first five years. Overweight also remains almost consistent at around 4% throughout this period.

Prevalence of malnutrition in children aged 0-59 months

In the 10 surveyed cities, 22.3% of children under age 5 were stunted, 21.4% were underweight and 13.9% were wasted. About 2.4% of children were overweight (Figure 1).

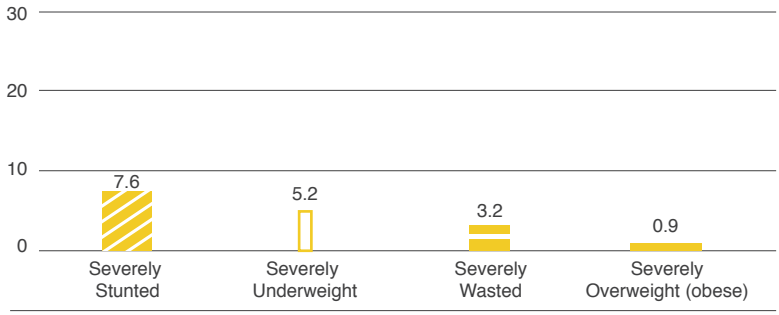
Figure 1: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months



Source: URBAN HUNGaMA Survey 2014, India.

In the 10 surveyed cities, 7.6% of children under age 5 were severely stunted, 5.2% were severely underweight and 3.2% were severely wasted. Less than 1% of children were found to be severely overweight (Figure 2).

Figure 2: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months

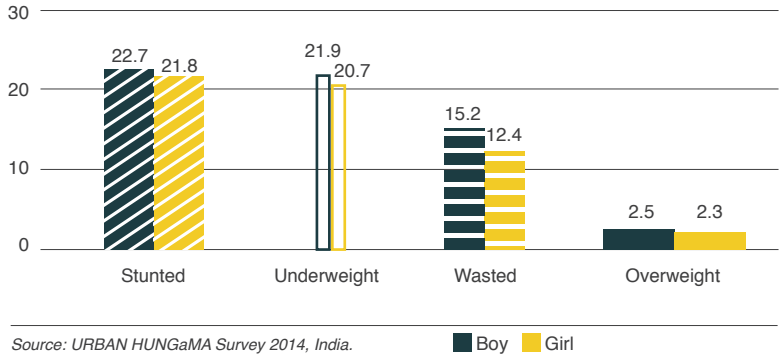


Source: URBAN HUNGaMA Survey 2014, India.

Prevalence of child malnutrition by sex

Figures 3 and 4 show the prevalence of stunting, underweight, wasting and overweight by sex of the child in the 10-city sample as a whole. The URBAN HUNGaMA Survey 2014 showed a small difference between boys and girls for all indicators of malnutrition. Boys were found to be slightly more malnourished than girls in every measure of malnutrition. Only in the case of wasting was there a difference of more than 1.5 percentage points - 15.2% of all boys measured were wasted, compared to 12.4% of all the girls. Overall, 22.7% of boys were stunted, while 21.8% of girls were stunted. The prevalence of underweight was 21.9% in boys and 20.7% in girls. Some 2.5% of boys and 2.3% of girls were overweight. This is seen in Figure 3.

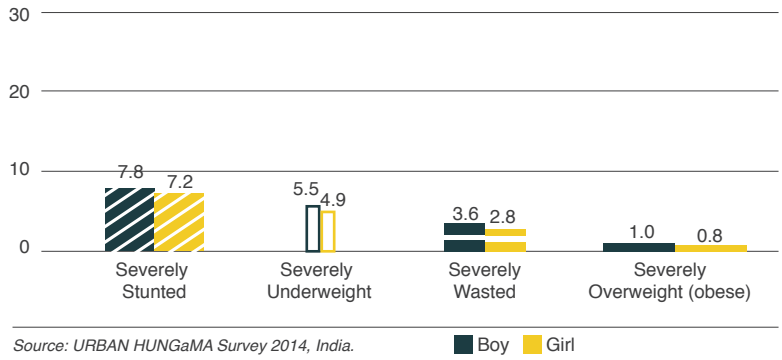
Figure 3: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months, by sex



Source: URBAN HUNGaMA Survey 2014, India.

In terms of severe malnutrition, girls fared marginally better than boys. Overall 7.8% of boys and 7.2% of girls were severely stunted. Of all boys measured, 5.5% boys and 4.9% of girls were severely underweight. Prevalence of severe wasting was 3.6% in boys and 2.8% in girls. As seen in Figure 4, prevalence of severe overweight was 1.0% in boys and 0.8% in girls.

Figure 4: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months, by sex



Source: URBAN HUNGaMA Survey 2014, India.

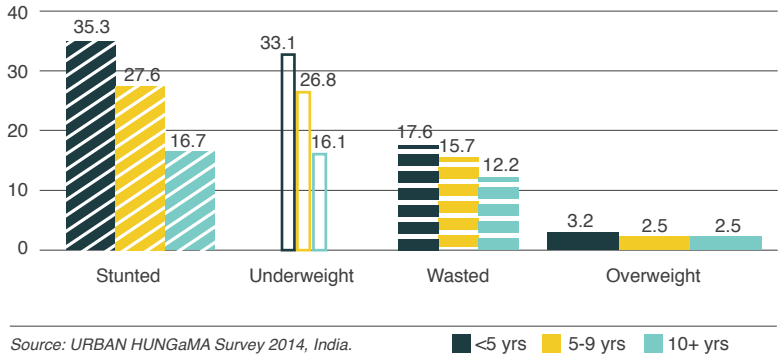
Prevalence of child malnutrition by mother's years of schooling

Figures 5 and 6 show the prevalence of stunting, underweight, wasting and overweight by mother's years of schooling in the 10-city sample as a whole. The URBAN HUNGaMA Survey 2014 showed that the prevalence of malnutrition was significantly lower among children whose mothers had more years of schooling. For example, the prevalence of stunting among children whose mothers completed at least class 10 was 16.7%, compared to 35.3% among children whose mothers had five or less years of schooling.

A similar pattern was observed in case of underweight and wasting. The prevalence of underweight among children whose mothers completed at least class 10 was 16.1%, compared to 33.1% for children whose mothers had five or less years of schooling. Prevalence of wasting also differed according to the mother's years of schooling. The prevalence of wasting was 12.2% for children whose mothers completed at least class 10 and was 17.6% for children whose mothers had five or less years of schooling.

Overall, 3.2% of children whose mothers had less than five years of schooling were overweight.

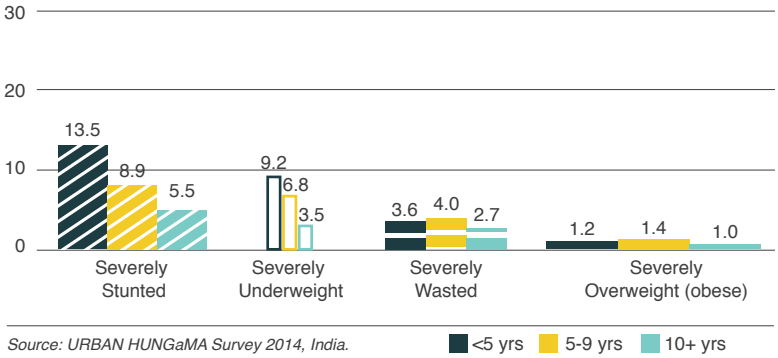
Figure 5: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months, by mother's years of schooling



Source: URBAN HUNGaMA Survey 2014, India.

The URBAN HUNGaMA Survey 2014 shows that prevalence of severe malnutrition among children whose mothers had more years of schooling was lower than among those whose mothers had little or no schooling. The prevalence of severe child stunting among children whose mothers completed at least class 10 was 5.5%, while 13.5% of children whose mothers had five or less years of schooling were stunted. The prevalence of severe child underweight was 3.5% among children whose mothers completed at least class 10, while it was 9.2% among children whose mothers had five or less years of schooling. Similarly the prevalence of severe wasting was 2.7% for children whose mothers completed at least class 10, and 3.6% for children whose mothers had five or less years of schooling. The prevalence of severe overweight was found to be greatest (1.4%) in children whose mothers had 5-9 years of schooling.

Figure 6: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months, by mother's years of schooling



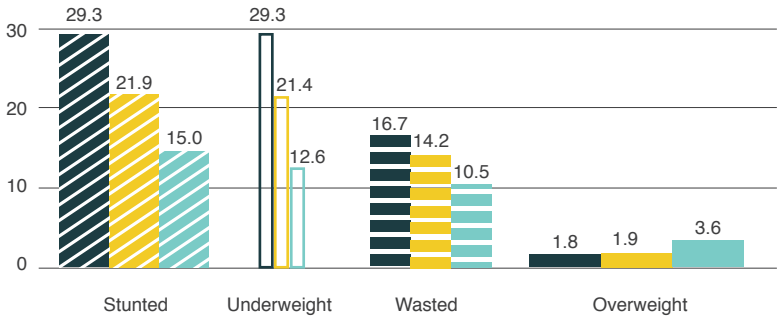
Source: URBAN HUNGaMA Survey 2014, India.

Prevalence of child malnutrition by household wealth quintile

Figures 7 and 8 show the prevalence of stunting, underweight, wasting and overweight by wealth quintile of the child's household in the 10-city sample as a whole. The URBAN HUNGaMA Survey 2014 shows that prevalence of child malnutrition among children from households in the higher wealth quintile was significantly lower than among children from households of lower wealth quintiles. For example, the prevalence of stunting among children from households in the highest wealth quintile was 15.0%, while it was 29.3% for children from households in the lowest wealth quintile.

A similar pattern was observed in underweight and wasting. The prevalence of underweight among children from households in the highest wealth quintile was 12.6%, while the prevalence of underweight among children from households in the lowest wealth quintile was 29.3%. Similarly, the prevalence of wasting was 10.5% for children from households in the highest wealth quintile, while it was 16.7% for children from households in the lowest wealth quintile.

Figure 7: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months, by household wealth quintile



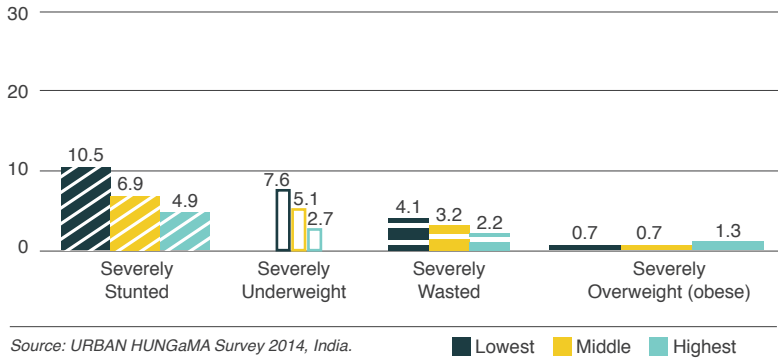
Source: URBAN HUNGaMA Survey 2014, India.

In terms of overweight however, the prevalence was higher (3.6%) among children from households in the highest wealth quintile than among children from households in the lowest wealth quintile (1.8%).

The prevalence of severe stunting among children from households in the highest wealth quintile was 4.9%, compared to 10.5% among children from households in the lowest wealth quintile. A similar pattern was observed in the prevalence of severe underweight and wasting. The prevalence of severe underweight among children from households in the highest wealth quintile was 2.7%, compared to 7.6% among children from households in the lowest wealth quintile. The prevalence of wasting was 2.2% among children from households in the highest wealth quintile, compared to 4.1% for children from households in the lowest wealth quintile.

Some 0.7% of children from households in the lowest wealth quintile were severely overweight, compared to 1.3% of children from households in the highest wealth quintile.

Figure 8: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months, by household wealth quintile

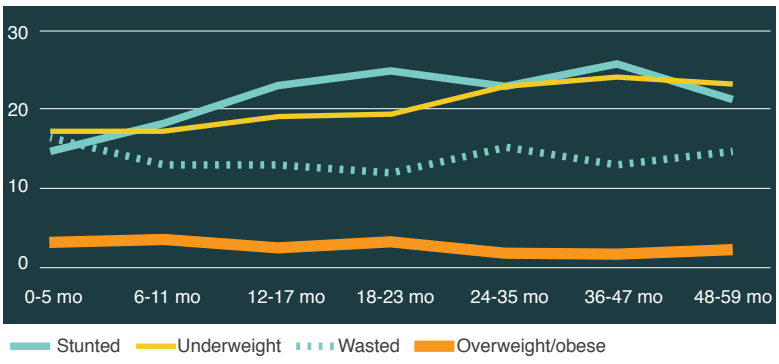


Source: URBAN HUNGaMA Survey 2014, India.

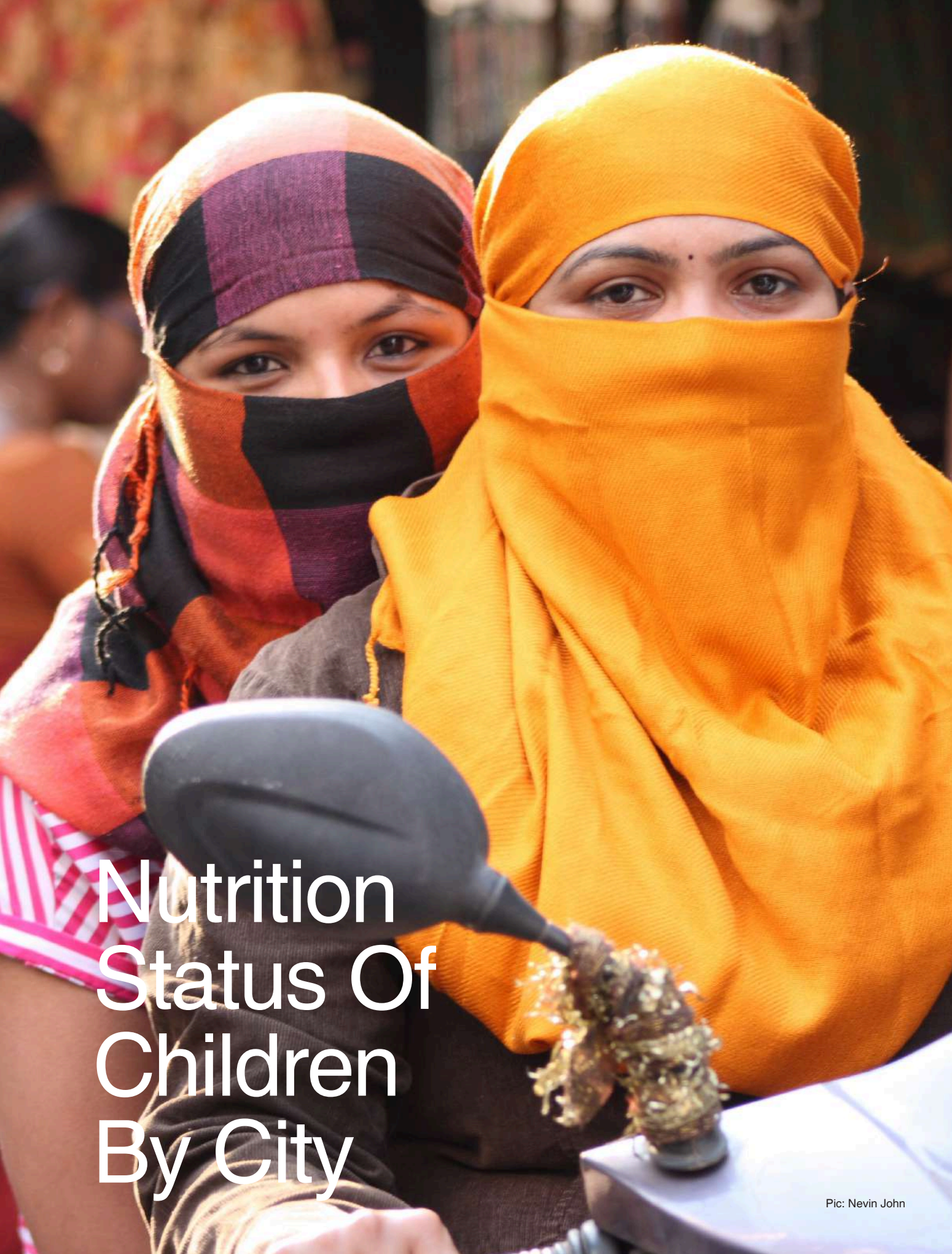
Prevalence of child malnutrition by age group

The findings on the status of malnutrition by age group (Figure 9) showed that close to 14.7% of children aged, 0-5 months, were stunted and nearly 22.9% of those aged 12-17 months were stunted. The prevalence was highest among children aged 36-47 months (25.7%), and was lower among older children aged 48-59 months (21.3%). The curve for underweight showed a more gradual increase, from 17.3% among children aged 0-5 months to 23.3% among children aged 48-59 months. The prevalence of wasting remained fairly steady between 13.0% and 16.0% throughout the first five years of life. Overweight remained almost consistent between 1.7% and 3.6% throughout this period.

Figure 9: Prevalence (%) of stunting, underweight, wasting and overweight, by children's age group



Source: URBAN HUNGaMA Survey 2014, India.



Nutrition Status Of Children By City

Pic: Nevin John

Nutrition Status of Children by City

The data in this section refers to findings by city for children aged 0-59 months.

The prevalence of stunting ranged from 10.0% in Chennai to 19.4% in Ahmedabad, and severe stunting ranged from 4.8% in Chennai to 11.7% in Delhi. The prevalence of underweight ranged from 10.8% in Chennai to 19.3% in Surat, and severe underweight ranged from 2.7% in Chennai to 6.7% in Delhi. The prevalence of wasting ranged from 8.0% in Jaipur to 15.1% in Mumbai, and severe wasting ranged from 2.4% in Ahmedabad to 4.0% in Pune.

The prevalence of overweight ranged from 0.7% in Hyderabad to 3.7% in Chennai and severe overweight or obese ranged from 0.5% in Jaipur and Mumbai to 1.8% in Chennai.

Across the 10 cities surveyed, a small difference was found between boys and girls for all three indicators of malnutrition. More boys were found to be stunted than girls in five cities with the difference ranging from 0.2 percentage points in Delhi to 3.7 percentage points in Hyderabad. More girls than boys were stunted in five cities, with the difference ranging from 0.2 percentage points in Bengaluru to 1.3 percentage points in Mumbai and Surat. More boys than girls were found to be underweight in seven cities with the difference between the two ranging from 0.3 percentage points in Chennai to 3.4 percentage points in Bengaluru. More girls than boys were stunted in three cities, with the difference ranging from 0.8 percentage points in Jaipur to 2.5 percentage points in Mumbai and Surat. However, the prevalence of wasting was greater among boys in all 10 cities surveyed, with the difference ranging from 0.5 percentage points in Jaipur to 5.3 percentage points in Ahmedabad.

More boys than girls were found to be overweight in eight cities with the difference ranging from 0.2 percentage points in Bengaluru to 1.31 percentage points in Kolkata. More girls than boys were overweight in two cities Delhi and Pune – with differences of 1.3 percentage points in Delhi and 0.9 percentage points in Pune.

The URBAN HUNGaMA Survey 2014 showed that malnutrition was significantly more prevalent among children whose mothers had little or no schooling. For example, the prevalence of stunting among children whose mothers had five or less years of schooling ranged from 21.4% in Chennai to 51.0% in Ahmedabad. The prevalence of underweight among children whose mothers had five or less years of schooling ranged from 25.5% in Bengaluru to 42.7% in Ahmedabad. By contrast, stunting among children whose mothers completed at least class 10 ranged from 11.2% in Jaipur to 23.6% in Hyderabad. The prevalence of wasting among children whose mothers had five or less years of schooling ranged from 12.8% in Jaipur to 25.3% in Mumbai. By contrast, wasting among children whose mothers completed at least class 10 ranged from 8.8% in Jaipur to 16.3% in Mumbai.

The prevalence of overweight among children whose mothers had five or less years of schooling ranged from 0.4% in Hyderabad and Kolkata to 11.9% in Chennai. By contrast, overweight among children whose mothers completed at least class 10 ranges from 1.4% in Mumbai to 5.9% in Chennai.

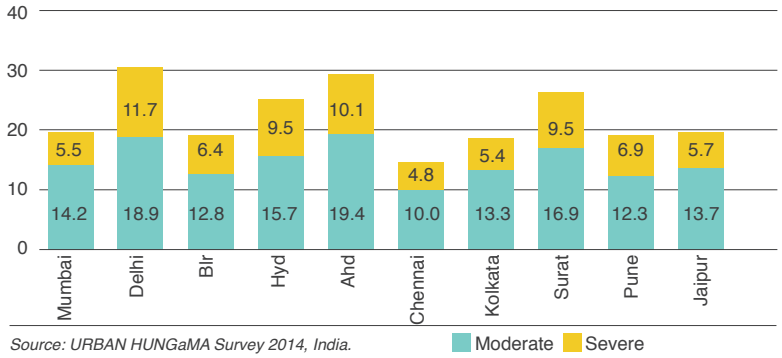
The URBAN HUNGaMA Survey 2014 showed that the prevalence of malnutrition among children from households in higher wealth quintiles was significantly lower, than among children from households in lower wealth quintiles. For example, the prevalence of stunting among children from households in the lowest wealth quintile ranged from 20.8% in Chennai to 47.4% in Ahmedabad. By contrast, the prevalence of stunting among children from households in the highest wealth quintile ranged from 6.3% in Kolkata to 24.4% in Delhi.

The prevalence of overweight among children from households in the lowest wealth quintile ranged from 0.8% in Hyderabad to 6.5% in Chennai. By contrast, prevalence of overweight among children from households in the highest wealth quintile ranged from 2.0% in Jaipur to 7.2% in Delhi.

Prevalence of malnutrition in children in 10 cities

The proportion of stunted children ranged from 10.0% in Chennai to 19.4% in Ahmedabad, while severe stunting ranged from 4.8% in Chennai to 11.7% in Delhi (Figure 10).

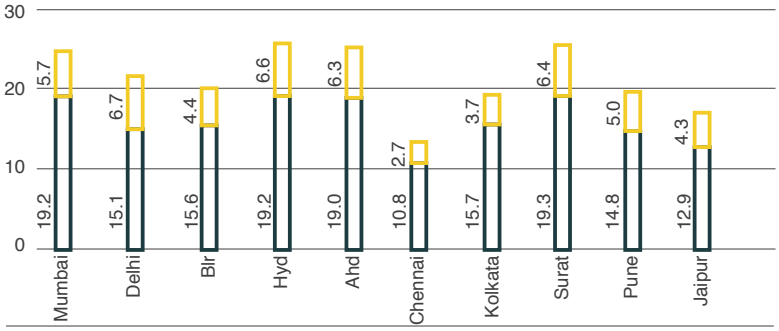
Figure 10: Prevalence (%) of moderate stunting and severe stunting in children aged 0-59 months, by city



Source: URBAN HUNGaMA Survey 2014, India.

The proportion of underweight children ranged from 10.8% in Chennai to 19.3% in Surat, and severe underweight ranged from 2.7% in Chennai to 6.7% in Delhi (Figure 11).

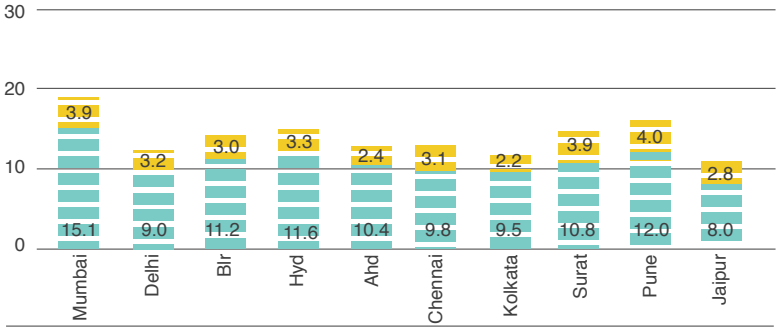
Figure 11: Prevalence (%) of moderate underweight and severe underweight in children aged 0-59 months, by city



Source: URBAN HUNGaMA Survey 2014, India.

The proportion of wasted children ranged from 8.0% in Jaipur to 15.1% in Mumbai, while severe wasting ranged from 2.4% in Ahmedabad to 4.0% in Pune (Figure 12).

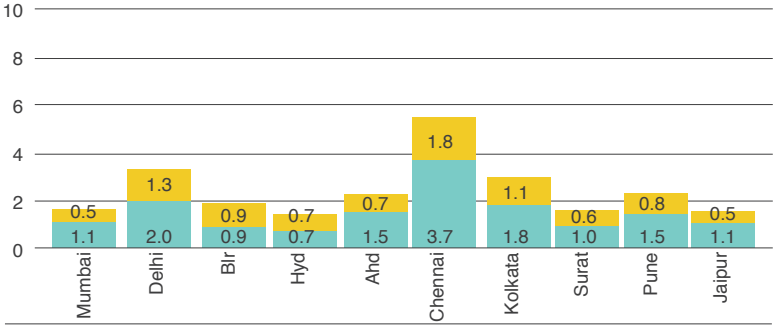
Figure 12: Prevalence (%) of moderate wasting and severe wasting in children aged 0-59 months, by city



Source: URBAN HUNGaMA Survey 2014, India.

The proportion of overweight children ranged from 0.7% in Hyderabad to 3.7% in Chennai, and severe overweight or obese ranged from 0.5% in Jaipur and Mumbai to 1.8% in Chennai (Fig. 13).

Figure 13: Prevalence (%) of overweight in children aged 0-59 months, by city

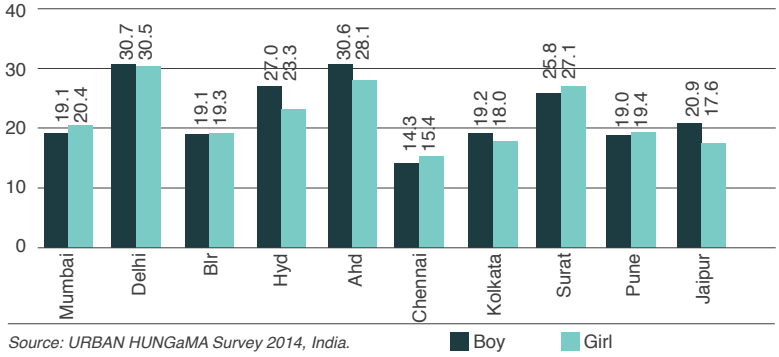


Source: URBAN HUNGaMA Survey 2014, India.

Prevalence of child malnutrition by sex of child in 10 cities

As seen in Figure 14, more boys than girls were found to be stunted in five cities. The difference between the two ranged from 0.2 percentage points in Delhi to 3.7 percentage points in Hyderabad. More girls than boys were stunted in five cities, and the difference between the two ranged from 0.2 percentage points in Bengaluru to 1.3 percentage points in Mumbai and Surat.

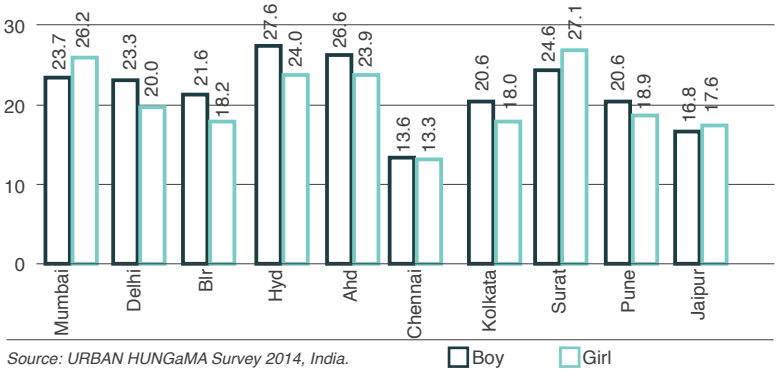
Figure 14: Prevalence (%) of stunting in children aged 0-59 months, by city, by sex



Source: URBAN HUNGaMA Survey 2014, India.

As seen in Figure 15, more boys than girls were found to be underweight in seven cities. The difference between the two ranged from 0.3 percentage points in Chennai to 3.4 percentage points in Bengaluru. More girls than boys were underweight in three cities, where the difference between the two ranged from 0.8 percentage points in Jaipur to 2.5 percentage points in Mumbai and Surat.

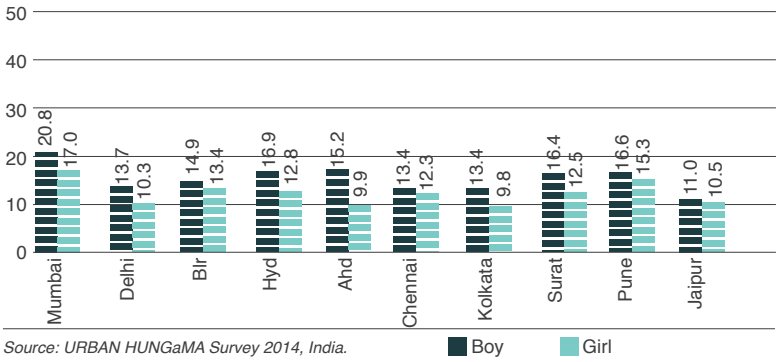
Figure 15: Prevalence (%) of underweight in children aged 0-59 months, by city, by sex



Source: URBAN HUNGaMA Survey 2014, India.

As seen in Figure 16, more boys than girls were found to be wasted in all 10 cities surveyed, and the difference between the two ranged from 0.5 percentage points in Jaipur to 5.3 percentage points in Ahmedabad.

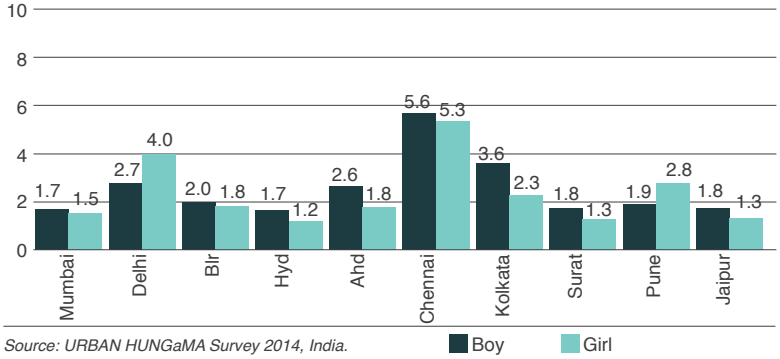
Figure 16: Prevalence (%) of wasting in children aged 0-59 months, by city, by sex



Source: URBAN HUNGaMA Survey 2014, India.

As seen in Figure 17, more boys than girls were found to be overweight in eight cities. The difference between the two ranged from 0.2 percentage points in Bengaluru to 1.3 percentage points in Kolkata. More girls than boys were found to be overweight in two cities, where the difference between the two ranged from 1.3 percentage points in Delhi and 0.9 percentage points Pune.

Figure 17: Prevalence (%) of overweight in children aged 0-59 months, by city, by sex

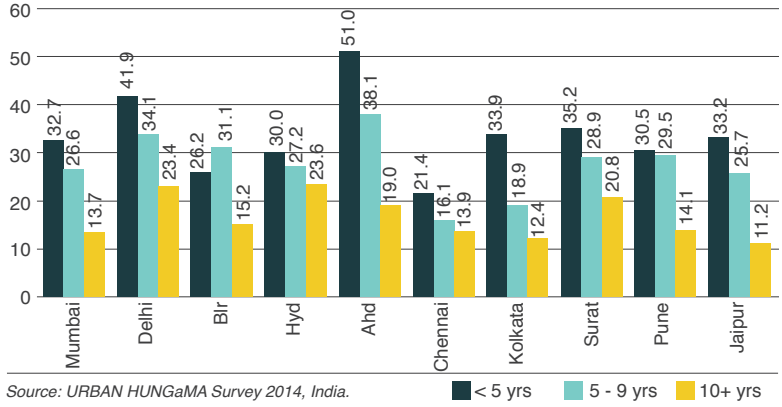


Source: URBAN HUNGaMA Survey 2014, India.

Prevalence of child malnutrition by mother's years of schooling

As seen in Figure 18 the prevalence of stunting among children whose mothers had five or less years of schooling ranged from 21.4% in Chennai to 51.0% in Ahmedabad. By contrast, the prevalence of stunting among children whose mothers completed at least class 10 ranged from 11.2% in Jaipur to 23.6% in Hyderabad.

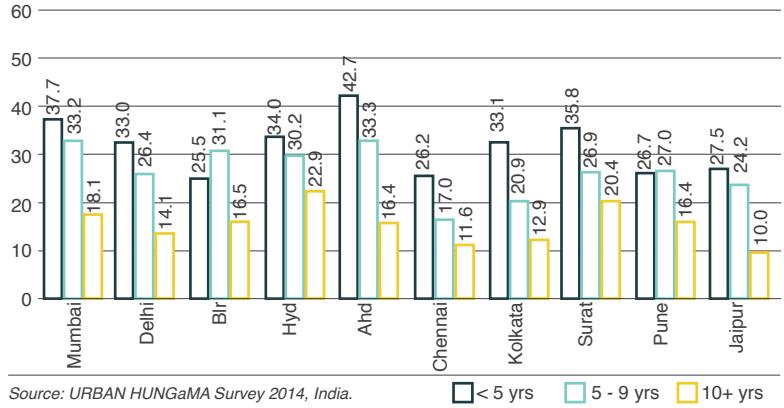
Figure 18: Prevalence (%) of stunting in children aged 0-59 months, by city, by mother's years of schooling



Source: URBAN HUNGaMA Survey 2014, India.

The prevalence of underweight among children whose mothers had five or less years of schooling ranged from 25.5% in Bengaluru to 42.7% in Ahmedabad. By contrast, the prevalence of underweight among children whose mothers completed at least class 10 ranged from 10.0% in Jaipur to 22.9% in Hyderabad (Figure 19).

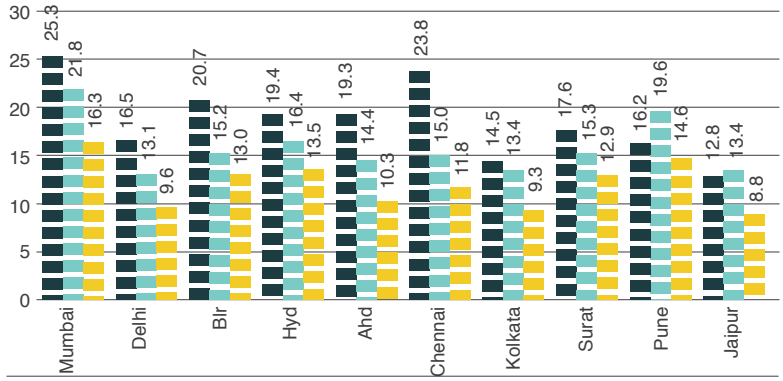
Figure 19: Prevalence (%) of underweight in children aged 0-59 months, by city, by mother's years of schooling



Source: URBAN HUNGaMA Survey 2014, India.

The prevalence of wasting among children whose mothers had five or less years of schooling ranged from 12.8% in Jaipur to 25.3% in Mumbai. By contrast, the prevalence of wasting among children whose mothers completed at least class 10 ranged from 8.8% in Jaipur to 16.3% in Mumbai (Figure 20).

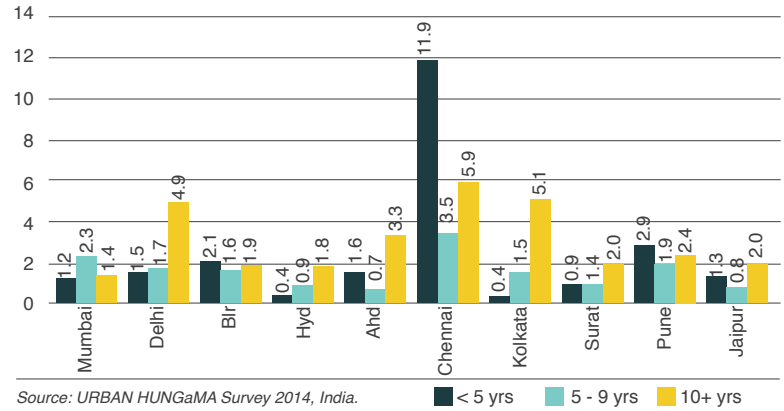
Figure 20: Prevalence (%) of wasting in children aged 0-59 months, by city, by mother's years of schooling



Source: URBAN HUNGaMA Survey 2014, India.

The prevalence of overweight among children whose mothers had five or less years of schooling ranged from 0.4% in Hyderabad and Kolkata to 11.9% in Chennai. By contrast, the prevalence of overweight among children whose mothers completed at least class 10 ranged from 1.4% in Mumbai to 5.9% in Chennai (Figure 21).

Figure 21: Prevalence (%) of overweight in children aged 0-59 months, by city, by mother's years of schooling

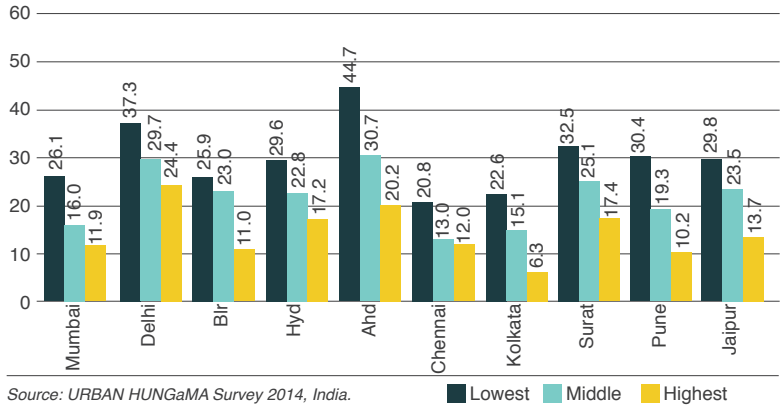


Source: URBAN HUNGaMA Survey 2014, India.

Prevalence of child malnutrition by household wealth quintile

As seen in Figure 22, the prevalence of stunting among children from households in the lowest wealth quintile ranged from 25.9% in Chennai to 44.7% in Ahmedabad. By contrast, the prevalence of stunting among children from households in the highest wealth quintile ranged from 6.3% in Kolkata to 24.4% in Delhi.

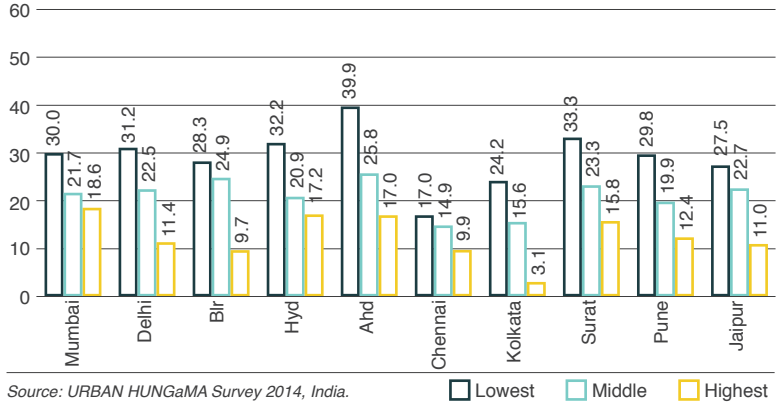
Figure 22: Prevalence (%) of stunting in children aged 0-59 months, by city, by household wealth quintile



Source: URBAN HUNGaMA Survey 2014, India.

The prevalence of underweight among children from households in the lowest wealth quintile ranged from 17.0% in Chennai to 39.9% in Ahmedabad. By contrast, the prevalence of underweight among children from households in the highest wealth quintile ranged from 3.1% in Kolkata to 18.6% in Mumbai (Figure 23).

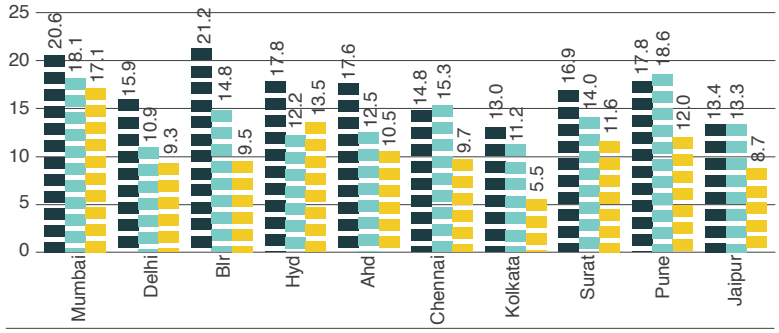
Figure 23: Prevalence (%) of underweight in children aged 0-59 months, by city, by household wealth quintile



Source: URBAN HUNGaMA Survey 2014, India.

The prevalence of wasting among children from households in the lowest wealth quintile ranged from 13.0% in Kolkata to 21.2% in Bengaluru. By contrast, the prevalence of wasting among children from households in the highest wealth quintile ranged from 5.5% in Kolkata to 17.1% in Mumbai (Figure 24).

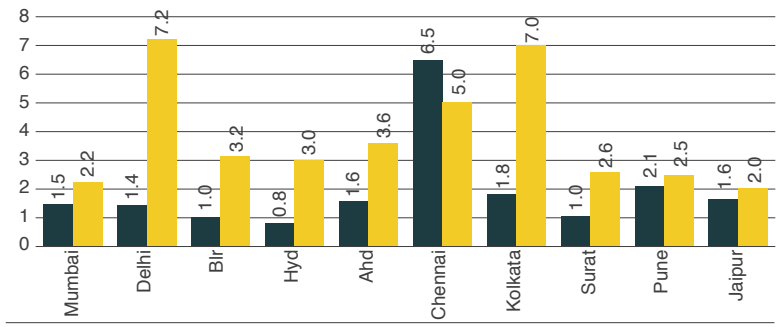
Figure 24: Prevalence (%) of wasting in children aged 0-59 months, by city, by household wealth quintile



Source: URBAN HUNGaMA Survey 2014, India.

The prevalence of overweight among children from households in the lowest wealth quintile ranged from 0.8% in Hyderabad to 6.5% in Chennai. By contrast, the prevalence of overweight among children from households in the highest wealth quintile ranged from 2.0% in Jaipur to 7.2% in Delhi (Figure 25).

Figure 25: Prevalence (%) of overweight in children aged 0-59 months, by city, by household wealth quintile

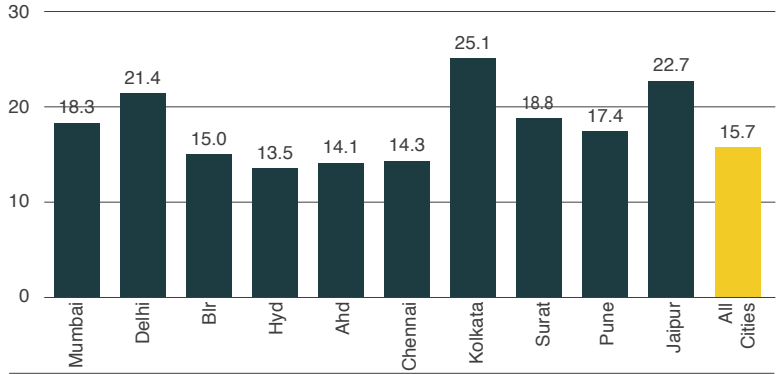


Source: URBAN HUNGaMA Survey 2014, India.

Prevalence of low birth weight in 10 cities

The proportion of children born with low birth weight (less than 2.5kg at birth) across all 10 cities was 15.7%, and ranged from 13.5% in Hyderabad to 25.1% in Kolkata (Figure 26).

Figure 26: Prevalence (%) of low birth weight babies, by city



Source: URBAN HUNGaMA Survey 2014, India.

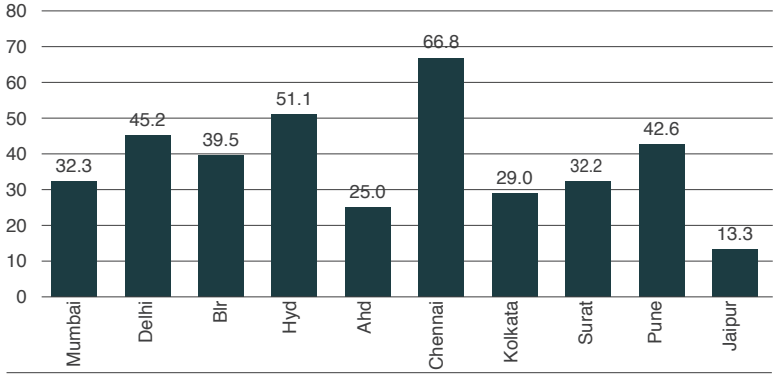
Child Feeding Practices

Pic: Nevin John

Child Feeding Practices

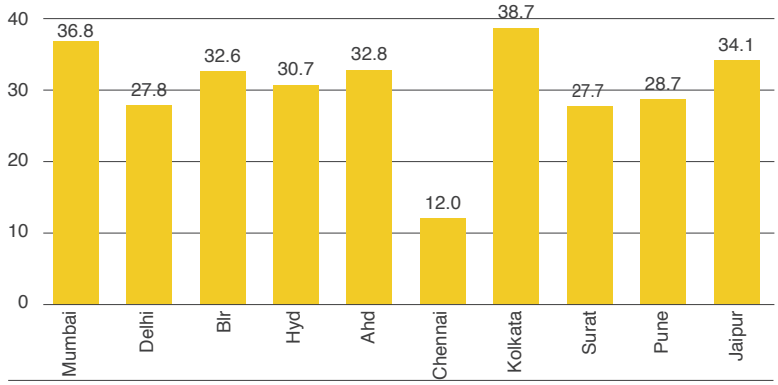
The URBAN HUNGaMA Survey 2014, carried out in 10 cities of India in 2014, tracked a range of infant and young child feeding (IYCF) practices. The percentage of children aged 0-23 months who were given breastmilk within one hour of birth was 37.7%, and ranged from 13.3% in Jaipur to 66.8% in Chennai (Figure 27). The percentage of children aged 0-5 months who were exclusively breastfed was less than 50% in all cities, and ranged from 12.0% in Chennai to 38.7% in Kolkata (Figure 28).

Figure 27: Percentage of children aged 0-23 months who were breastfed within one hour of birth, by city



Source: URBAN HUNGaMA Survey 2014, India.

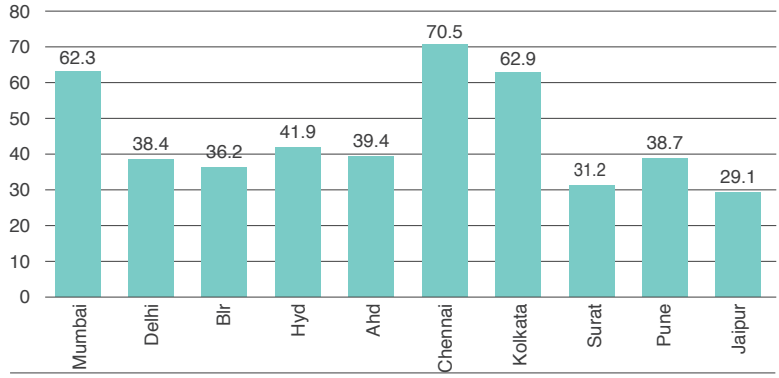
Figure 28: Percentage of children aged 0-5 months who were exclusively breastfed, by city



Source: URBAN HUNGaMA Survey 2014, India.

The percentage of children aged 6-8 months who were fed complementary food was 45.2% in the 10 cities, and ranged from 29.1% in Jaipur to 70.5% in Chennai(Figure 29).

Figure 29: Percentage of children aged 6-8 months who were fed complementary foods, by city



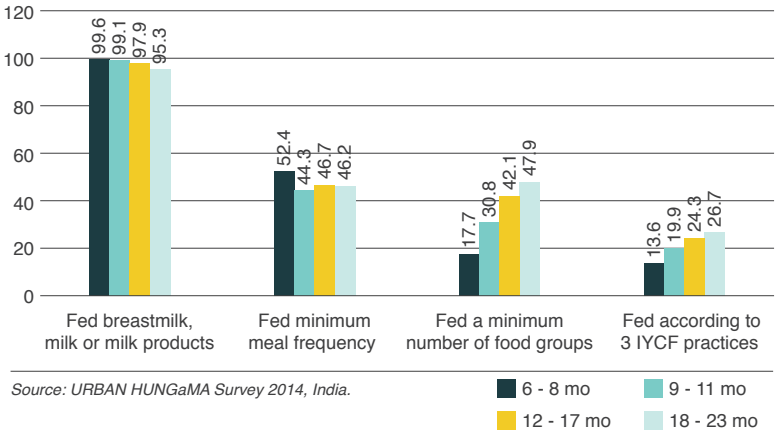
Source: URBAN HUNGaMA Survey 2014, India.

Figure 30 presents data on three selected IYCF practices for four age groups. Almost all children aged 6-23 months were fed breastmilk, milk or milk products, but only around half met the standard of minimum meal frequency. For infants 6-8 months minimum meal frequency is defined as twice a day for solid or semi-solid food, three or more times for breastmilk, and four or more times for non-breastmilk. Another important indicator is the minimum number of food groups, defined as three or more food groups for breastfed children and four or more food groups for non-breastfed children.

The percentage of children receiving the minimum number of food groups differed significantly across age groups – close to half for children aged 18-23 months, 17.7% for children aged 6-8 months and 30.8% for children aged 9-11 months. As seen in Figure 30, the percentage of children fed with all three selected IYCF practices is low across all age groups, ranging from 13.6% among children aged 6-8 months to 26.7% among children aged 18-23 months.

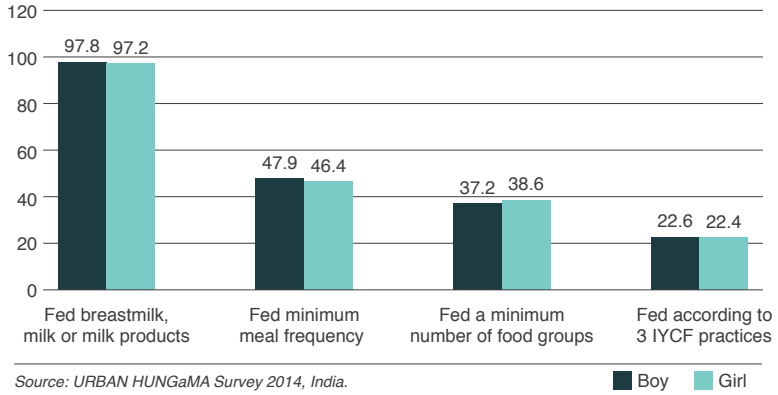
Figure 31 captures the same indicators for boys and girls separately, showing slight differences between the two. Figure 32 shows the same indicators by household wealth quintile. About half of the children across all wealth quintiles met the standard of minimum meal frequency. The percentage of children who received the minimum number of food groups ranged from 34.2 in the lowest wealth quintile to 42.4 in the highest wealth quintile. The percentage of children fed according to all three selected IYCF practices remained uniformly low, below 25%, across all wealth quintiles.

Figure 30: Percentage of children aged 6-23 months fed according to selected IYCF practices, by age group



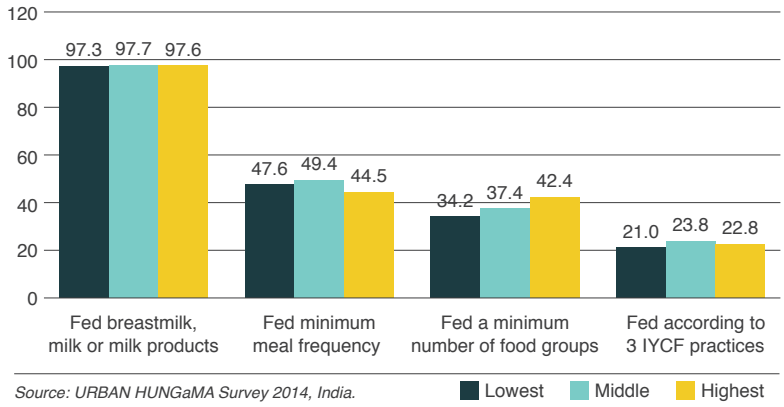
Source: URBAN HUNGaMA Survey 2014, India.

Figure 31: Percentage of children aged 6-23 months fed according to selected IYCF practices, by sex



Source: URBAN HUNGaMA Survey 2014, India.

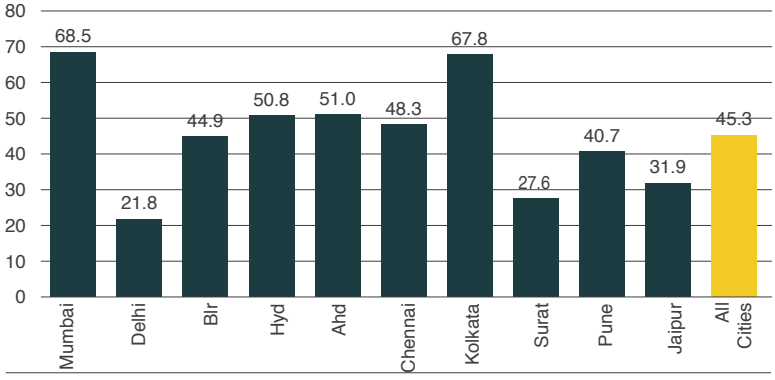
Figure 32: Percentage of children aged 6-23 months fed according to selected IYCF practices, by household wealth quintile



Source: URBAN HUNGaMA Survey 2014, India.

About half (45.3%) of all children aged 6-23 months received at least the minimum meal frequency across the 10 cities surveyed – ranging from 21.8% in Delhi to 68.5% in Mumbai (Figure 33).

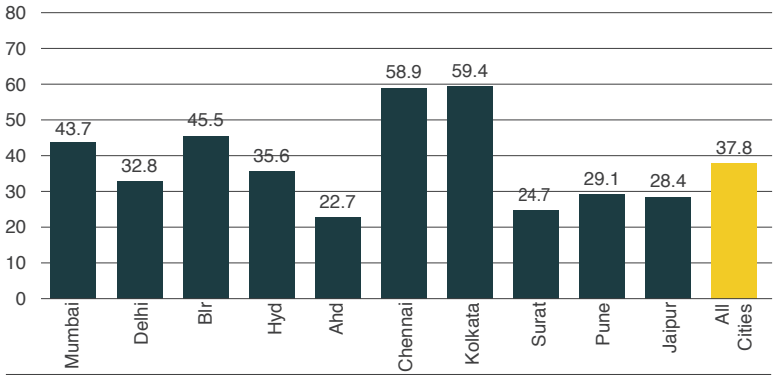
Figure 33: Percentage of children aged 6-23 months who received at least a minimum meal frequency, by city



Source: URBAN HUNGaMA Survey 2014, India.

About 37% of all children aged 6-23 months were fed a minimum number of food groups across the 10 cities surveyed – ranging from 22.7% in Ahmedabad to 59.4% in Kolkata (Figure 34).

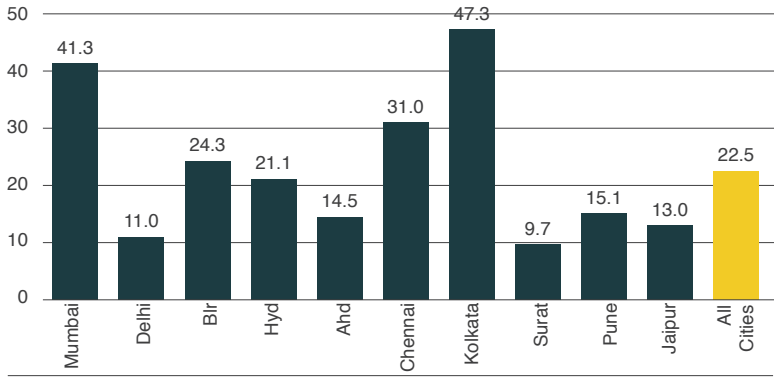
Figure 34: Percentage of children aged 6-23 months who received at least a minimum number of food groups, by city



Source: URBAN HUNGaMA Survey 2014, India.

Across the 10 cities surveyed about 22% of all children aged 6-23 months were fed according to all three of the selected IYCF practices – ranging from 9.7% in Surat to 47.3% in Kolkata (Fig 35).

Figure 35: Percentage of children aged 6-23 months fed according to selected IYCF practices, by city



Source: URBAN HUNGaMA Survey 2014, India.

City Fact Sheets

Pic: Nevin John

MUMbAI

Total Population
124,42,373

Total Child Population/0-6 yrs
12,03,770

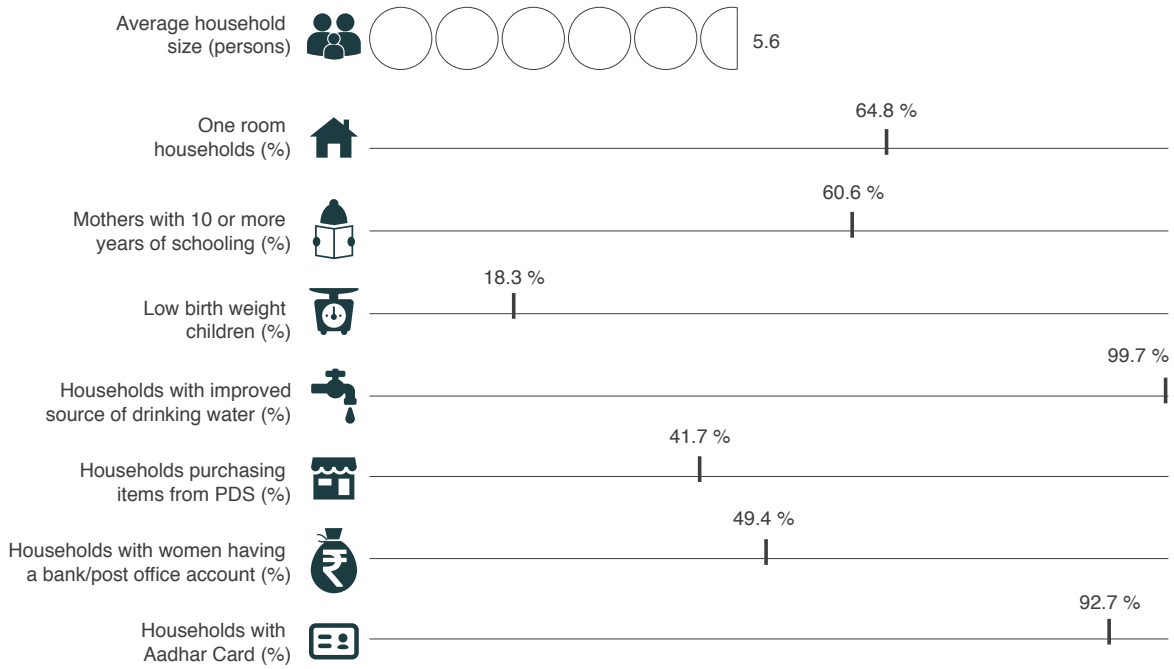
Total Male Population
67,15,931

Total Female Population
57,26,442

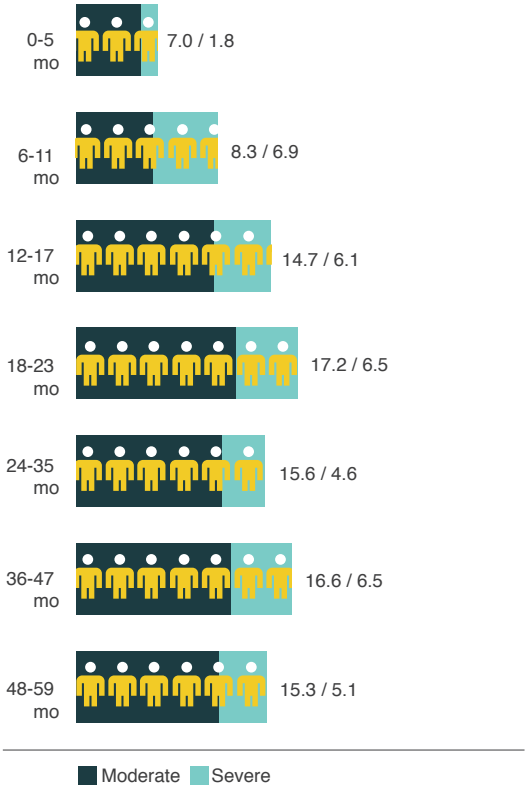
Pic: Nevin John

Mumbai

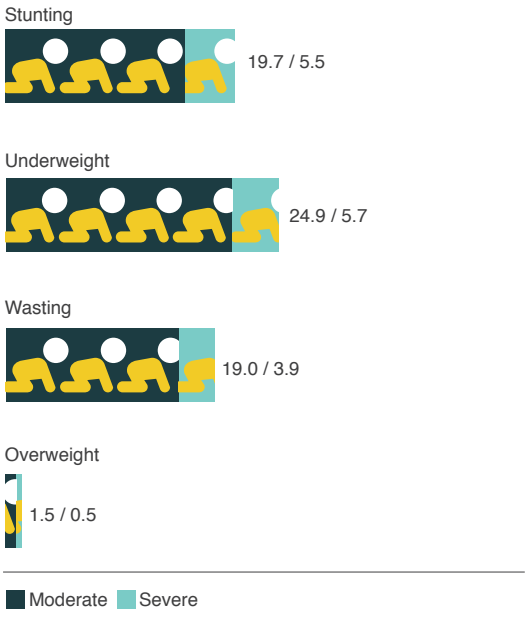
Child's Environment



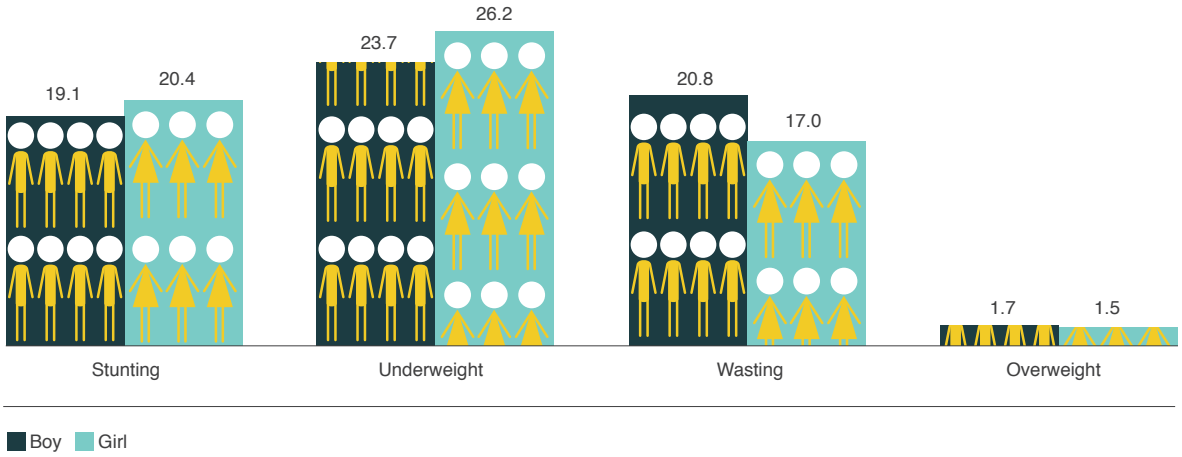
Prevalence (%) of stunting by age group



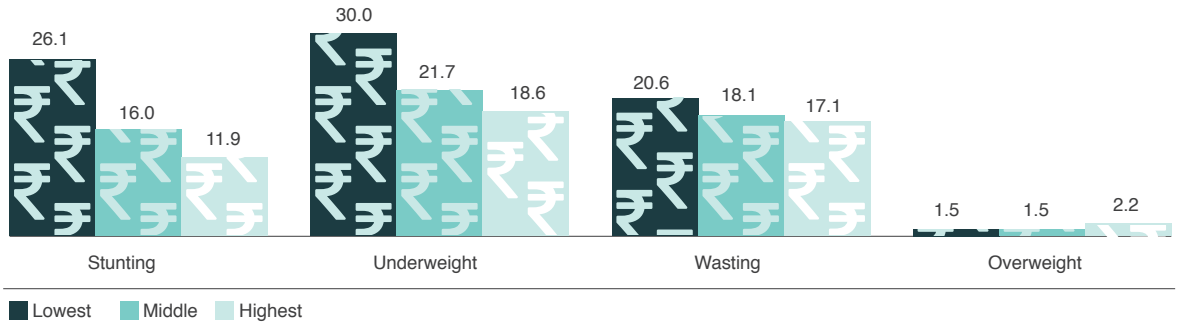
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



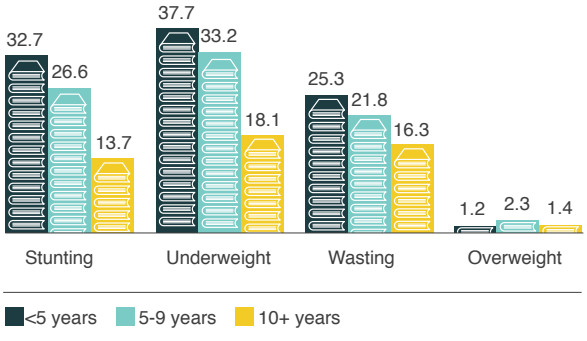
Prevalence (%) of malnutrition by sex



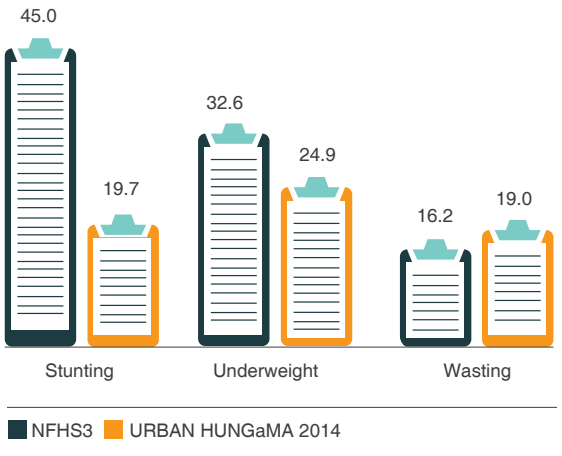
Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



Prevalence (%) of undernutrition in NFHS3 (2006) and URBAN HUNGaMA 2014



DeLHI

Total Population
163,68,899

Total Child Population/0-6 yrs
19,55,738

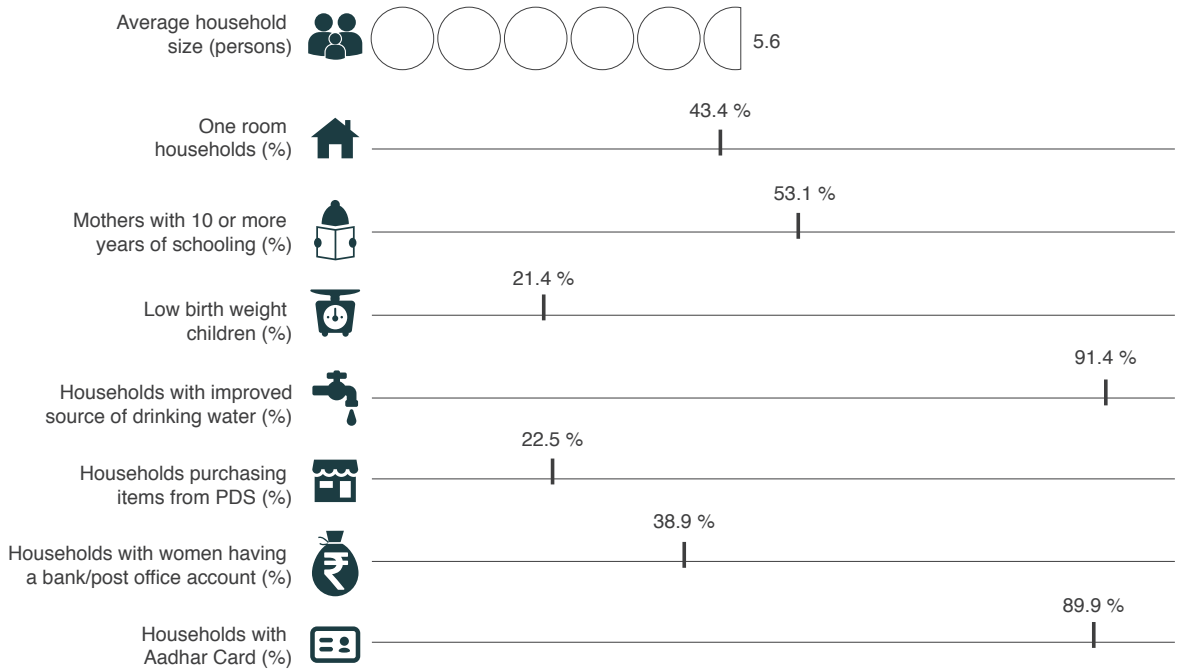
Total Male Population
87,61,005

Total Female Population
76,07,894

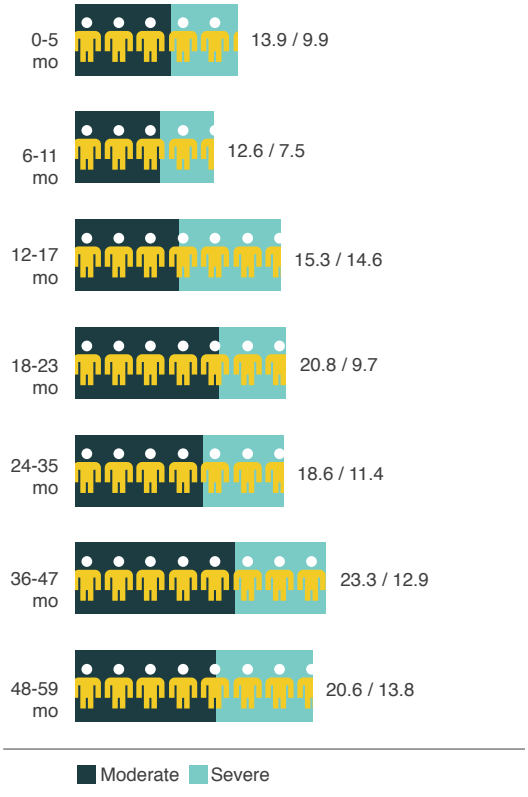
Pic: Nevin John

Delhi

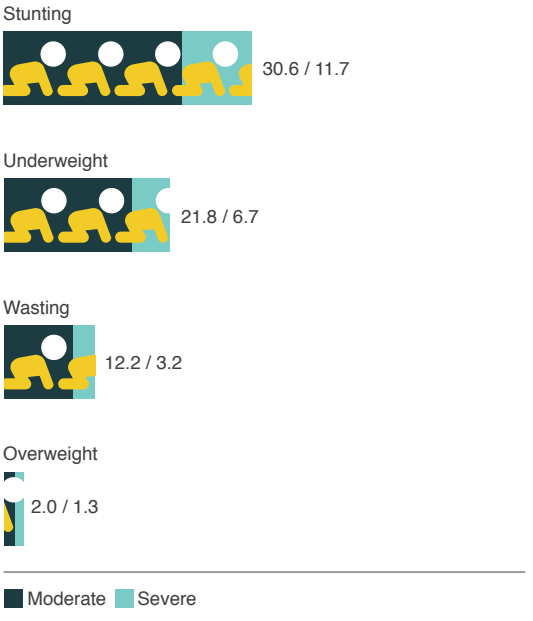
Child's Environment



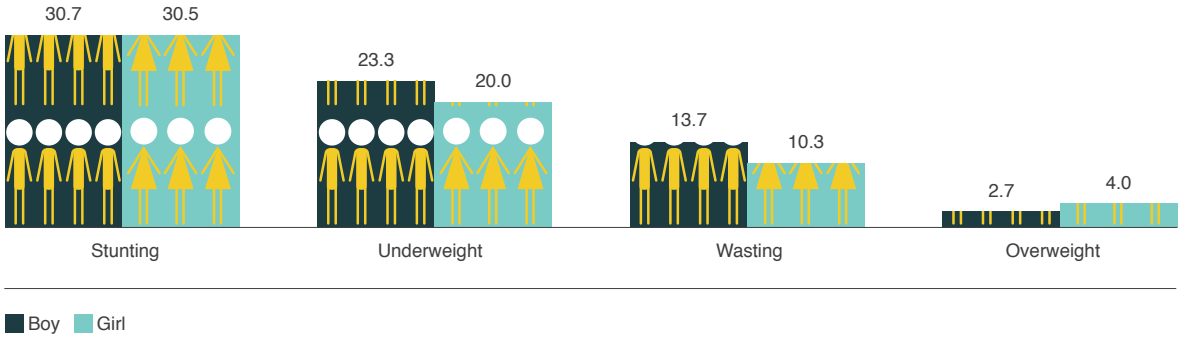
Prevalence (%) of stunting by age group



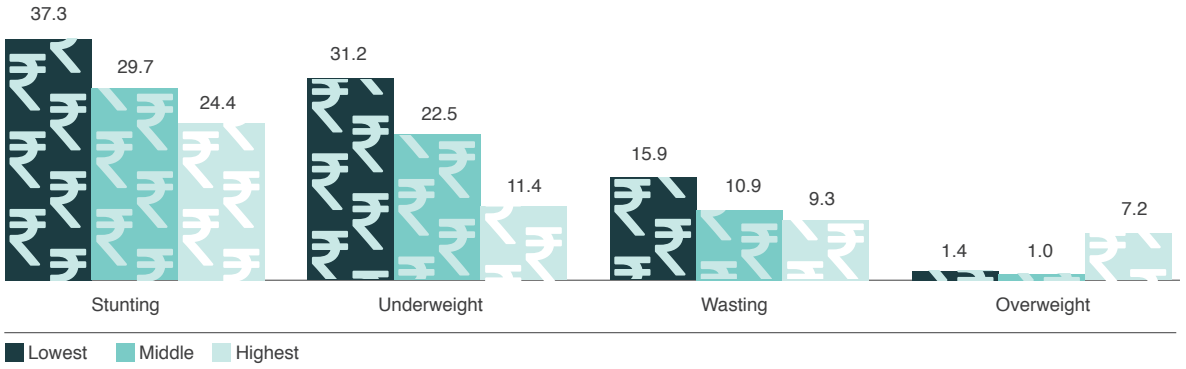
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



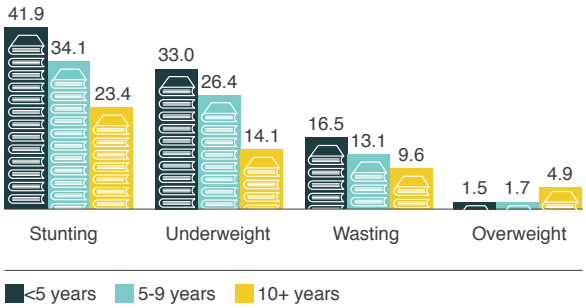
Prevalence (%) of malnutrition by sex



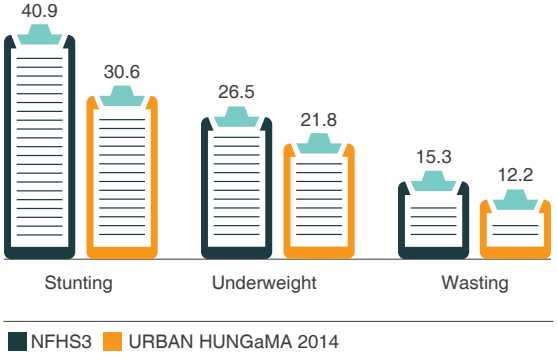
Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



Prevalence (%) of undernutrition in NFHS3 (2006) and URBAN HUNGaMA 2014



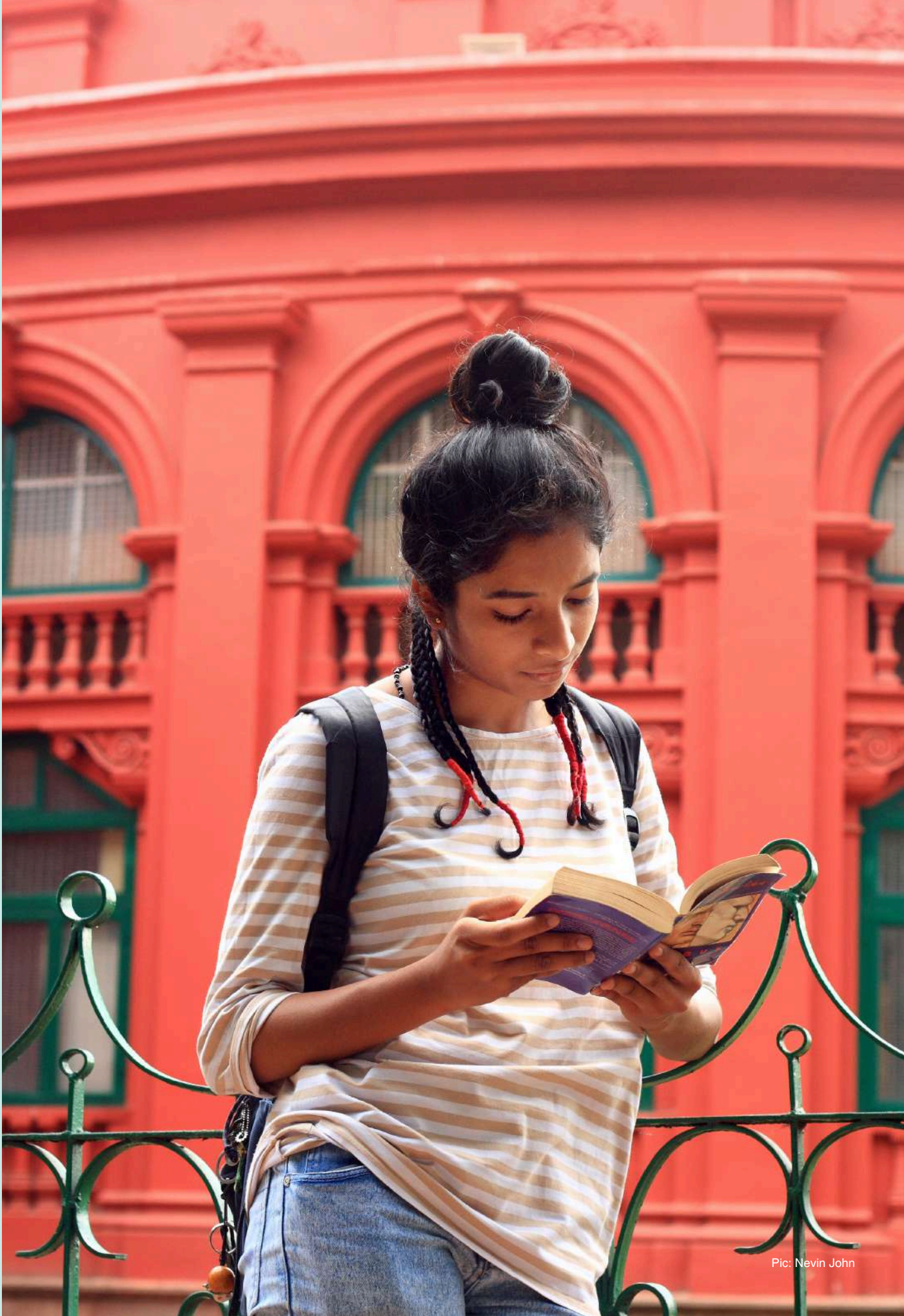
BENgALURU

Total Population
84,43,675

Total Child Population/0-6 yrs
9,16,441

Total Male Population
43,91,723

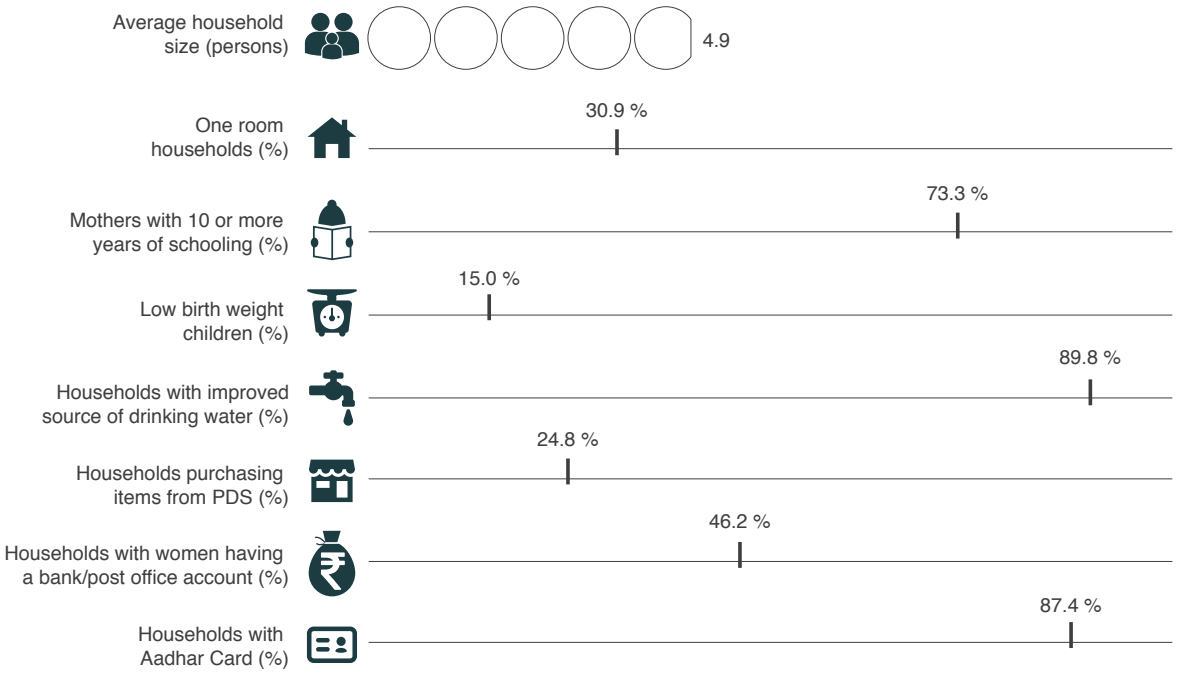
Total Female Population
40,51,952



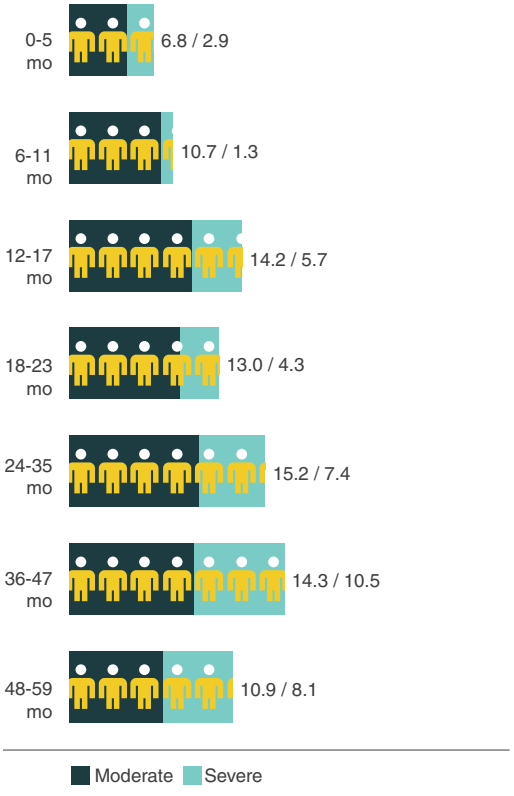
Pic: Nevin John

Bengaluru

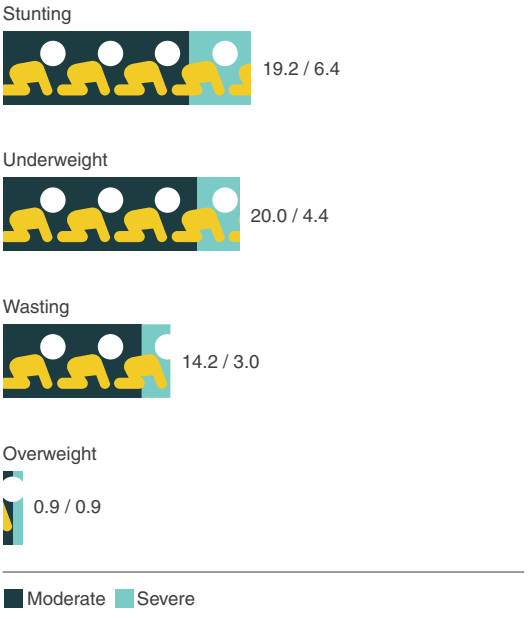
Child's Environment



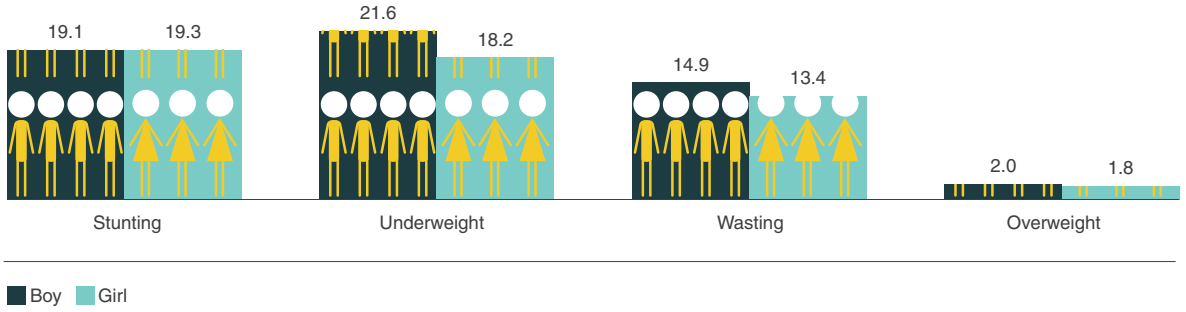
Prevalence (%) of stunting by age group



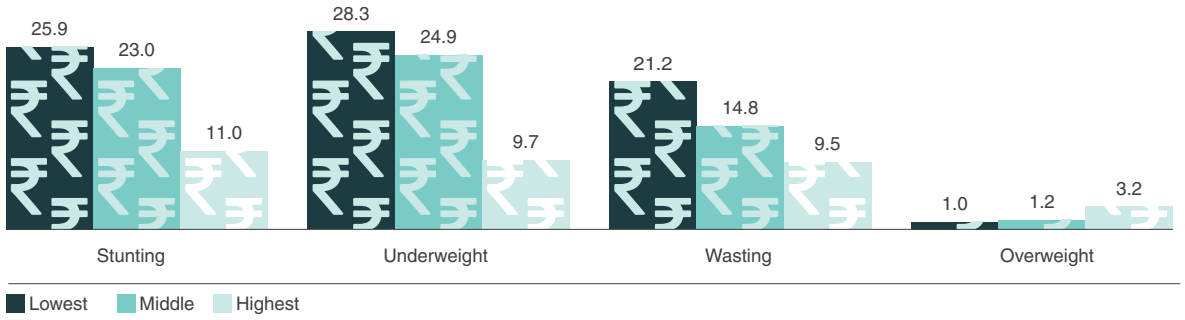
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



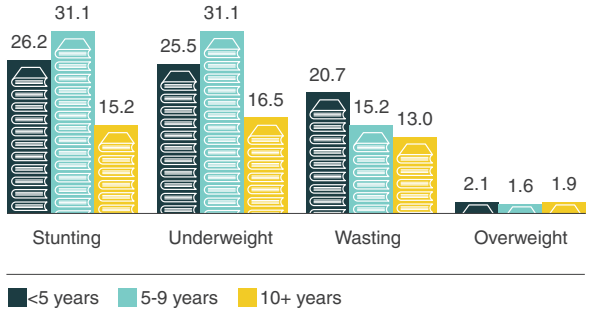
Prevalence (%) of malnutrition by sex



Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



HYDERAbAD

Total Population
69,93,262

Total Child Population/0-6 yrs
7,99,397

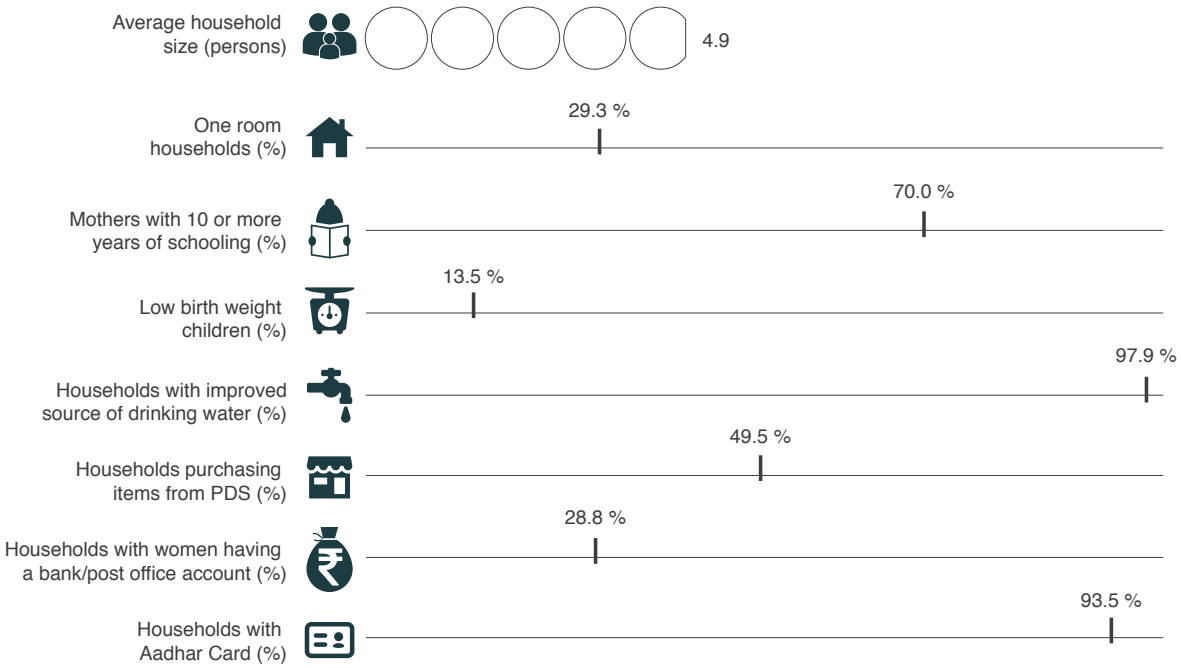
Total Male Population
35,76,640

Total Female Population
34,16,622

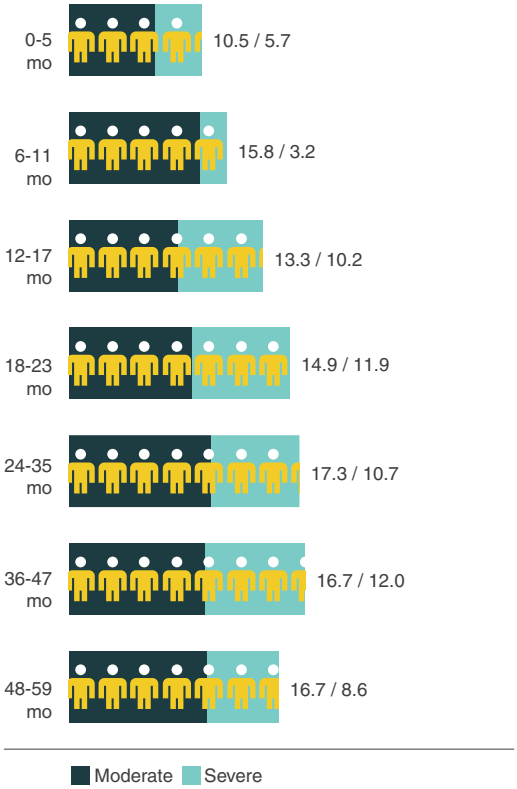
Pic: Nevin John

Hyderabad

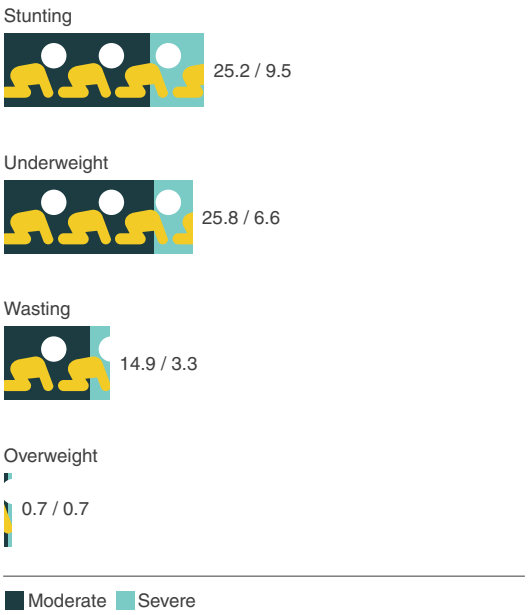
Child's Environment



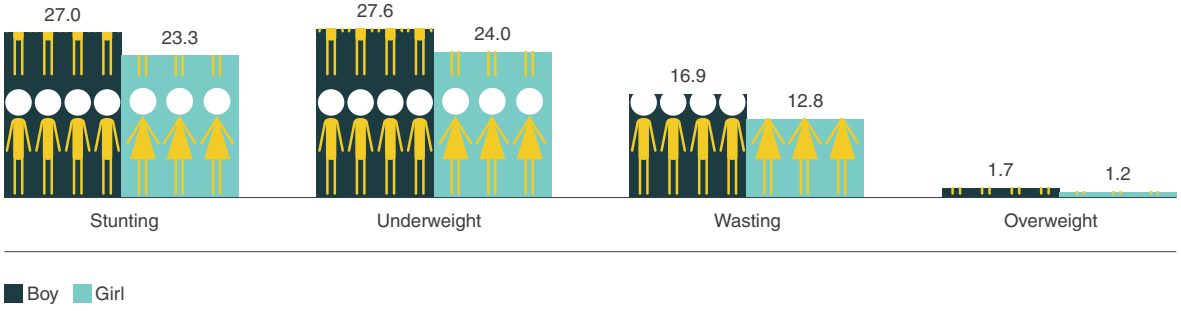
Prevalence (%) of stunting by age group



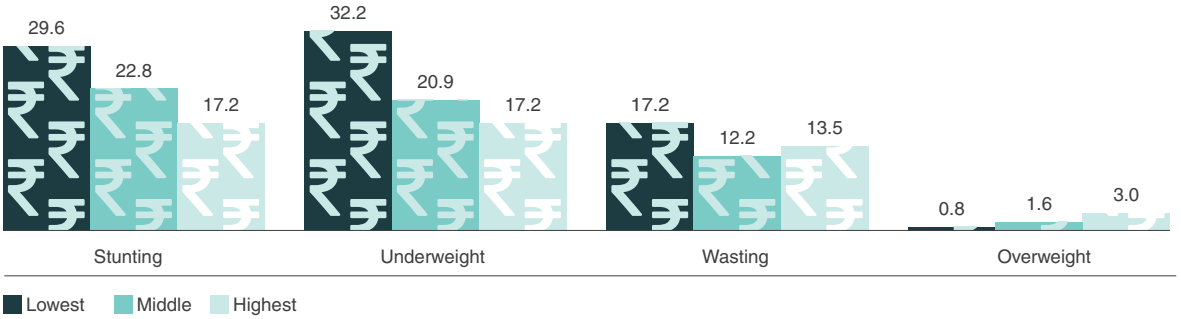
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



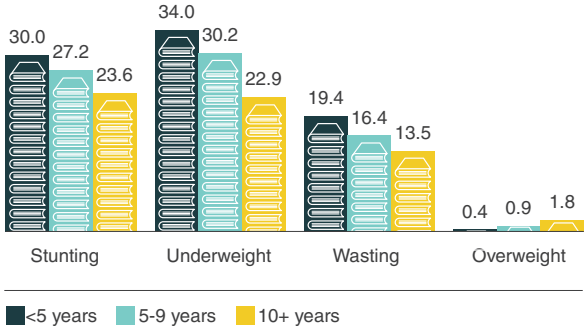
Prevalence (%) of malnutrition by sex



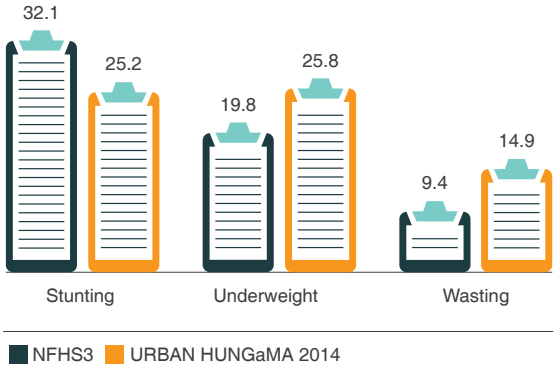
Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



Prevalence (%) of undernutrition in NFHS3 (2006) and URBAN HUNGaMA 2014



AHMEdABAD

Total Population
55,85,528

Total Child Population/0-6 yrs
6,21,829

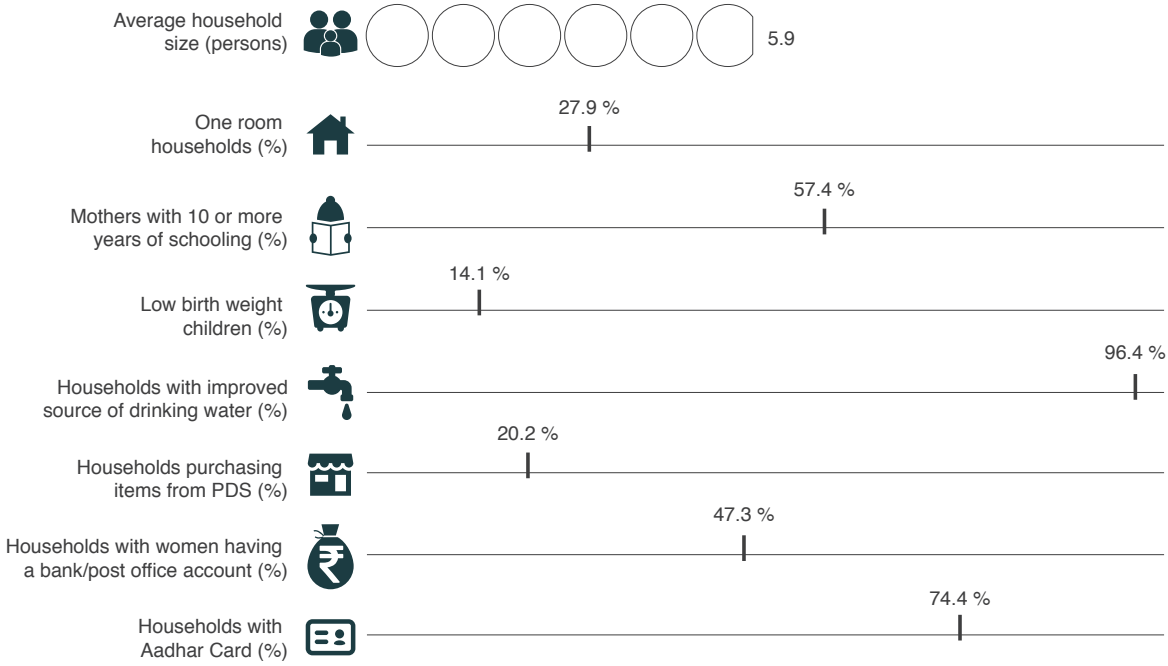
Total Male Population
29,42,922

Total Female Population
26,42,606

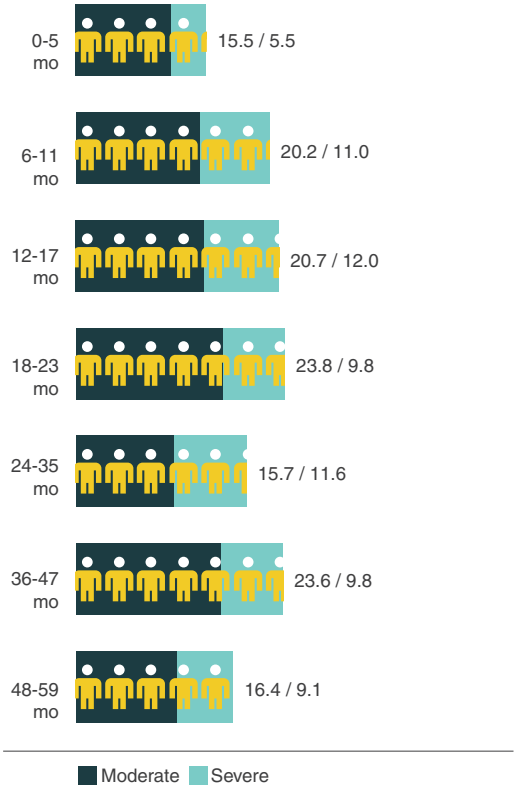
Pic: Claude Avezard

Ahmedabad

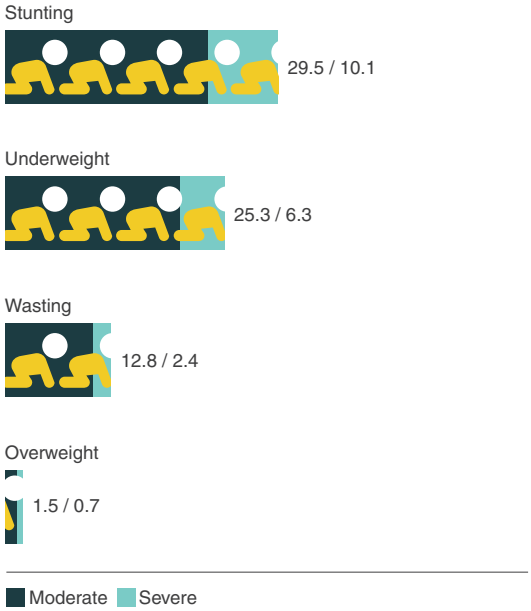
Child's Environment



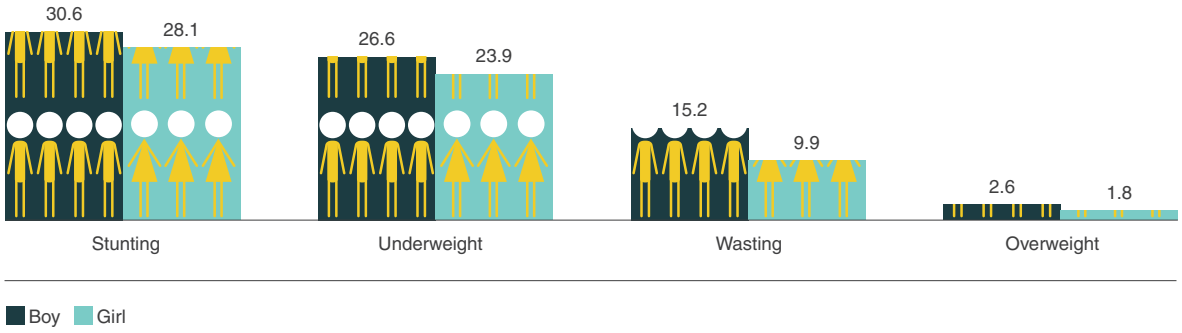
Prevalence (%) of stunting by age group



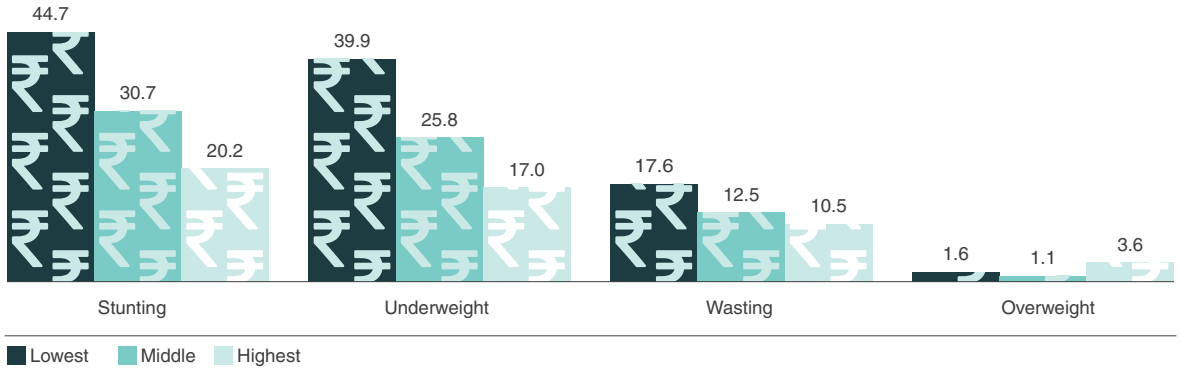
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



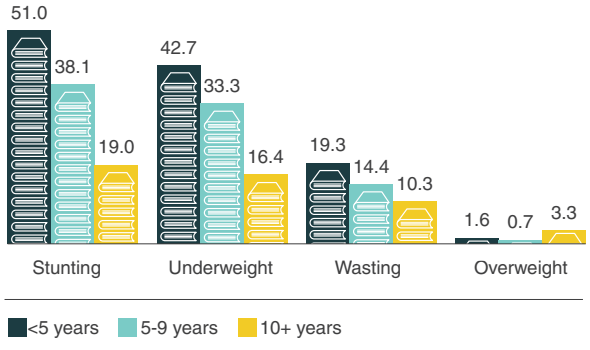
Prevalence (%) of malnutrition by sex



Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



CHEN*n*AI

Total Population
46,46,732

Total Child Population/0-6 yrs
4,59,324

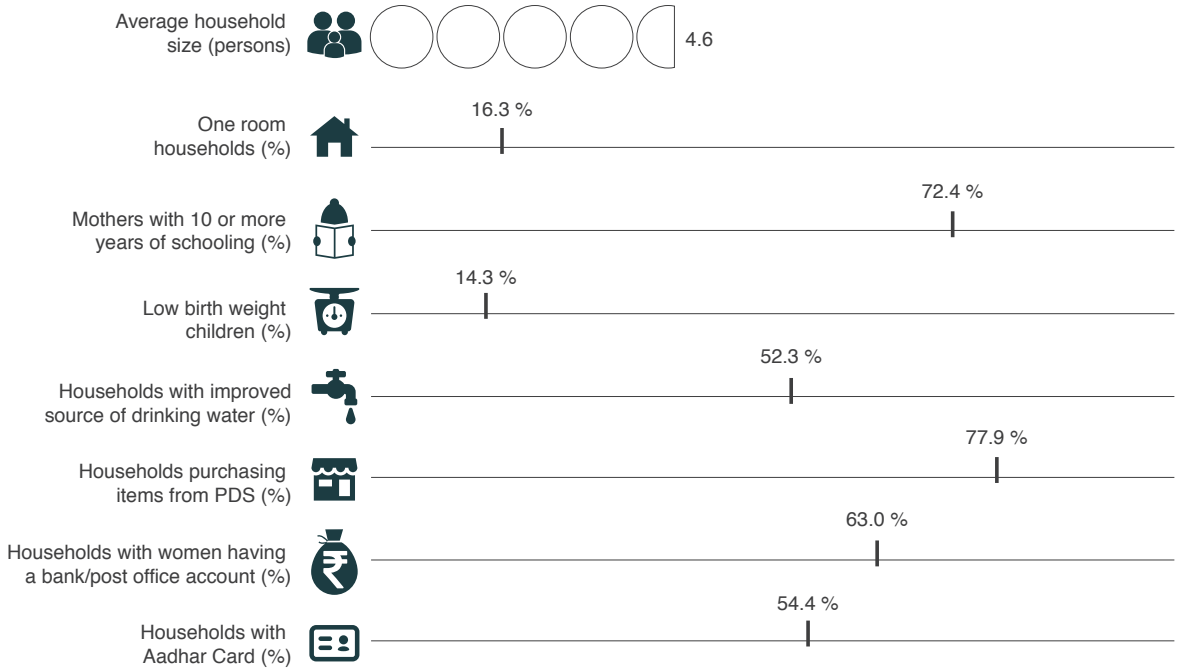
Total Male Population
23,35,844

Total Female Population
23,10,888

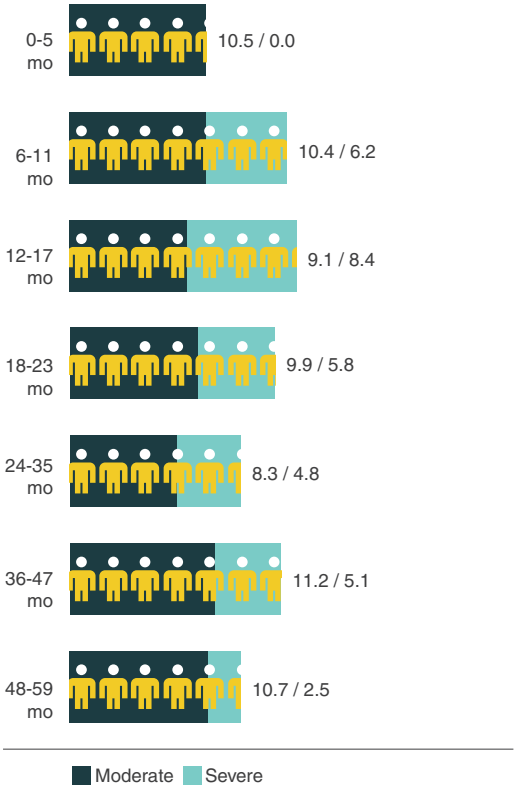
Pic: Nevin John

Chennai

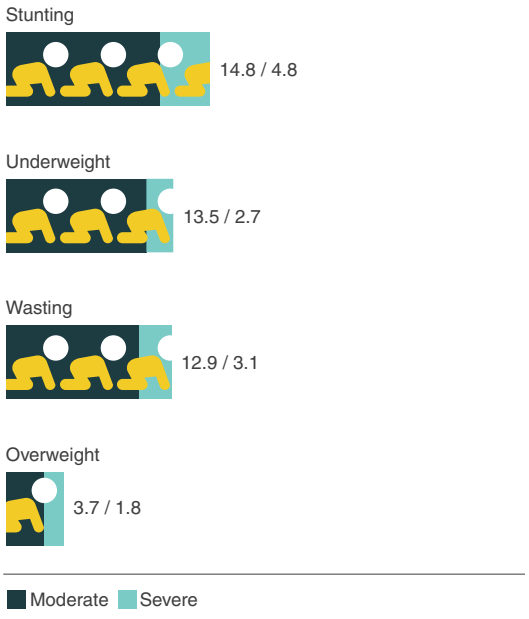
Child's Environment



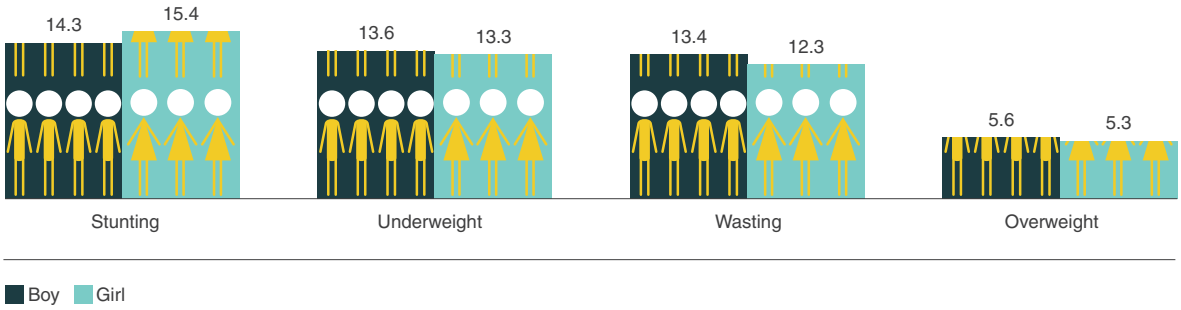
Prevalence (%) of stunting by age group



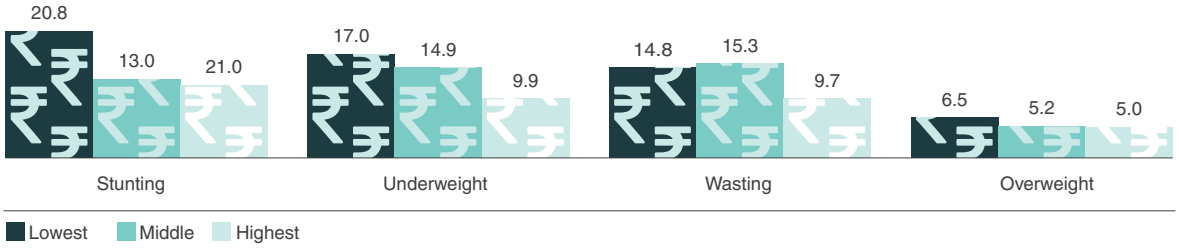
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



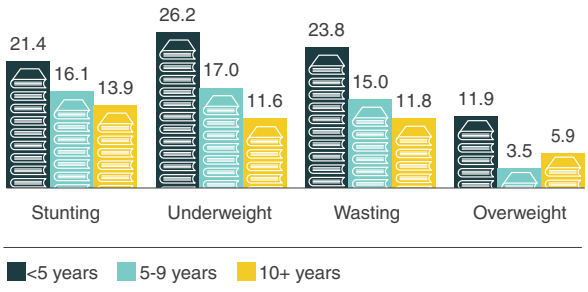
Prevalence (%) of malnutrition by sex



Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



KOLkATA

Total Population
44,96,694

Total Child Population/0-6 yrs
3,39,323

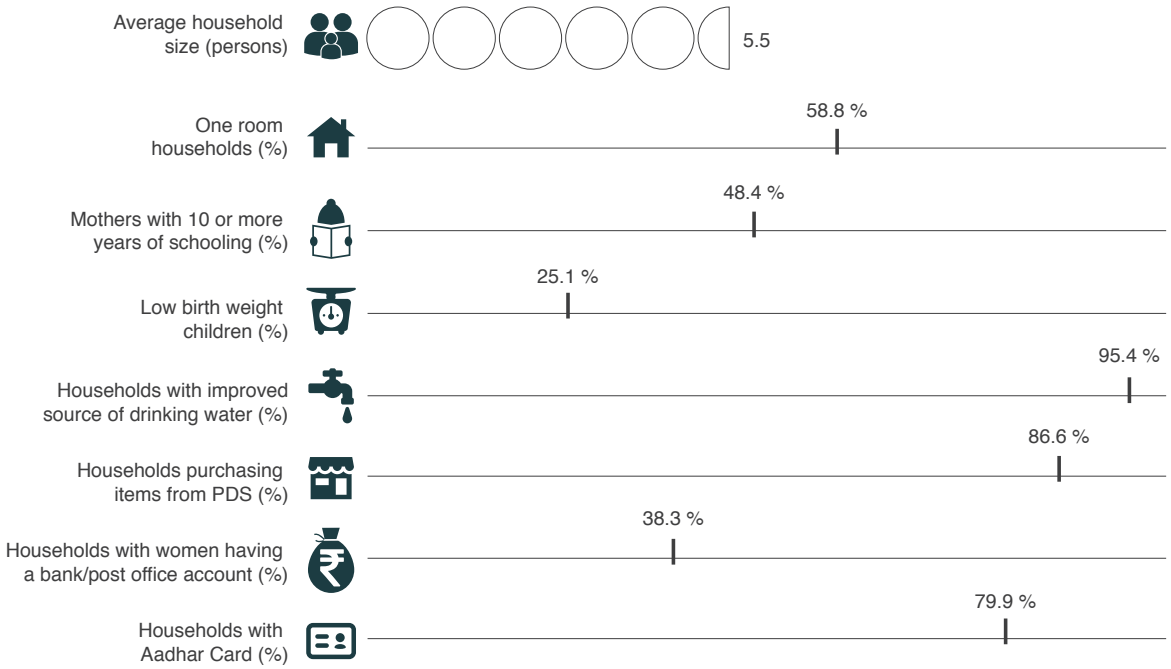
Total Male Population
23,56,766

Total Female Population
21,39,928

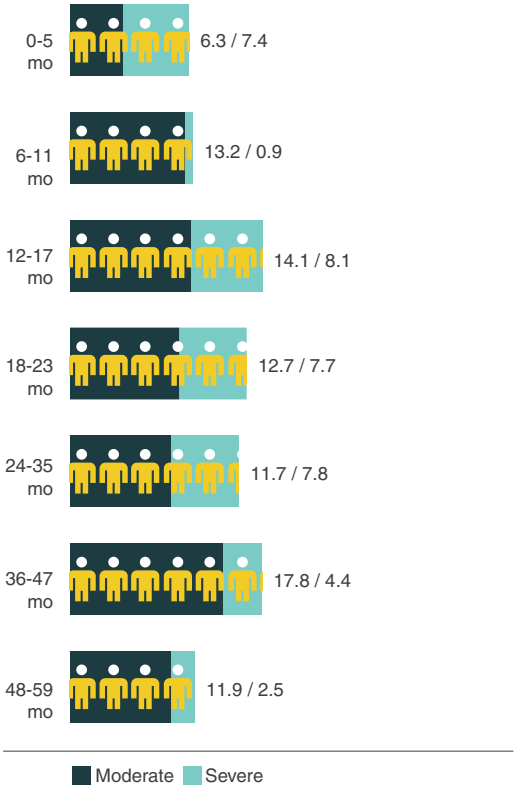
Pic: Nevin John

Kolkata

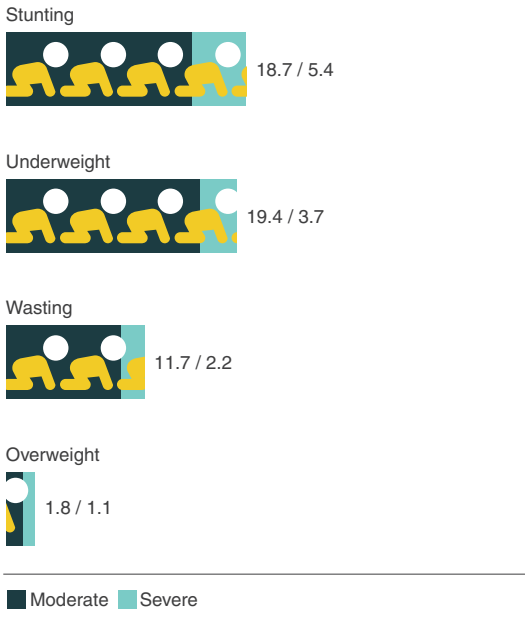
Child's Environment



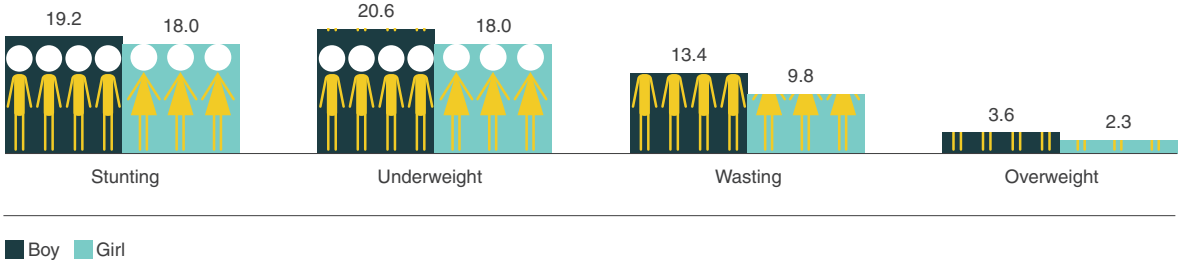
Prevalence (%) of stunting by age group



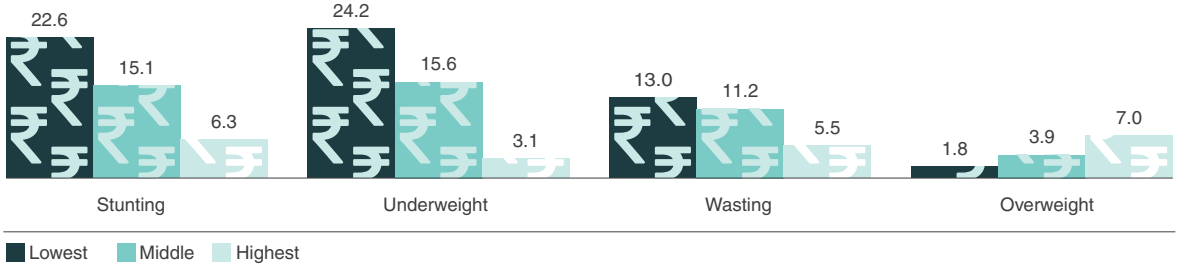
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



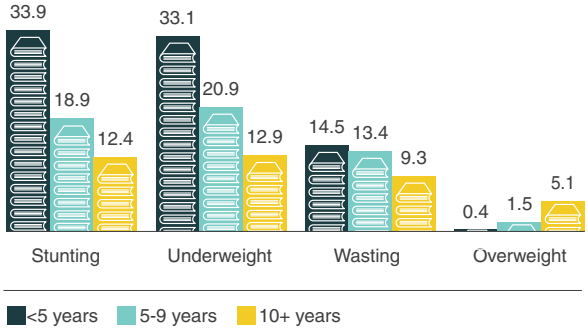
Prevalence (%) of malnutrition by sex



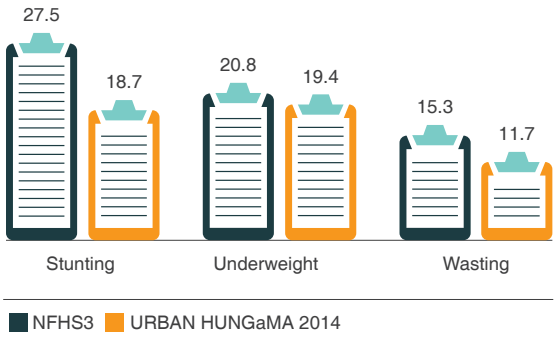
Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



Prevalence (%) of undernutrition in NFHS3 (2006) and URBAN HUNGaMA 2014



SURaT

Total Population
44,67,797

Total Child Population/0-6 yrs
5,49,882

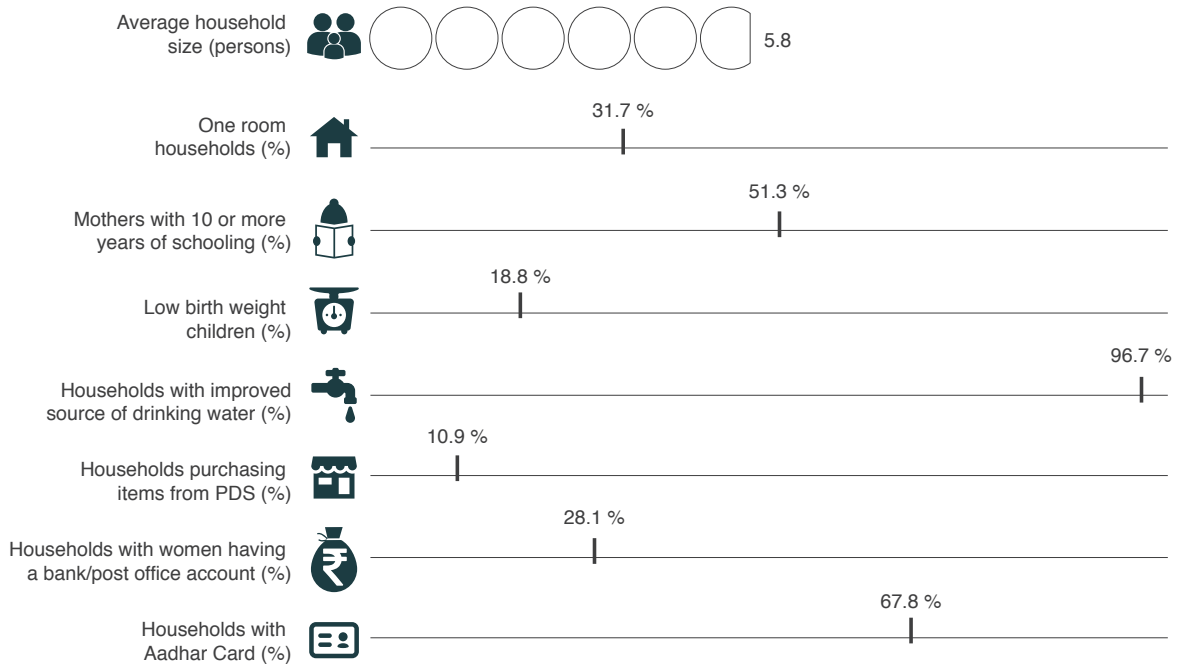
Total Male Population
25,43,623

Total Female Population
19,24,174

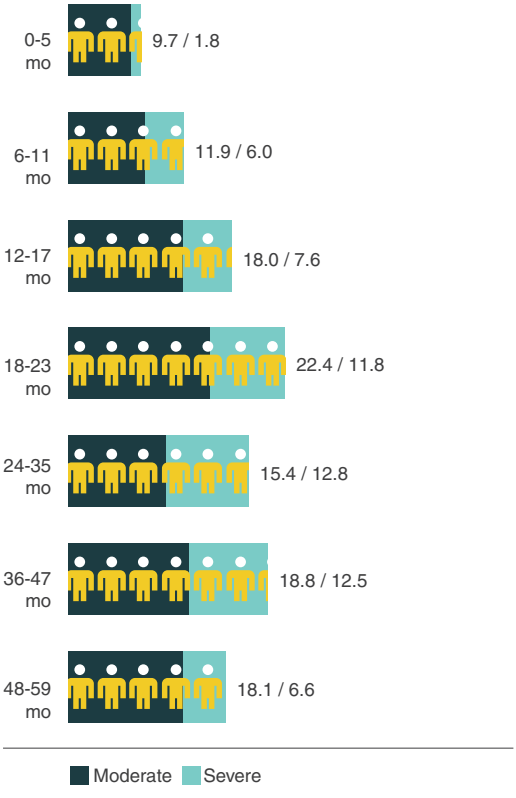
Pic: Claude Avezard

Surat

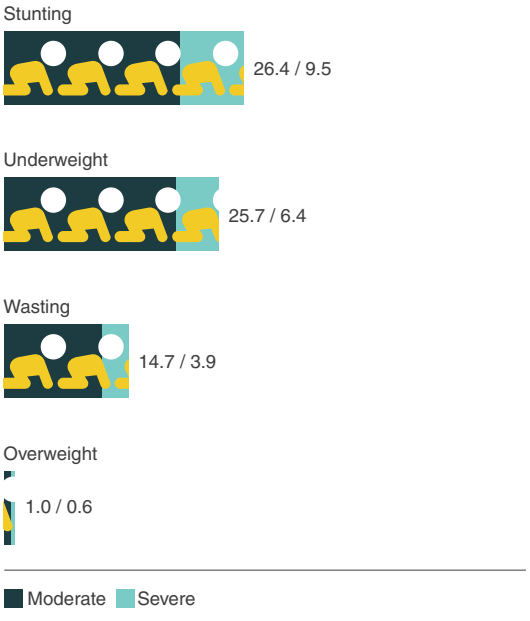
Child's Environment



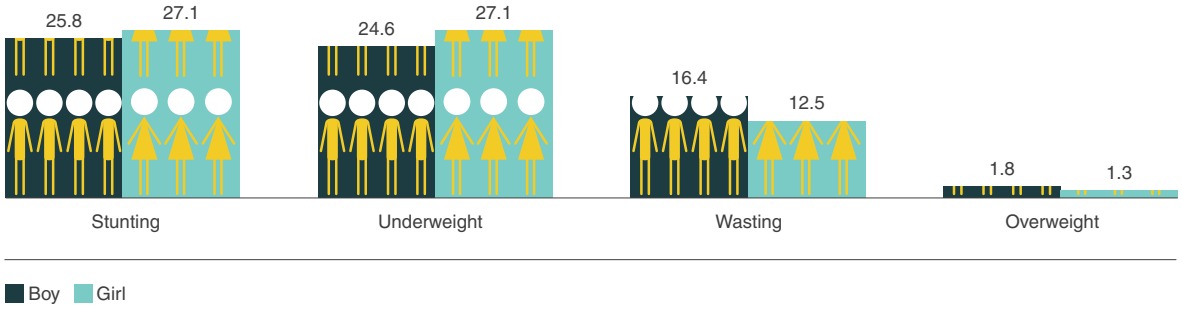
Prevalence (%) of stunting by age group



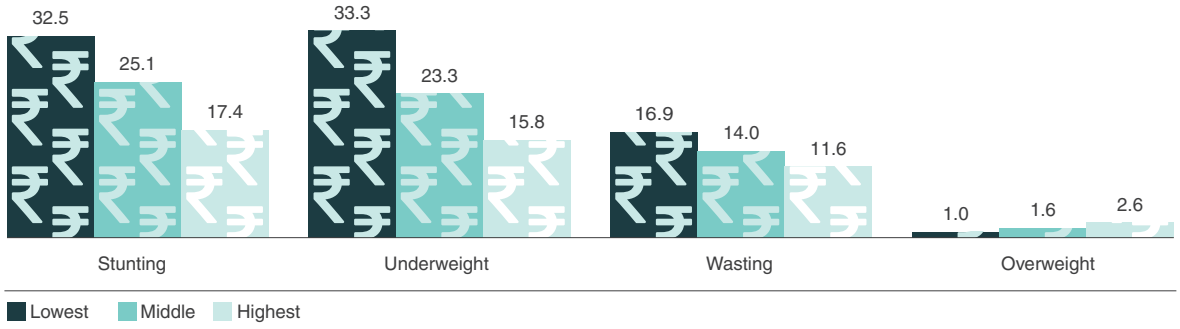
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



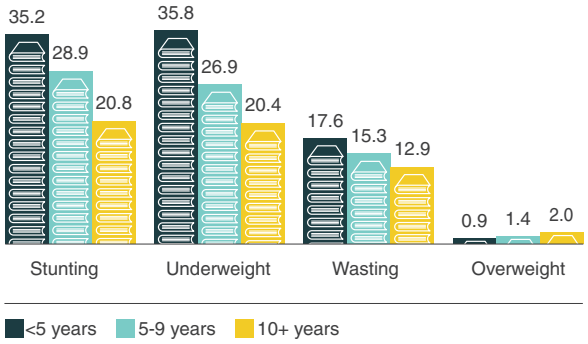
Prevalence (%) of malnutrition by sex



Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



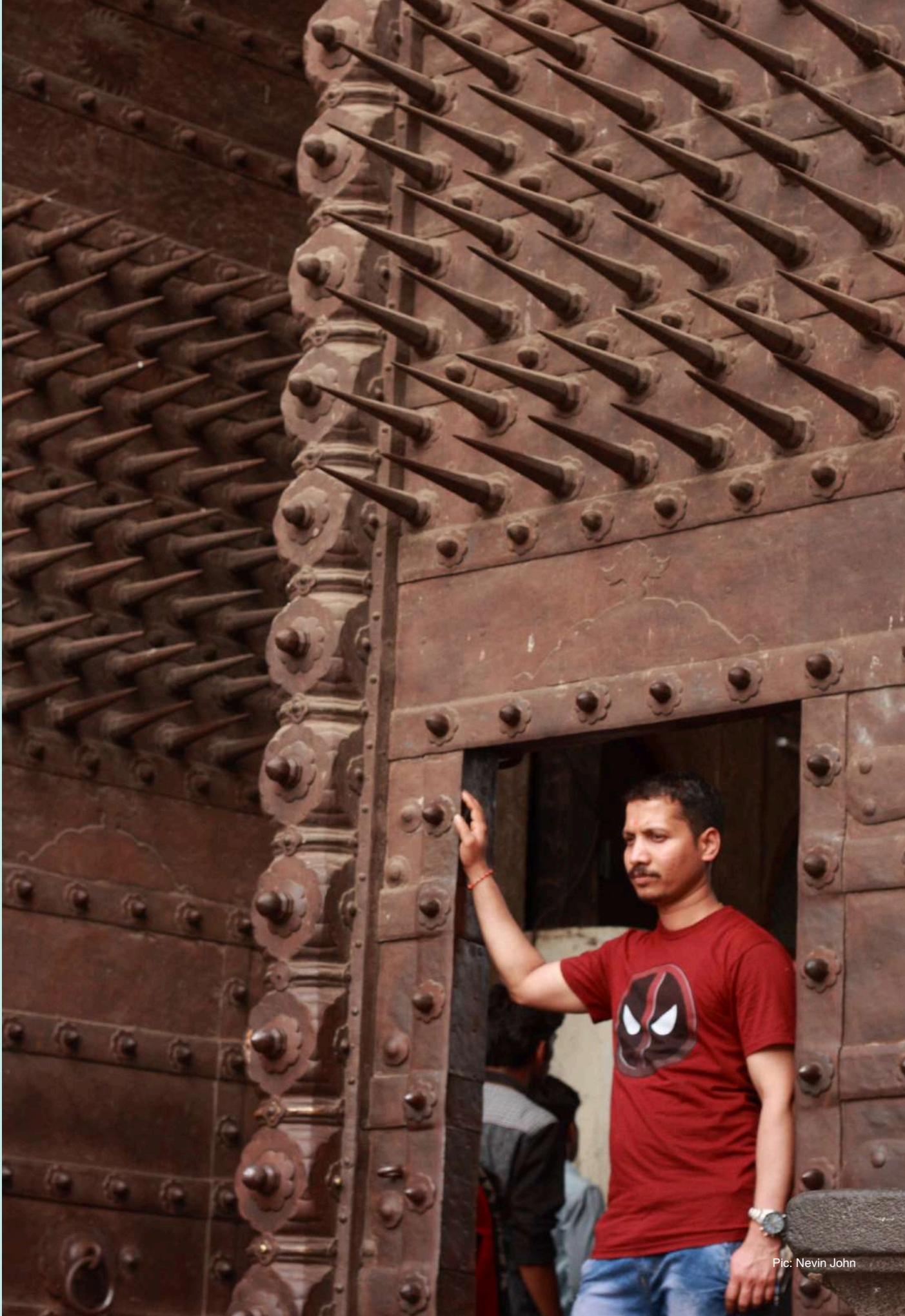
PUnE

Total Population
32,74,923

Total Child Population/0-6 yrs
3,51,575

Total Male Population
16,84,558

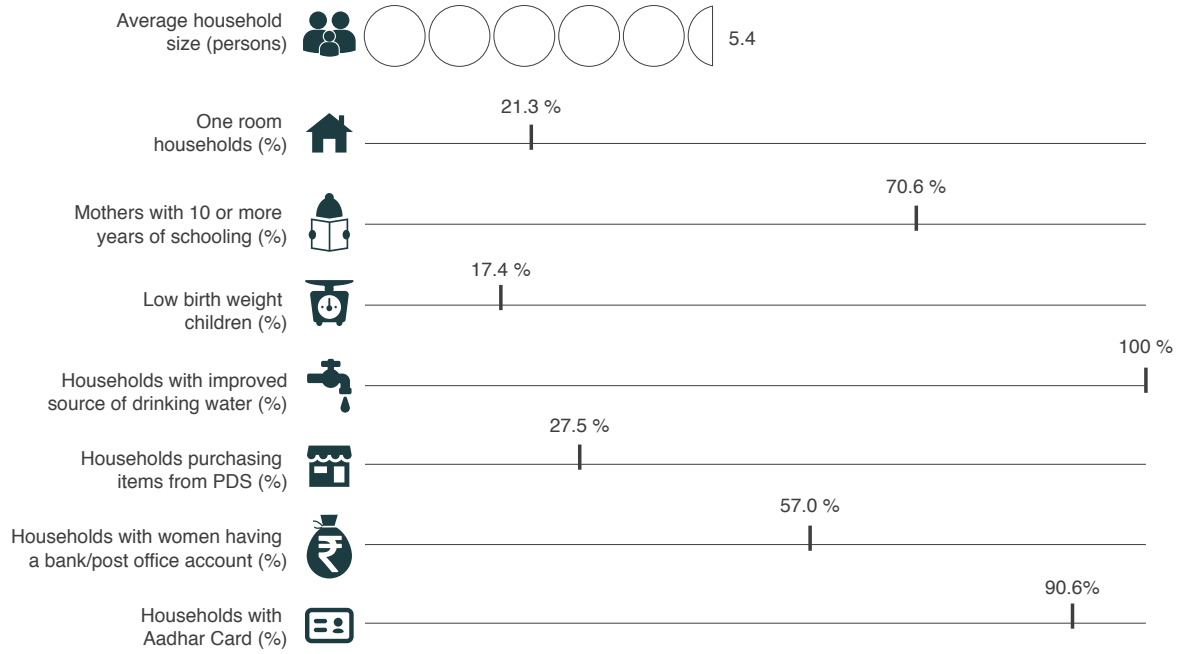
Total Female Population
15,90,365



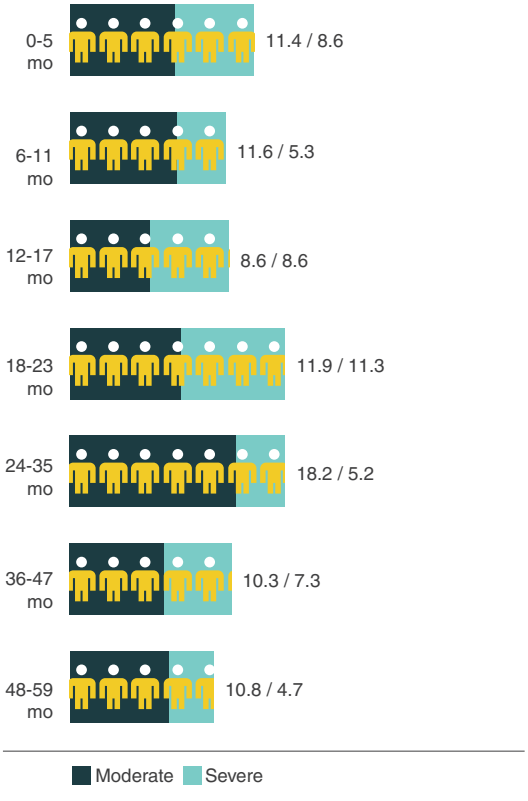
Pic: Nevin John

Pune

Child's Environment

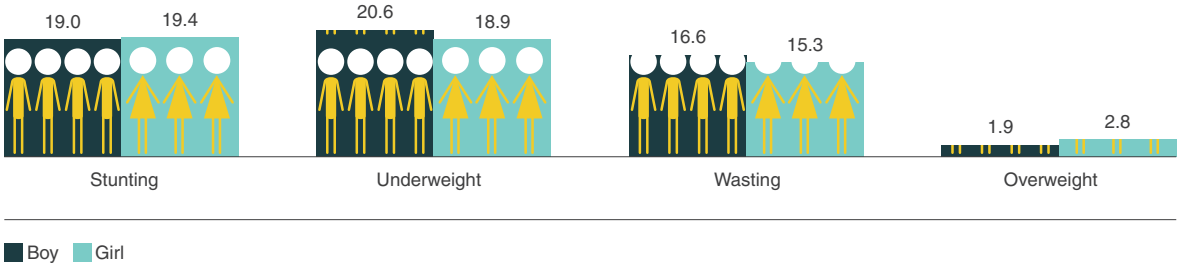


Prevalence (%) of stunting by age group

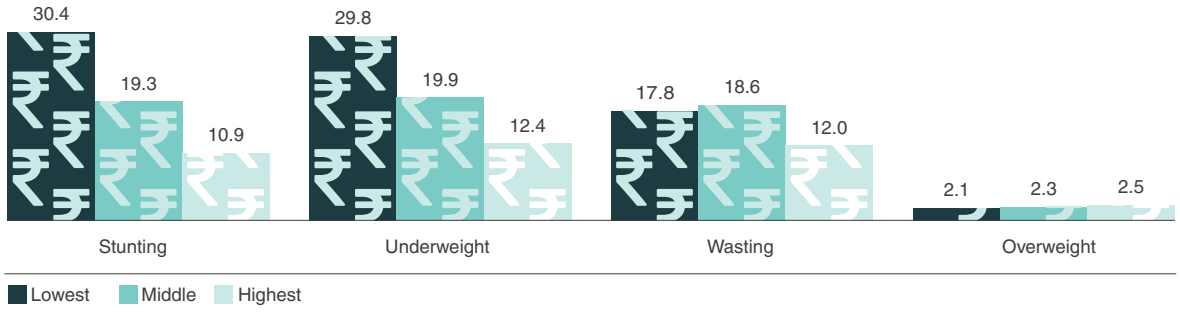


Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months

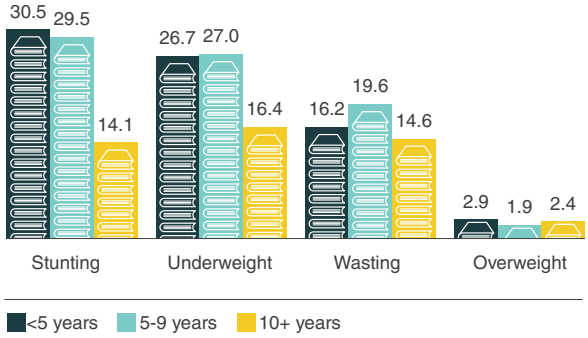
Prevalence (%) of malnutrition by sex



Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



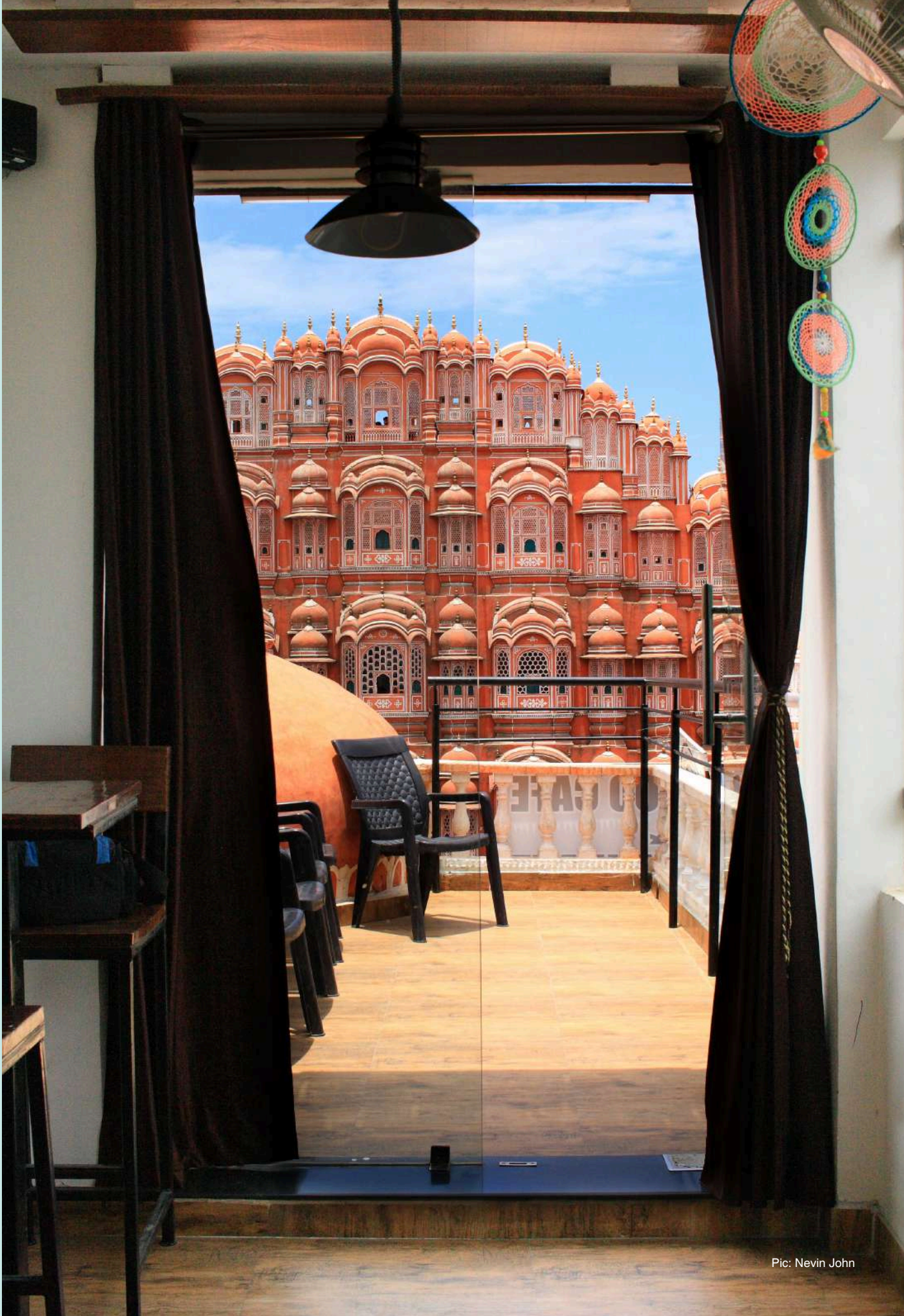
JA*i*PUR

Total Population
30,46,163

Total Child Population/0-6 yrs
3,87,354

Total Male Population
16,03,125

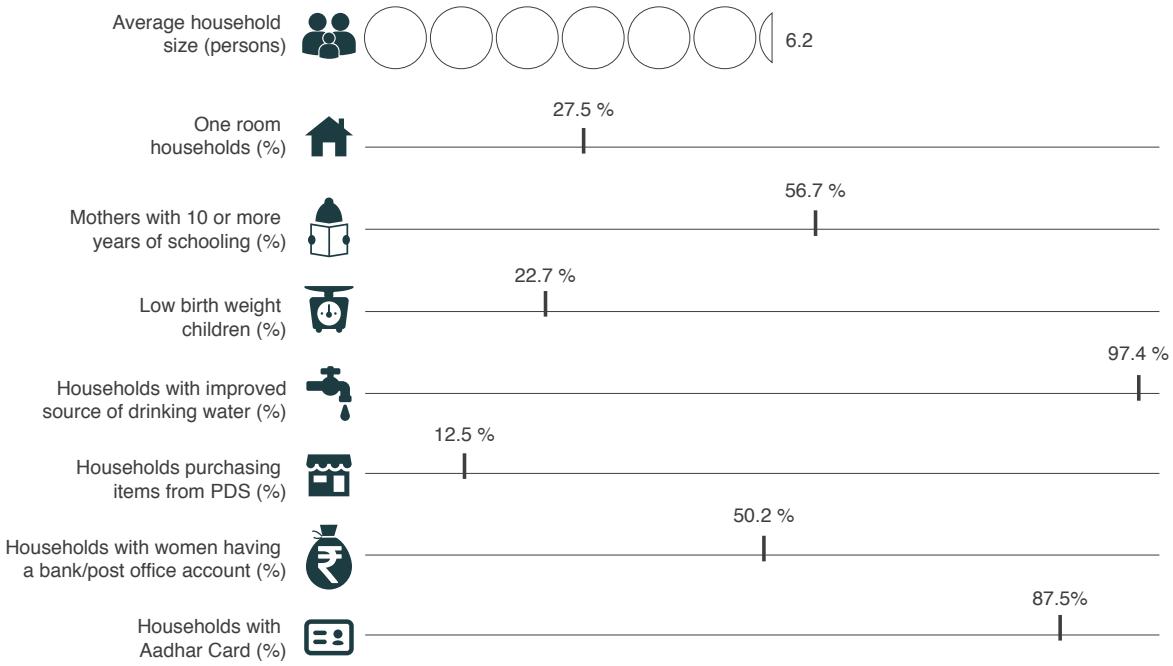
Total Female Population
14,43,038



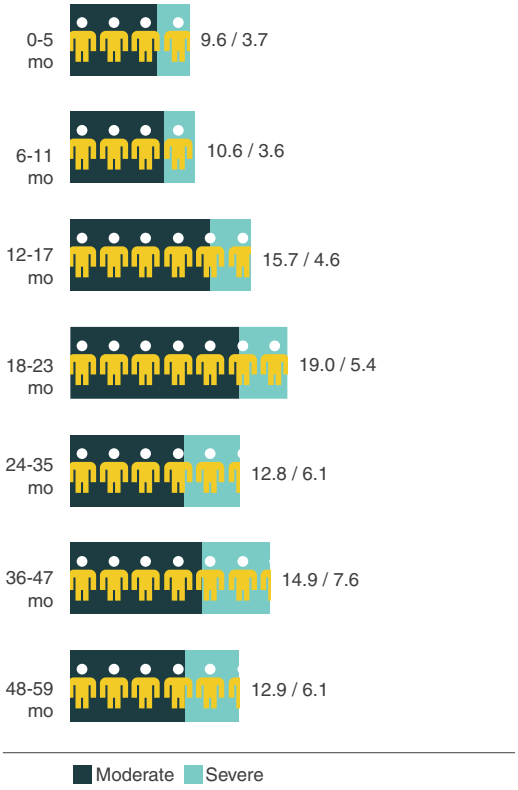
Pic: Nevin John

Jaipur

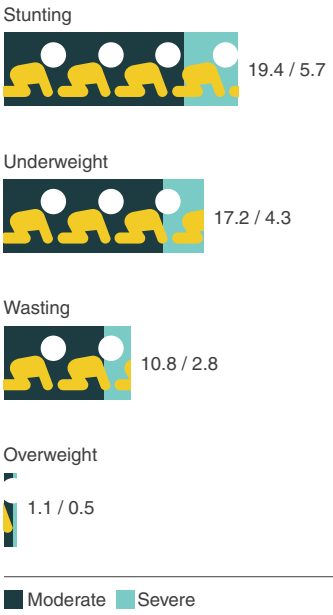
Child's Environment



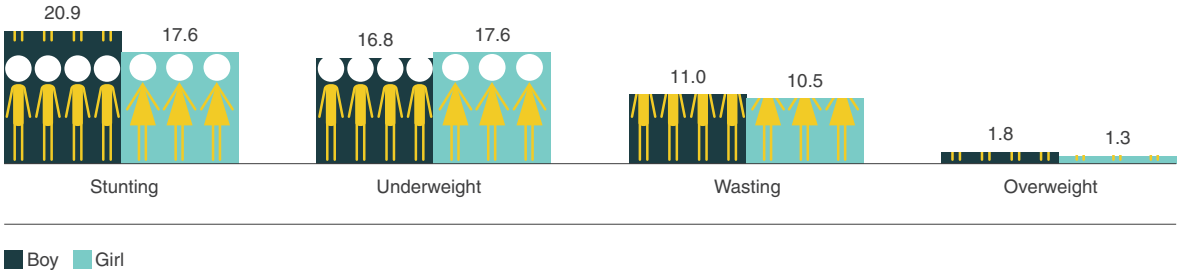
Prevalence (%) of stunting by age group



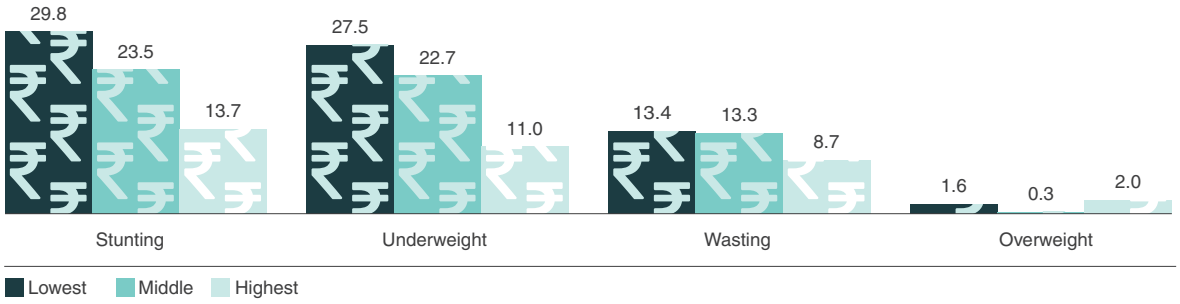
Prevalence (%) of stunting, underweight, wasting and overweight in children 0-59 months



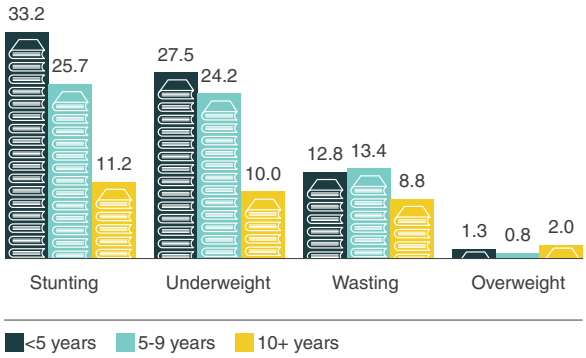
Prevalence (%) of malnutrition by sex



Prevalence (%) of malnutrition by wealth quintile



Prevalence (%) of malnutrition by mother's schooling



Appendix A

Note On Sampling Plan

Pic: Nevin John

Appendix (a)

Note On Sampling Plan

The study proposes to estimate the nutritional status of children in the age group 0 to 59 months in 10 most populous cities in India. According to the latest Census of India conducted in 2011, the 10 most populous cities as follows:

Table (i): Population of 10 Most Populous Cities in India, 2011

No.	City	Population	Children 0-6
1	Mumbai	124,42,373	12,03,770
2	Delhi	163,68,899	19,55,738
3	Bengaluru	84,43,675	9,16,441
4	Hyderabad	69,93,262	7,99,397
5	Ahmedabad	55,85,528	6,21,829
6	Chennai	46,46,732	4,59,324
7	Kolkata	44,96,694	3,39,323
8	Surat	44,67,797	5,49,882
9	Pune	32,74,923	3,51,575
10	Jaipur	30,46,163	3,87,354
	Total	**697,66,046**	**75,84,633**

These 10 most populous cities of India account for 5.3 percent of India's population and 4.1 percent of child population in the age group 0-6 years.

Sampling procedure

Objective:

The study proposes to provide estimate of city-wise percentage of children 1) stunted, 2) wasted and 3) underweight, separately for boys and girls and separately for age groups, 0-5 months, 6-11 months, 12-35 months and 36-59 months. It also proposed to provide estimates of stunted, wasted and underweight children by selected characteristics like mother's years of schooling, wealth quintile etc.

Sample size estimation:

The primary objective of the study is to estimate prevalence of malnutrition among children. The prevalence of stunted and underweight children in 2005-06 in different cities ranged from 20% to 40%. Seven years since 2005-06, the prevalence is expected to reduce at least by 5 percent. So with the assumption that current prevalence in different cities ranges from 15% to 40%, design effect of 1.5, and margin of error 0.05, the estimated sample size ranges from 300-550. However, the relative standard error is quite high and exceeds 15% in most of the cases. Since interest is to provide separate estimates for boys and girls, it is proposed to have sample size of 1200 per city. With sample size of 1200, the margin of error will be around 3% and relative error less than 15%.

Table (ii): Prevalence of Stunted, Wasted and Underweight Children aged (0-59 months) NFHS3, 2005-06

	% of children aged 0-59 months			
City	**Stunted**	**Wasted**	**Underweight**	**Number of children**
Delhi	40.9	15.3	26.5	687
Meerut	43.8	09.5	28.4	940
Kolkata	27.5	15.3	20.8	496
Indore	32.5	28.9	39.3	701
Mumbai	45.4	16.2	32.6	408
Nagpur	34.7	16.5	33.6	643
Hyderabad	32.1	09.4	19.8	786
Chennai	25.4	18.9	23.1	510

Table (iii): Estimation of Sample Size

Prevalence	1-p	Normal value	Design effect	Margin of error	Sample size	Relative error%
p	q	Z	D	d	N	d/p
0.40	0.60	1.96	1.5	0.05	553	13
0.35	0.65	1.96	1.5	0.05	524	14
0.30	0.70	1.96	1.5	0.05	484	17
0.25	0.75	1.96	1.5	0.05	432	20
0.20	0.80	1.96	1.5	0.05	369	25
0.15	0.85	1.96	1.5	0.05	294	33
p	q	Z	D	n	D	d/p
0.40	0.60	1.96	1.5	1200	0.0339	8
0.35	0.65	1.96	1.5	1200	0.0331	9
0.30	0.70	1.96	1.5	1200	0.0318	11
0.25	0.75	1.96	1.5	1200	0.0300	12
0.20	0.80	1.96	1.5	1200	0.0277	14
0.15	0.85	1.96	1.5	1200	0.0247	16

It is proposed to interview 15 children from each primary sampling unit. For interviewing 1200 children it is proposed to select a sample of 80 primary sampling units (PSUs) from each city.
A sample of 1200 children will be selected at three stages. At first stage 40 city wards will be selected. At second stage from each selected ward, two CEBs will be selected. From each of the selected CEB, 15 households with at least one child aged 0-59 months will be selected. The selection procedure is described below.

Sampling frame

A list of all the wards in a city will form sampling frame for the first stage of selection.

A list of all the Census Enumeration Blocks (CEBs) of each of the selected ward will form sampling frame for the second stage of selection.

A list of all the households with at least one child below age 5 will form sampling frame at the third/ final stage of selection.

Table (iv): Demographic Information

CITY		Mumbai	Delhi	Bengaluru	Hyderabad	Ahmedabad	Chennai	Kolkata	Surat	Pune	Jaipur
Number of Households											
No of Wards		97	318	198	157	57	155	141	102	144	77
Mean		28,659	7,936	10,615	9,726	20,699	7,451	7,269	9,567	5,157	7,786
Median		18,125	8,821	9,730	8,887	18,156	5,840	6,500	4,832	4,344	7,161
Minimum		383	26	4,808	627	7,339	2,208	1,704	26	2,574	4,257
Maximum		156,619	24,022	23,999	22,527	63,639	37,576	20,797	72,828	11,329	18,508
Percentiles	**25**	7,007	4,247	8,189	6,768	13,618	4,254	4,724	950	3,542	5,462
	50	18,125	8,821	9,730	8,887	18,156	5,840	6,500	4,832	4,344	7,161
	75	36,579	10,950	12,399	12,458	25,222	8,462	9,207	12,604	6,001	8,710
Female Literacy											
Mean		87.2	81.8	85.7	79.3	83.4	86.6	84.6	83.4	86.6	77.5
Median		87.7	83.6	86.1	79.4	84.1	87.6	85.5	84.1	87.9	79.4
Minimum		66.9	11.1	71.1	59.3	69.8	71.0	63.5	69.8	70.3	52.1
Maximum		95.6	100.0	94.2	90.2	93.0	96.4	95.6	93.0	96.1	92.8
Percentiles	**25**	84.5	76.9	82.6	75.5	79.0	83.5	80.4	79.0	82.2	70.6
	50	87.7	83.6	86.1	79.4	84.1	87.6	85.5	84.1	87.9	79.4
	75	91.1	88.8	89.1	83.2	88.7	90.1	89.8	88.7	91.4	85.8

Sampling of city ward:

In each city, there is wide variation across the wards, with respect to population size, female literacy and proportion of SC/ST population. For assuring representation of wards with different characteristics, all the wards will be stratified into four strata according to population size/number of households. In each stratum wards will be arranged according to female literacy. From each stratum 10 wards will be selected by probability proportional to size (PPS) sampling.

Sampling of Census Enumeration Blocks:

Each city block is divided into a number of CEBs, each with about 150 households. The Census office has record of all the CEBs along with their maps (boundaries) and number of households. The maps are available at the census office for Rs 100. From each selected ward, two CEBs will be selected at random.

Selection of Households:

In each selected CEB, all the households will be listed. While listing the households, information about the number of children below 5 also will be collected. From the list of all the households with at least one child below age five, 15+2 (additional two households for taking care of non-response) will be selected by systematic sampling.

Selection of children:

All the children in the age group 0-59 months, from the selected 17 households will form the sample.

Appendix B

Format Of Survey Tool

Pic: Nevin John

Appendix B

Format of Survey Tool

Urban HUNGaMA 2014 Household Survey | Household Code | | | | | Survey Start Time | | | : | | AM / PM | Date : / /2014

City Name	Ward S. No.	CEB S. No.	Building No.	Surveyor 1 Name & Code		Surveyor 2 Name & Code	

H1. GENERAL INFORMATION. Applicable to Household (all persons eating regularly from one kitchen and living together)
Circle only one response from H 1.1 to H 1.11 (except H1.1, H 1.2 & H1.7)

H1.1. Type of structure (by observation)

Apartment building - 1 | Chawl - 3
Independent house - 2 | Hut - 4

H1.1.1 No. of rooms in your Household:

H1.2. Name of head of Household:

H1.2.1. Gender of head of Household

Male - 1 | Female - 2

H1.3. Religion of head of Household

Hindu - 1 | Parsi - 5
Muslim - 2 | Jain - 6
Sikh - 3 | Buddhist - 7
Christian - 4
Other - 88 Specify_____

H1.4. Caste/tribe of head of Household

Scheduled Caste - 1
Scheduled Tribe - 2
Backward/Other Backward Classes - 3
General - 4
Other - 88 Specify _____
Do not wish to respond - 99

H1.5. Type of house (by observation)

Kutcha - 1
Semi-pucca - 2
Pucca (wall + roof of bricks and cement) - 3

H1.6. Do you have a separate room which is used for kitchen purpose only?

Yes - 1 | No - 2

H1.7. Persons in this Household eating from one kitchen

H1.7.1. Total number of persons	
H1.7.2. Number of children less than 5 yrs. (0-59 months) living in this Household	
H1.7.3. Number of mothers of children less than 5 yrs. (0-59 months) living in this Household	

H1.8. What is the main source of drinking water for your Household?

Piped water into dwelling - 1
Piped water into yard/plot - 2
Public Tap/Stand Pipe - 3
Tubewell/Borewell - 4
Dug Well (Protected) - 5
Dug Well -(Unprotected) - 6
Tanker/Truck - 7
Cart with small tank/drum - 8
Bottled Water - 9
Other - 88 Specify_____

H1.9. What fuel is used for cooking in this Household on most of days in a month?

Electricity - 1
LPG/Natural Gas - 2
Bio-gas/Gobar Gas - 3
Kerosene - 4
Coal/Charcoal - 5
Firewood - 6
Other - 88 Specify _____

H1.10. What kind of toilet facility does your Household used mostly?

Flush/pour flush latrine connected to
Piped sewer system - 1
Septic tank - 2
Other system - 3
Pit latrine
With slab/Ventilated improved pit - 4
Without slab/Open pit - 5
Night soil disposed into open drain - 6
Service latrine
Night soil removed by human - 7
Night soil serviced by animals - 8
No latrine with permises
Public latrine - 9
Open - 0

H1.11. The last time your (youngest) child passed stools, what was done to dispose off the stools?

Child used toilet/Latrine - 1
Put/Rinsed into toilet/Latrine - 2
Put/Rinsed into drain/Ditch - 3
Thrown into garbage - 4
Buried - 5
Left in the open - 6
Do not know - 99
Other - 88 Specify_____

Survey Result	First Visit	Next Visit
a. No. of child Interview completed		
b. No. of child measurement completed		
c. No. of child not present at time of survey		
d. Was Household locked	Yes - 1 No - 2	Yes - 1 No - 2
e. Did Household refuse	Yes - 1 No - 2	Yes - 1 No - 2

City Name	Ward S. No.			CEB S. No.			Household Code				

H1.12 Objects in the house			
Please circle (1 for Yes), (2 for No) and (99 for Don't Know /Not Applicable)	Yes	No	Don't Know/NA
1. Mattress made of cotton/foam	1	2	99
2. Cot/Bed	1	2	99
3. Chair	1	2	99
4. Table	1	2	99
5. Watch/Clock	1	2	99
6. Electricity Connection	1	2	99
7. Electric Fan	1	2	99
8. Television	1	2	99
9. Radio	1	2	99
10. Phone/Mobile phone - prepaid	1	2	99
11. Phone/Mobile phone - postpaid	1	2	99
12. Pressure Cooker	1	2	99
13. Refrigerator	1	2	99
14. Sewing Machine	1	2	99
15. Air Cooler	1	2	99
16. Air Conditioner	1	2	99
17. Cycle	1	2	99
18. Two-wheeler	1	2	99
19. Four-wheeler	1	2	99
20. Washing Machine	1	2	99
21. Desktop Computer	1	2	99
22. Laptop Computer	1	2	99
23. Internet Connection	1	2	99

H1.13 Services (Govt. Schemes/Programmes)			
Please circle (1 for Yes), (2 for No) and (99 for Don't Know/Not Applicable)	Yes	No	Don't Know/NA
1. Do you have your own Ration Card?	1	2	99
2. In the last 1 month, have you purchased anything from the PDS shop?	1	2	99
3a. Does any man in your Household have a bank or post office account?	1	2	99
3b. Does any woman in your Household have a bank or post office account?	1	2	99
4. Does anyone in your Household have health insurance?	1	2	99
5. Does anyone in your Household have Aadhaar Card?	1	2	99
6. Is any woman in your Household member of a Self-Help Group?	1	2	99

H1.14 Consumption of liquor and tobacco			
Please circle (1 for Yes), (2 for No) and (99 for Don't Know/Not Applicable)	Yes	No	Don't Know/ NA
1. Does any member consume liquor?	1	2	99
2. Does any member consume tobacco?	1	2	99

H2. INFORMATION ABOUT MOTHER AND FATHER OF CHILD

Note: Mothers of all the children mentioned in H1.7.2 to be included; (New format to be used for each mother)

	Serial Number	Name	Lives with HH	Age in Years (approx); If dead, write 999	Highest grade* completed	"Can read (Applicable If answer in H2.5 is 0-5)	How often does child's mother consume the following food items?						
							1. Milk /curd	2. Pulses/ beans	3. Dark green leafy vegetables	4. Fruits	5. Eggs	6. Fish	7. Chicken/ meat
							Daily - 1, Weekly - 2, Occasionally - 3, Never - 4, NA - 97						
	H2.1	H2.2	H2.3	H2.4	H2.5	H2.6	H2.7						
Mother			Yes - 1 No - 2			Yes - 1 No-2							
			Yes - 1 No - 2			Refused to read-3							
						Didn't ask - 0							
Father													

* Note: In column H2.5, write (0) if no schooling/illiterate/literate, (1) for Class 1, (2) for Class 2, (3)....., (9) for class 9, and (10) for class 10 and above

City Name	Ward S. No.			CEB S. No.			Household Code				

H3. CHILD INFORMATION. **If it is not possible to measure any one of the children, leave H3.1v and H3.1w blank.**

If own mother is not present or does not respond, H3a. Respondent name: _____

H3b. Relationship with child: _____

H3. Name of Child
Note 1 - Only child of 0-59 months age
Note 2 - Only children of same mother to be included in this form

a. Gender	**H3.1a Name of Child:** **H3.1b Child code** ☐	**H3.1a Name of Child:** **H3.1b Child code** ☐
b. Date of birth (day/month/year)	a. Boy - 1 Girl - 2	a. Boy - 1 Girl - 2
c. Source of Date of Birth	b. ☐☐/☐☐/☐☐☐☐	b. ☐☐/☐☐/☐☐☐☐
d. Birth sequence (For eldest child in living children, put 1)	c. Birth certificate - 1 Other records - 3 Immunization card - 2 Verbal - 4	c. Birth certificate - 1 Other records - 3 Immunization card - 2 Verbal - 4
e. Institutional delivery	d. ☐☐	d. ☐☐
f. If institutional delivery, circle the appropriate option	e. Yes - 1 No - 2 → go to g	e. Yes - 1 No - 2 → go to g
g. Was your child weighed at birth? If YES what was the weight? (Try to see written records)"	f. Operation - 1 Ordinary delivery - 3 Pre-term delivery - 2 Not Applicable - 97	f. Operation - 1 Ordinary delivery - 3 Pre-term delivery - 2 Not Applicable - 97
h. Did your child suffer from diarrhoea, cold/cough in the last 1 week? (Circle all that apply) Diarrhoea is at least 3 times stools like water in a day.	g. ☐•☐ kg Did not weigh - 96 Don't know - 99	g. ☐•☐ kg Did not weigh - 96 Don't know - 99
i. When your child last fell ill, where did you take her?	h. Diarrhoea - 1 Did not have - 3 Fever/cough - 2 Don't know - 99	h. Diarrhoea - 1 Did not have - 3 Fever/cough - 2 Don't know - 99
	i. Gov. Health Center - 1 Private MBBS doctor - 2 RMP/Untrained Person - 3 Medicine Shop - 4 Home/traditional Remedy - 5	i. Gov. Health Center - 1 Private MBBS doctor - 2 RMP/Untrained Person - 3 Medicine Shop - 4 Home/traditional Remedy - 5
	Other - 88 Specify _____ Don't know - 99	Other - 88 Specify _____ Don't know - 99

City Name	Ward S. No.			CEB S. No.			Household Code				

j. Did your child ever breastfeed? Include feeding breastmilk by spoon, cup or bottle or from another mother	j. Yes - 1 No-2 Don't know- 99 NA-97 → go to s	j. Yes - 1 No-2 Don't know- 99 NA-97 → go to s
k. How long after birth did you first put your child to the breast? • If less than 1 hour, circle 1 • If less than 24 hours, circle 2 and record hours • Otherwise, circle 3 and record days	k. Within 1 hour - 1 Number of hours : ___ ___ - 2 Number of days : ___ ___ - 3 Not Applicable - 97 Don't know - 99	k. Within 1 hour - 1 Number of hours : ___ ___ - 2 Number of days : ___ ___ - 3 Not Applicable - 97 Don't know - 99
l. In the first 3 days after delivery, was baby given anything to drink other than breastmilk?	j. Yes - 1 No-2 Don't know- 99 NA-97 → **go to s**	j. Yes - 1 No-2 Don't know- 99 NA-97 → **go to s**
m. If YES in l then, What was your child given to drink? (Circle all applicable) Other milk : Cow, Buffalo, Goat, Camel and other animals milk	m.Plain Water - 1 Infant Formula - 6 Honey - 2 Other milk - 7 Sugar or glucose water-3 Tea/Infusions - 8 Sugar - Salt - Water solution/ORS - 4 Fruit Juice - 5 Other - 88 Specify_____ NA - 97 Don't know - 99	m.Plain Water - 1 Infant Formula - 6 Honey - 2 Other milk - 7 Sugar or glucose water-3 Tea/Infusions - 8 Sugar - Salt - Water solution/ORS - 4 Fruit Juice - 5 Other - 88 Specify_____ NA - 97 Don't know - 99
n. Did you squeeze out any colostrum before putting your child to the breast?	n. Yes - 1 Not Applicable - 97 No - 2 Don't know - 99	n. Yes - 1 Not Applicable - 97 No - 2 Don't know - 99
o. Are you still breastfeeding your child?	o. Yes - 1 → **Go to q** Not Applicable - 97 No - 2 → **Go to p and then** Don't know - 99	o. Yes - 1 → **Go to q** Not Applicable - 97 No - 2 → **Go to p and thens** Don't know - 99
p. For how many months did you breastfeed your child? (If answer is not numeric, probe for approximate number)	p. Number of months: _____ months NA - 97 Don't know - 99	p. Number of months: _____ months NA - 97 Don't know - 99
q. How many times did you breastfeed last night from the time you went to sleep until you woke up? (If answer is not numeric, probe for approximate number)	q. Number of nighttime feeding: ____times NA - 97 Don't know - 99	q. Number of nighttime feeding: ____times NA - 97 Don't know - 99
r. How many times did you breastfeed yesterday from the time you woke up to the time you went to bed? (If answer is not numeric, probe for approximate number)	r. Number of daylight feeding: _____ times NA - 97 Don't know - 99	r. Number of daylight feeding: _____ times NA - 97 Don't know - 99
s. Did your child drink anything from a bottle with a nipple from yesterday morning to this morning?	s. Yes - 1 Not Applicable - 97 No - 2 Don't know - 99	s. Yes - 1 Not Applicable - 97 No - 2 Don't know - 99
t. What liquids did your child drink yesterday during the day or at night?	**t.** **Yes** **No** **Don't know**	**t.** **Yes** **No** **Don't know**
	Plain watrer 1 2 99 Infant formula 1 2 99 Other milk (Animal) 1 2 99 Fruit juice 1 2 99 Tea and Coffiee 1 2 99 Other liquid 1 2 99	Plain watrer 1 2 99 Infant formula 1 2 99 Other milk (Animal) 1 2 99 Fruit juice 1 2 99 Tea and Coffiee 1 2 99 Other liquid 1 2 99

u. How many times did your child eat solid, semi-solid, or soft foods yesterday during the day or at night?

u. Number of main meals: ___ _____
Don't know - 99

v. Weight

If the child cannot stand alone on the machine, weigh with an adult.
- Remember to weigh the adult alone first
- Surveyor to record weight in a and b

If child can stand alone on the machine
- Remember to weight only child alone.
- C will be recorded a and b will not be recorded.

	v. 1st measurement	Final measurement
With adult	a. Adult alone ☐☐☐•☐ Kgs.	a. Adult alone ☐☐☐•☐ Kgs.
With adult	b. Adult weight with child ☐☐☐•☐ Kgs.	b. Adult weight with child ☐☐☐•☐ Kgs.
Child Alone	c. Child's weight ☐☐☐•☐ Kgs.	c. Child's weight ☐☐☐•☐ Kgs.

v1. Weighing machine code:

v2. Height board code:

w. Height - Measure all children lying down. To be recorded only after both surveyors verify

w. ☐☐☐•☐ cm

City Name	Ward S. No.			CEB S. No.			Household Code				

CHILD EATING INFORMATION

H2.1 Mother Sr no. H2.2 Mother Name :

H3. Name of Child Note 1 - Only child of 0-59 months age Note 2 - Only children of same mother to be included in this form	H3.1a Name of Child: H3.1b Child code ☐	H3.1a Name of Child : H3.1b Child code ☐

H3. X Now I would like to ask you about the food (Child name) ate yesterday during the day or at night, either separately or combined with other foods.

Instruction for Surveyor: Surveyor should read out each item and ask if that was consumed the previous day or not by the child.

x. Did (Child name) eat?	x	Yes 1	No 2	Don't know 99	x	Yes	No	Don't know 99
a. Any porridge or gruel?	a	1	2	99	a	1	2	99
b. Any commercially fortified baby food such as Cerelac or Farex?	b	1	2	99	b	1	2	99
c. Any bread, roti, chapati, rice, noodles, biscuits, idli, or any other foods made from grains?	c	1	2	99	c	1	2	99
d. Any pumpkin, carrots, or sweet potatoes that are yellow or orange inside?	d	1	2	99	d	1	2	99
e. Any white potatoes, white yams, cassava, or any other foods made from roots?	e	1	2	99	e	1	2	99
f. Any dark green, leafy vegetables?	f	1	2	99	f	1	2	99
g. Any ripe mangoes, papayas, cantaloupe, or jackfruit?	g	1	2	99	g	1	2	99
h. Any other fruits or vegetables?	h	1	2	99	h	1	2	99
i. Any liver, kidney, heart or other organ meats?	i	1	2	99	i	1	2	99
j. Any chicken, duck or other birds?	j	1	2	99	j	1	2	99
k. Any other meat?	k	1	2	99	k	1	2	99
l. Any eggs?	l	1	2	99	l	1	2	99
m. Any fresh or dried fish or shellfish?	m	1	2	99	m	1	2	99
n. Any foods made from beans, peas, or lentils?	n	1	2	99	n	1	2	99
o. Any nuts?	o	1	2	99	o	1	2	99
p. Any cheese, yogurt or other milk products?	p	1	2	99	p	1	2	99
q. Any food made with oil, fat, ghee or butter?	m	1	2	99	m	1	2	99
r. Any other solid or semi-solid food?	n	1	2	99	n	1	2	99

Survey End time	Surveyor 1 Signature	Surveyor 2 Signature	Supervisor Signature & Date	City Head Signature & Date	Editor Signature & Date
☐☐:☐☐ AM / PM					

Appendix C
Tables To Findings

Pic: Nevin John

Appendix C

Tables To Findings

Table 1: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months

Particular	Stunted	Underweight	Wasted	Overweight
Pooled Data for Cities	22.3	21.4	13.9	2.4

Table 2: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months

Particular	Severely Stunted	Severely Underweight	Severely Wasted	Severely Overweight (Obese)
Pooled Data for Cities	7.6	5.2	3.2	0.9

Table 3: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months, by sex

Gender	Stunted	Underweight	Wasted	Overweight
Boy	22.7	21.9	15.2	2.5
Girl	21.8	20.7	12.4	2.3

Table 4: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months, by sex

Gender	Severely Stunted	Severely Underweight	Severely Wasted	Severely Overweight (Obese)
Boy	7.8	5.5	3.6	1.0
Girl	7.2	4.9	2.8	0.8

Table 5: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months, by years of mothers schooling

Mothers schooling	Stunted	Underweight	Wasted	Overweight
Less Than 5 Years	35.3	33.1	17.6	3.2
5-9 Years	27.6	26.8	15.7	2.5
10+ Years	16.7	16.1	12.2	2.5

Table 6: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months, by mothers' years of schooling

Mothers schooling	Severely Stunted	Severely Underweight	Severely Wasted	Severely Overweight (Obese)
Less Than 5 Years	13.5	9.2	3.6	1.2
5-9 Years	8.9	6.8	4.0	1.4
10+ Years	5.5	3.5	2.7	1.0

Table 7: Prevalence (%) of stunting, underweight, wasting and overweight in children aged 0-59 months, by household wealth quintile

Wealth Quintiles	Stunted	Underweight	Wasted	Overweight
Lowest	29.3	29.3	16.7	1.8
Middle	21.9	21.4	14.2	1.9
Highest	15.0	12.6	10.5	3.6

Table 8: Prevalence (%) of severe stunting, underweight, wasting and overweight in children aged 0-59 months, by household wealth quintile

Wealth Quintiles	Severely Stunted	Severely Underweight	Severely Wasted	Severely Overweight (Obese)
Lowest	10.5	7.6	4.1	0.7
Middle	6.9	5.1	3.2	0.7
Highest	4.9	2.7	2.2	1.3

Table 9: Prevalence (%) of stunting, underweight, wasting and overweight, by children's age group

Age Group	Stunted	Underweight	Wasted	Overweight/Obese
0-5 mo	14.7	17.3	16.3	3.2
6-8 mo	15.1	17.3	13.1	3.6
9-11 mo	20.8	18.0	12.8	3.5
12-17 mo	22.9	19.1	13.3	2.5
18-23 mo	25.0	19.5	12.0	3.3
24-35 mo	23.1	22.9	15.2	1.8
36-47 mo	25.7	24.2	13.1	1.7
48-59 mo	21.3	23.3	14.6	2.2

Nutritional Status of Children by City

Table 10: Prevalence (%) of moderate stunting and severe stunting in children aged 0-59 months, by city

City	Moderate	Severe
Mumbai	14.2	5.5
Delhi	18.9	11.7
Bengaluru	12.8	6.4
Hyderabad	15.7	9.5
Ahmedabad	19.4	10.1
Chennai	10.0	4.8
Kolkata	13.3	5.4
Surat	16.9	9.5
Pune	12.3	6.9
Jaipur	13.7	5.7

Table 11: Prevalence (%) of moderate underweight and severe underweight in children aged 0-59 months, by city

City	Moderate	Severe
Mumbai	19.2	5.7
Delhi	15.1	6.7
Bengaluru	15.6	4.4
Hyderabad	19.2	6.6
Ahmedabad	19.0	6.3
Chennai	10.8	2.7
Kolkata	15.7	3.7
Surat	19.3	6.4
Pune	14.8	5.0
Jaipur	12.9	4.3

Table 12: Prevalence (%) of moderate wasting and severe wasting in children aged 0-59 months, by city

City	Moderate	Severe
Mumbai	15.1	3.9
Delhi	9.0	3.2
Bengaluru	11.2	3.0
Hyderabad	11.6	3.3
Ahmedabad	10.4	2.4
Chennai	9.8	3.1
Kolkata	9.5	2.2
Surat	10.8	3.9
Pune	12.0	4.0
Jaipur	8.0	2.8

Table 13: Prevalence (%) of overweight in children aged 0-59 months, by city

City	Moderate	Severe
Mumbai	1.1	0.5
Delhi	2.0	1.3
Bengaluru	0.9	0.9
Hyderabad	0.7	0.7
Ahmedabad	1.5	0.7
Chennai	3.7	1.8
Kolkata	1.8	1.1
Surat	1.0	0.6
Pune	1.5	0.8
Jaipur	1.1	0.5

Table 14: Prevalence (%) of stunting in children aged 0-59 months, by city, by sex of child

City	Boy	Girl
Mumbai	19.1	20.4
Delhi	30.7	30.5
Bengaluru	19.1	19.3
Hyderabad	27.0	23.3
Ahmedabad	30.6	28.1
Chennai	14.3	15.4
Kolkata	19.2	18.0
Surat	25.8	27.1
Pune	19.0	19.4
Jaipur	20.9	17.6

Table 15: Prevalence (%) of underweight in children aged 0-59 months, by city, by sex

City	Boy	Girl
Mumbai	23.7	26.2
Delhi	23.3	20.0
Bengaluru	21.6	18.2
Hyderabad	27.6	24.0
Ahmedabad	26.6	23.9
Chennai	13.6	13.3
Kolkata	20.6	18.0
Surat	24.6	27.1
Pune	20.6	18.9
Jaipur	16.8	17.6

Table 16: Prevalence (%) of wasting in children aged 0-59 months, by city, by sex

City	Boy	Girl
Mumbai	20.8	17.0
Delhi	13.7	10.3
Bengaluru	14.9	13.4
Hyderabad	16.9	12.8
Ahmedabad	15.2	09.9
Chennai	13.4	12.3
Kolkata	13.4	09.8
Surat	16.4	12.5
Pune	16.6	15.3
Jaipur	11.0	10.5

Table 17: Prevalence (%) of overweight in children aged 0-59 months, by city, by sex

City	Boy	Girl
Mumbai	1.7	1.5
Delhi	2.7	4.0
Bengaluru	2.0	1.8
Hyderabad	1.7	1.2
Ahmedabad	2.6	1.8
Chennai	5.6	5.3
Kolkata	3.6	2.3
Surat	1.8	1.3
Pune	1.9	2.8
Jaipur	1.8	1.3

Table 18: Prevalence (%) of stunting in children aged 0-59 months, by city, by mother's years of schooling

City	< 5 Years	5-9 Years	10+ Years
Mumbai	32.7	26.6	13.7
Delhi	41.9	34.1	23.4
Bengaluru	26.2	31.1	15.2
Hyderabad	30.0	27.2	23.6
Ahmedabad	51.0	38.1	19.0
Chennai	21.4	16.1	13.9
Kolkata	33.9	18.9	12.4
Surat	35.2	28.9	20.8
Pune	30.5	29.5	14.1
Jaipur	33.2	25.7	11.2

Table 19: Prevalence (%) of underweight in children aged 0-59 months, by city, by mother's years of schooling

City	< 5 Years	5-9 Years	10+ Years
Mumbai	37.7	33.2	18.1
Delhi	33.0	26.4	14.1
Bengaluru	25.5	31.1	16.5
Hyderabad	34.0	30.2	22.9
Ahmedabad	42.7	33.3	16.4
Chennai	26.2	17.0	11.6
Kolkata	33.1	20.9	12.9
Surat	35.8	26.9	20.4
Pune	26.7	27.0	16.4
Jaipur	27.5	24.2	10.0

Table 20: Prevalence (%) of wasting in children aged 0-59 months, by city, by mother's years of schooling

City	< 5 Years	5-9 Years	10+ Years
Mumbai	25.3	21.8	16.3
Delhi	16.5	13.1	09.6
Bengaluru	20.7	15.2	13.0
Hyderabad	19.4	16.4	13.5
Ahmedabad	19.3	14.4	10.3
Chennai	23.8	15.0	11.8
Kolkata	14.5	13.4	09.3
Surat	17.6	15.3	12.9
Pune	16.2	19.6	14.6
Jaipur	12.8	13.4	08.8

Table 21: Prevalence (%) of overweight in children aged 0-59 months, by city, by mother's years of schooling

City	< 5 Years	5-9 Years	10+ Years
Mumbai	1.2	2.3	1.4
Delhi	1.5	1.7	4.9
Bengaluru	2.1	1.6	1.9
Hyderabad	0.4	0.9	1.8
Ahmedabad	1.6	0.7	3.3
Chennai	11.9	3.5	5.9
Kolkata	0.4	1.5	5.1
Surat	0.9	1.4	2.0
Pune	2.9	1.9	2.4
Jaipur	1.3	0.8	2.0

Table 22: Prevalence (%) of stunting in children aged 0-59 months, by city, by household wealth quintile

City	Lowest	Middle	Highest
Mumbai	26.1	16.0	11.9
Delhi	37.3	29.7	24.4
Bengaluru	25.9	23.0	11.0
Hyderabad	29.6	22.8	17.2
Ahmedabad	44.7	30.7	20.2
Chennai	20.8	13.0	12.0
Kolkata	22.6	15.1	06.3
Surat	32.5	25.1	17.4
Pune	30.4	19.3	10.2
Jaipur	29.8	23.5	13.7

Table 23: Prevalence (%) of underweight in children aged 0-59 months, by city, by household wealth quintile

City	Lowest	Middle	Highest
Mumbai	30.0	21.7	18.6
Delhi	31.2	22.5	11.4
Bengaluru	28.3	24.9	09.7
Hyderabad	32.2	20.9	17.2
Ahmedabad	39.9	25.8	17.0
Chennai	17.0	14.9	09.9
Kolkata	24.2	15.6	03.1
Surat	33.3	23.3	15.8
Pune	29.8	19.9	12.4
Jaipur	27.5	22.7	11.0

Table 24: Prevalence (%) of wasting in children aged 0-59 months, by city, by household wealth quintile

City	Lowest	Middle	Highest
Mumbai	20.6	18.1	17.1
Delhi	15.9	10.9	09.3
Bengaluru	21.2	14.8	09.5
Hyderabad	17.8	12.2	13.5
Ahmedabad	17.6	12.5	10.5
Chennai	14.8	15.3	09.7
Kolkata	13.0	11.2	05.5
Surat	16.9	14.0	11.6
Pune	17.8	18.6	12.0
Jaipur	13.4	13.3	08.7

Table 25: Prevalence (%) of overweight in children aged 0-59 months, by city, by household wealth quintile

City	Lowest	Highest
Mumbai	1.5	2.2
Delhi	1.4	7.2
Bengaluru	1.0	3.2
Hyderabad	0.8	3.0
Ahmedabad	1.6	3.6
Chennai	6.5	5.0
Kolkata	1.8	7.0
Surat	1.0	2.6
Pune	2.1	2.5
Jaipur	1.6	2.0

Table 26: Prevalence (%) of Low Birth Weight babies, by city

City	LBW (<2.5 kgs)
Mumbai	18.3
Delhi	21.4
Bengaluru	15.0
Hyderabad	13.5
Ahmedabad	14.1
Chennai	14.3
Kolkata	25.1
Surat	18.8
Pune	17.4
Jaipur	22.7
All City Average	**15.7**

Table 27: Percentage (%) of children aged 0-23 months who were breast fed within one hour of birth, by city

City	Breastfeeding within one hour
Mumbai	32.3
Delhi	45.2
Bengaluru	39.5
Hyderabad	51.1
Ahmedabad	25.0
Chennai	66.8
Kolkata	29.0
Surat	32.2
Pune	42.6
Jaipur	13.3

Table 28: Percentage of children aged 0-5 months who were exclusively breastfed, by city

City	Exclusive Breastfeeding
Mumbai	36.8
Delhi	27.8
Bengaluru	32.6
Hyderabad	30.7
Ahmedabad	32.8
Chennai	12.0
Kolkata	38.7
Surat	27.7
Pune	28.7
Jaipur	34.1

Table 29: Percentage of children aged 6-8 months who were fed complementary foods, by city

City	Introduction of Complementary Feeding
Mumbai	62.3
Delhi	38.4
Bengaluru	36.2
Hyderabad	41.9
Ahmedabad	39.4
Chennai	70.5
Kolkata	62.9
Surat	32.1
Pune	38.7
Jaipur	29.1

Table 30 - Percentage of children aged 6-23 months fed according to selected IYCF practices, by age group

Age	Fed breastmilk, milk or milk products	Fed minimum meal frequency	Fed a minimum number of food groups	Fed with 3 IYCF practices
6-8 mo	99.6	52.4	17.7	13.6
9-11 mo	99.1	44.3	30.8	19.9
12-17 mo	97.9	46.7	42.1	24.3
18-23 mo	95.3	46.2	47.9	26.7
Total	**97.5**	**47.2**	**37.8**	**22.5**

Table 31 - Percentage of children aged 6-23 months fed according to selected IYCF practices, by sex

Sex	Fed breastmilk, milk or milk products	Fed minimum meal frequency	Fed a minimum number of food groups	Fed with 3 IYCF practices
Boy	97.8	47.9	37.2	22.6
Girl	97.2	46.4	38.6	22.4
Total	**97.5**	**47.2**	**37.8**	**22.5**

Table 32 - Percentage of children aged 6-23 months fed according to selected IYCF practices, by household wealth quintile

Wealth group	Fed breastmilk, milk or milk products	Fed minimum meal frequency	Fed a minimum number of food groups	Fed with 3 IYCF practices
Lowest	97.3	47.6	34.2	21.0
Middle	97.7	49.4	37.4	23.8
Highest	97.6	44.5	42.4	22.8
Total	**97.5**	**47.2**	**37.8**	**22.5**

Table 33 - Percentage of children aged 6-23 months who received at least a minimum meal frequency, by city

City	Fed minimum meal frequency
Mumbai	68.5
Delhi	21.8
Bengaluru	44.9
Hyderabad	50.8
Ahmedabad	51.0
Chennai	48.3
Kolkata	67.8
Surat	27.6
Pune	40.7
Jaipur	31.9
All Cities	**45.3**

Table 34 - Percentage of children aged 6-23 months who received at least a minimum number of food groups, by city

City	Fed minimum number of food groups
Mumbai	43.7
Delhi	32.8
Bengaluru	45.5
Hyderabad	35.6
Ahmedabad	22.7
Chennai	58.9
Kolkata	59.4
Surat	24.7
Pune	29.1
Jaipur	28.4
All Cities	**37.8**

Table 35 - Percentage of children aged 6-23 months fed according to selected IYCF practices, by city

City	Fed according to selected 3 IYCF practices
Mumbai	41.3
Delhi	11.0
Bengaluru	24.3
Hyderabad	21.1
Ahmedabad	14.5
Chennai	31.0
Kolkata	47.3
Surat	09.7
Pune	15.1
Jaipur	13.0
All Cities	**22.5**

Pic: Nevin John

Naandi Foundation,
502, Trendset Towers,
Banjara Hills,
Road No. 2,
Hyderabad
Phone: 040 23556491
Email: info@naandi.org
www.naandi.org