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Health Profile of 0 to 5 Years Children in Migratory and Non-Migratory Population residing in Slums of Amritsar City- A Cross-sectional Study

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ABSTRACT

Background: Background: Migration can influence access to healthcare, nutrition, and other determinants of child health. This study compared the health profile of children aged 0–5 years and selected maternal and socio-demographic characteristics among migratory and non-migratory populations residing in slums of Amritsar city.

Methods: A community-based cross-sectional study was conducted among 1,600 households selected from eight slum areas of Amritsar city. All children aged 0–5 years in the selected households were included after informed consent. Data on socio-demographic characteristics, birth history, immunization, feeding practices, morbidity, and nutritional status were collected using a pretested proforma. Anthropometric measurements were recorded using standardized techniques. Weight-for-age, height-for-age, and weight-for-height indices were assessed according to WHO criteria. Haemoglobin was estimated by Sahli's method. Data were analysed using Epi Info 7, and the Chi-square test was applied.

Results: Of the 1,600 households, 1,197 (74.8%) were migratory and 403 (25.2%) were non-migratory, comprising 1,135 children aged 0–5 years. Underweight was significantly higher among non-migratory children than migratory children (43% vs. 30%; p=0.00043). Stunting was 53% versus 46%, while concurrent wasting and stunting was 41% versus 32%, respectively. Full immunization coverage was similar (45% vs. 46%). Morbidity was significantly higher among non-migratory children (80% vs. 64%; p=0.011), as was anaemia (82% vs. 70%; p=0.0001). Institutional delivery was substantially higher among non-migratory mothers (82% vs. 35%), whereas home delivery was more common among migratory mothers (65% vs. 18%; p=0.0001).

Conclusion: Migratory and non-migratory populations demonstrated distinct health patterns. Non-migratory children had greater nutritional, morbidity, and anaemia burdens, whereas migratory mothers had markedly lower institutional delivery. Population-specific strategies are needed to improve child nutrition, anaemia control, and maternal healthcare access in urban slums.

Key Words: *Migration; non-migratory population; under-five children; slums; malnutrition; immunization; anaemia; morbidity; institutional delivery.*

INTRODUCTION

Migration is one of the most powerful and least regulated forces shaping the health of India's population, and nowhere is its influence more consequential than on the wellbeing of women and young children. The overwhelming majority of this movement is short-distance and circular in nature: nearly two-thirds occurs within the same district and only a small fraction

crosses state boundaries, reflecting a pattern dominated by seasonal, informal-sector labour migration rather than permanent relocation. Families migrate, often as a unit, in search of work in construction, brick-kilns, agriculture, and small-scale urban manufacturing, carrying their youngest and most vulnerable members — infants and children under five — with them into settings that are frequently makeshift, transient, and outside the ambit of routine public health surveillance.

This pattern of mobility sits uneasily alongside India's ongoing struggle with child undernutrition and preventable maternal and child morbidity. Even at the national level, where health infrastructure and outreach are, in principle, most developed, the latest round of the National Family Health Survey (2023–24) recorded that 29.3% of children under five were stunted, 19% were wasted, and 31.8% were underweight. Full immunization coverage among children aged 12–23 months improved to 82.6%, and institutional delivery rose to 90.6% of births nationally. These national averages, however, conceal enormous heterogeneity across population sub-groups, and there is now a substantial and growing body of evidence suggesting that migrant status is one of the axes along which this heterogeneity is most sharply expressed — sometimes to the advantage of migrant families, and sometimes profoundly to their disadvantage, depending on the specific migration stream, occupation, and destination context being examined.

Migration and Child Health: A Contested Relationship

The relationship between migration and child health outcomes in India has been described in the literature as complex and, at times, contradictory. On one hand, a substantial body of site-specific research on migrant construction-site and brick-kiln populations has documented severe deprivation: children living with their parents at construction sites in cities such as Ahmedabad and Pune have been found to experience high rates of wasting and stunting, frequent bouts of diarrhoea, cough, and fever attributed to poor water quality and inadequate sanitation at work-site encampments, and truncated access to routine antenatal and immunization services because of the transient, undocumented, and often invisible nature of their residence. On the other hand, nationally representative analyses using Demographic and Health Survey-type data have periodically reported the opposite pattern — namely those children whose households are officially non-migrant, but who reside in fixed, long-settled, and equally resource-poor urban slums or peri-urban settlements, sometimes exhibit greater cumulative nutritional deficits and higher morbidity than children of migrant households, once other socio-economic characteristics such as caste, wealth, and maternal education are accounted for. This apparent contradiction likely reflects genuine underlying diversity: migrant populations in India are not a single homogeneous group but include, at one extreme, distressed seasonal labour migrants living in acutely precarious conditions, and at the other, better-resourced households whose mobility is itself made possible by relatively greater economic security. Similarly, non-migrant or 'settled' populations in urban and peri-urban India range from well-serviced formal neighbourhoods to chronically underserved, decades-old informal slum clusters that have simply never benefited from the infrastructural upgrades or targeted schemes that newer or more visible migrant settlements sometimes attract.

This heterogeneity has direct implications for maternal healthcare-seeking as well. A substantial literature on place of delivery in India has consistently identified migrant status as an independent predictor of home delivery, even after accounting for income and education. Migrant mothers frequently lack the local residency proof or continuous antenatal registration required to access governmental schemes and face practical barriers of transport, distance, and cost when labour begins at a temporary worksite far from a functioning health facility. Immunization coverage tells a similarly mixed story: while some national analyses suggest migrant children are, on average, no worse — and occasionally better — immunized than non-migrant children, a larger set of city- and site-specific studies from Delhi, Bengaluru, Haridwar, and Gujarat has consistently found that recently migrated children have substantially lower full-immunization coverage than settled migrants or long-term urban residents, largely because the multi-dose, timed schedule required for full immunization is difficult to sustain across repeated relocations and because immunization cards are easily lost or left behind.

Despite this rich but scattered body of evidence, comparative, community-based data that simultaneously examine nutritional status, immunization coverage, morbidity, anaemia, place of delivery, and socio-economic profile within a single migratory and non-migratory population living in the same geographic area remain relatively uncommon in the Indian public health literature. Much of the existing evidence is either drawn from large national surveys, which classify migration status using broad, retrospective definitions and cannot capture the lived, on-the-ground conditions of a specific local migrant community, or from small, site-specific studies of a single migrant occupational group (typically construction workers) that lack a directly comparable non-migrant control population drawn from the same setting. A study design that enumerates both migratory and non-migratory households within the same defined community, using the same instruments, at the same point in time, offers a methodologically stronger basis for isolating the specific contribution of migratory status to differences in child health and maternal care outcomes, while holding constant many of the broader contextual factors — climate, local health infrastructure, prevailing food security conditions, and cultural practices — that might otherwise confound comparisons drawn across different studies, regions, or time periods.

Furthermore, from a health-systems planning perspective, understanding whether migratory or non-migratory households bear the greater burden of undernutrition, morbidity, anaemia, and inadequate maternal care within a given catchment area has direct and practical implications. India's flagship child health and nutrition programmes — including the Integrated

Child Development Services (ICDS) scheme, Poshan Abhiyan, the Universal Immunization Programme, and the Janani Suraksha Yojana — are all delivered through geographically fixed anganwadi centres, sub-centres, and outreach sessions that are often designed around a stable, enumerated resident population. Migratory households, by virtue of their mobility, risk falling outside these delivery mechanisms altogether, while non-migratory households in chronically underserved slum pockets may, paradoxically, continue to be underserved simply because they are locally invisible or politically unorganized, despite their fixed and enumerable presence. Identifying which of these two population groups is more disadvantaged on which specific indicators — rather than assuming a uniform migrant disadvantage — is therefore essential to designing programme outreach, resource allocation, and monitoring strategies that are genuinely responsive to local need.

MATERIAL AND METHODS

Community based-Cross-sectional study was conducted in Amritsar slum dwellers. Amritsar city has recognized 63 slum areas according to Municipal Corporation Amritsar. These 63 slum areas divided into 8 zones by municipal corporation Amritsar based on location viz. East, West, North, South and Central. From each zone one area was selected by random lottery method and 200 houses from each zone were included in study.

A household survey was conducted among the selected households and all the child of age zero to five years were included in the study after taking informed consent from the mother/Elder member of house. Household without under five child and who failed to give consent were excluded from the study and immediately next household was taken to complete the sample size of 200, so total 1600 houses were surveyed in 8 zones having 63 slum areas. After taking consent of mother/elder member of the house, the information was recorded on pre tested and pre-formed Performa including the children birth history, sociodemographic details, immunization status, feeding practices and nutritional status. A general physical examination & anthropometric assessment of the child was also be carried out.

Length/height in cm; weights in kg of under-5 children were measured recorded using standardized technique and recorded on the same performa. For children aged <24 months/those who were unable to stand, length was recorded by using an ISI marked infantometrer. Weight was recorded by an ISI marked infant weighing scale calibrated up to 0.1 kg for the children aged between 0 and 12 months. Among children aged between 13 and 24 months, an adult weighting scale was used to record the weight of child calibrated up to 0.5 kg and it was calculated by weight of the (mother and child) – (weight of the mother alone). The same machine was used to record weight of child of age >24 months. For recording the height of children aged >24 months, an ISI marked stadiometre was used with a calibration up to 0.1 cm. These measurements were used to assess the nutritional status of the child, where weight for age, height for age and weight for height indices were calculated. WHO criteria based on standard deviation (SD) units was considered for undernourishment. Any of above indices more than 2 SD below the reference median line was labelled as underweight, stunted and wasted. Haemoglobin estimation was done by Sahli's method. Children with Hb less than 11 g/dL were considered as anaemic. They were further graded into mild anaemia (10–11 g), moderate (7–9.9 g) and severe (<7 g). The data was compiled and analysed using Epi Info 07 (CDC, USA). Proportions were calculated where relevant and Chi-square test was applied.

Table 1: Socio-demographic profile of the study population and distribution of children by age and sex

Total Houses	1600	
Total Family Members	7263	
0-15 Year children	2359	Male-1223 Female-1136
0-5 year children	1135	Male-573 Female-562
Average Family Size	4.5	

Table 2: Comparison of nutritional status, immunisation coverage and health indicators among children from migratory and non-migratory households

S. no.	Migratory	Non-Migratory	Chi Square Value	p-Value
1) Houses	1197	403	-	
2) 0–15-year Children	1750 Male-927 Female-823	609 Male-296 Female-313	-	
3) 0–5-year children	824 Male-445 Female-379	311 Male-128 Female-183	-	
4) Underweight				
Yes	249 (30%)	134 (43%)		
No	575 (70%)	177 (57%)	16.7	0.00043

5) Wasted				
Yes	67(8%)	26(8%)		
No	757(92%)	285(92%)	0.015	0.09
6) Stunted				
	377(46%)	165(53%)		
	447(54%)	146(47%)	4.8	0.02
Yes	265(32%)	129(41%)	8.6	0.003
No	559(68%)	182(59%)		
7) Wasted & Stunted				
Yes				
No				
8) Immunized				
	200 (24%)	66 (21%)		
a) Un-immunized	249 (30%)	106 (34%)	31.3	1.5
b) Partially Immunized	375 (46%)	139 (45%)		
c) Fully Immunized				
9) Disease				
Present	529(64%)	250 (80%)	6.3	0.011
Absent	295(36%)	61 (20%)		
10) Anaemia	583(70%)	254 (82%)	13	0.0001
Present	241 (30%)	57 (18%)		
Absent				
11) Place of Delivery	541 (65%)	254 (82%)	27	0.0001
Home	283 (35%)	57 (18%)		
Hospital				
12) Income	20 (2.5%)	8(3%)		
	21(2.5%)	0		
Lower	783(95%)	303(97%)		
Lower Middle				
Upper Middle				
13) Education of Hof				
Illiterate	547(66%)	215(69%)		
Literate	277(34%)	96(31%)	0.77	0.37

DISCUSSION

The present community-based comparative study was undertaken to assess and compare the nutritional status, immunization coverage, morbidity profile, and selected maternal and socio-demographic characteristics of children and households belonging to migratory and non-migratory populations. A total of 1,600 houses with 7,263 family members (mean family size 4.5) were enumerated, comprising 2,359 children aged 0–15 years (1,223 males and 1,136 females) and 1,135 children aged 0–5 years (573 males and 562 females). Of these, 1,197 households (74.8%) belonged to the migratory group and 403 households (25.2%) to the non-migratory group, yielding a substantially larger migratory sub-sample that

mirrors the demographic reality of many peri-urban and semi-urban settlements in India, where migrant labourer families characteristically outnumber long-settled residents**.**

Socio-economic Determinants: Income and Education

With respect to household income, the overwhelming majority of families in both groups (95% of migratory and 97% of non-migratory households) were classified in the upper-middle income category, with very small proportions in the lower and lower-middle categories. The similarity in income distribution between the two groups suggests that, at least by the categorical income measure used in this study, migratory and non-migratory households were broadly comparable in socio-economic standing, which strengthens the inference that the nutritional, morbidity, and health-care-seeking differences reported above are attributable to migration-specific factors — such as mobility, disrupted access to services, and unstable housing — rather than to gross differences in household income per se.

Educational attainment of the head of family was also broadly similar between groups, with illiteracy recorded in 66% of migratory and 69% of non-migratory households, and literacy in 34% and 31% respectively. The high overall illiteracy burden in both groups — affecting roughly two-thirds of household heads — is itself a matter of concern, since parental, and particularly maternal, education is one of the most consistent determinants of child nutritional status, immunization uptake, and health-care-seeking behaviour reported in the literature. The absence of a significant difference between groups indicates that educational disadvantage is a shared, cross-cutting vulnerability in this study area rather than one specific to migratory status, and that health education and behaviour-change interventions should therefore be universally targeted rather than restricted to either subgroup alone.

Nutritional Status of Children

Undernutrition emerged as a significant differentiator between the two groups. The prevalence of underweight children was markedly higher among the non-migratory group (43%) than the migratory group (30%), and this difference was highly statistically significant ($p = 0.00043$). At first glance this appears counter-intuitive, since migrant populations are conventionally expected to fare worse on nutritional indices owing to unstable housing, seasonal and irregular income, poor access to anganwadi and supplementary nutrition services, and frequent relocation that disrupts continuity of care. This apparent paradox is, however, not without precedent. Using National Family Health Survey-4 data, Mishra et al. (2022)[1] similarly reported that non-migrant children in India had a higher burden of underweight and stunting than migrant children once socio-economic stratification was accounted for, attributing the gap chiefly to differentials in maternal education, caste, and household wealth rather than to migration itself. A plausible explanation applicable to the present sample is that the non-migratory group may represent a chronically resource-poor, static slum or peri-urban population with entrenched food insecurity, whereas the migratory group, despite its mobility, may be engaged in comparatively better-paid seasonal labour (construction, brick kiln or agricultural work) that provides more immediate, if irregular, cash income translating into better short-term dietary adequacy, as reflected in the weight-for-age indicator.In the present study, underweight was observed in 30% of migratory children compared with 43% of non-migratory children. In contrast, Talukdaret al.[2], in a meta-analysis of 17 studies from lower-middle-income countries, reported a pooled prevalence of underweight of 25.96% among migrant/refugee children, with a substantially higher estimate of 37.45% reported for India. The prevalence of underweight among migratory children in our study was therefore slightly higher than the overall pooled estimate but lower than the estimate reported for India. This apparent difference may reflect variations in study setting, socioeconomic characteristics, dietary patterns, access to health and nutrition services, and the heterogeneity of migrant populations across studies. The high burden of undernutrition reported among migrant children in the existing literature nevertheless highlights the importance of ensuring equitable access to nutrition and healthcare services for mobile populations.Stunting, which reflects chronic and cumulative nutritional deprivationrather than acute deficits, showed the same direction of difference: it was more prevalent among non-migratory children (53%) than migratory children (46%). Similarly, the composite indicator of concurrent wasting and stunting was significantly higher in the non-migratory group (41% vs. 32%), indicating a more severe and chronic burden of malnutrition among children who have remained settled in the study area. This pattern is broadly consistent with the findings of Mishra et al. (2022)[1], who also observed higher stunting among non-migrant than migrant children nationally, and suggests that non-migratory children in the present sample experience long-standing, generational undernutrition, while migratory children, though acutely undernourished in a smaller proportion, have not yet manifested the same degree of chronic linear growth failure. It is worth noting, however, that this finding runs counter to a substantial body of site-specific literature on migrant construction-worker families: Singh (2022)[3], studying children at construction sites in Pune, and Ravindranath, Trani, and Iannotti (2019)[4], studying migrant construction-worker children in Ahmedabad, both documented very high localized stunting and wasting among migrant children living on-site, underscoring that the direction of the migrant–non-migrant nutritional gradient is highly context-dependent and shaped by the specific occupational, housing, and regional circumstances of the migrant sub-group being studied rather than being a fixed feature of migration per se.Mishra et al.[1]analysed NFHS-4 data among 199,448 children aged 12–59 months and found that stunting was more prevalent among non-migrant children (44.2%) than migrant children (37.4%). The same pattern was observed across several socioeconomic and demographic groups. Among scheduled caste children, stunting was 36.1% among migrants compared with 46.0% among non-migrants, while among scheduled tribe children it was 38.9% versus 46.4%, respectively. The higher prevalence of stunting among non-migrant children may be related more to socioeconomic vulnerability and access to resources than to migration status itself. Wealth and maternal

education were identified as important contributors to the difference in stunting, accounting for 34.2% and 33.7%. Migration may sometimes improve household economic circumstances and thereby facilitate access to nutritious food, healthcare, housing and other amenities and migrant mothers may provide more conscious care to children in the absence of extended family support, while non-migrant families, particularly those living in poorer or rural settings, may have comparatively limited access to healthcare and sanitation. In contrast, wasting alone did not differ significantly between groups (8% in both groups), suggesting that acute, short-term nutritional crises, typically triggered by acute illness, diarrhoeal disease, or acute food shortage, were comparably distributed across both populations and were not specifically driven by migratory status. Taken together, these results imply that migration status interacts differentially with acute versus chronic nutritional indicators, and that stunting and the combined wasted-and-stunted category, rather than isolated wasting, may be the more sensitive markers of the cumulative disadvantage associated with prolonged residence in under-resourced non-migratory settlements in this study population.

Immunization Coverage

Full immunization coverage was comparable between the two groups (46% among migratory versus 45% among non-migratory children), while partial immunization was somewhat more common among non-migratory children (34% vs. 30%) and non-immunization was marginally higher among migratory children (24% vs. 21%). The near-identical proportion of fully immunized children in both groups is a reassuring finding, and is in line with the somewhat unexpected national-level observation of Mishra, Choudhary, and Anand (2020)[5], who used NFHS-4 data to show that migrant children in India were, on average, more likely to be fully vaccinated than non-migrant children, a pattern the authors attributed to positive selection of relatively better off households into migration and to the reach of outreach immunization strategies such as mobile sessions and Village Health and Nutrition Days that are specifically designed to serve mobile populations under the Universal Immunization Programme. At the same time, the slightly higher proportion of un-immunized children among the migratory group in the present study echoes the more commonly reported finding in site-specific studies of recently migrated families, where the difficulty of maintaining a multi-dose, timed immunization schedule across relocations, and the frequent absence of retrievable immunization cards, has repeatedly been identified as a barrier to completing the schedule.

Morbidity and Disease Burden

The overall burden of reported illness (encompassing common childhood infections, diarrhoeal disease, respiratory infections, and other morbidities) was significantly higher among the non-migratory group, with 80% reporting a current or recent disease episode compared with 64% in the migratory group. This finding aligns with, and reinforces, the stunting data discussed above, together painting a picture of a non-migratory population burdened by a higher chronic disease and infection load. It is consistent with the broader evidence from India's peri-urban slums reported by Boo et al. (2021)[6], who, analysing NFHS-4 data across eight Indian cities, found that household- and slum-level factors such as water source, sanitation, and cooking fuel were strongly associated with childhood respiratory and gastro-intestinal infections, both of which tend to be more entrenched in long-settled, fixed slum environments than in transient migrant work-site encampments. The comparatively lower morbidity among the migratory group in the present study may reflect shorter cumulative exposure durations to any single set of adverse environmental conditions, even though the housing conditions at migrant work sites are themselves frequently precarious.

Anaemia

Anaemia prevalence was high in both groups, underscoring its status as a near universal public health problem in this population, but it was significantly more prevalent among non-migratory participants (82%) than migratory participants (70%) ($p = 0.0001$). This is consistent with the higher stunting and higher overall morbidity already observed in the non-migratory group, since chronic infection, poor dietary diversity, and repeated infectious insults are all recognized contributors to iron-deficiency and anaemia of chronic disease. Nguyen, Scott, Avula, Tran, and Menon (2018)[7], analysing two decades of National Family Health Survey data, similarly linked slower anaemia decline in parts of urban India to rapid urban expansion and the associated influx of low-income migrant and slum-dwelling households, and identified maternal education, dietary diversity, and sanitation access as the principal underlying drivers of anaemia change over time — determinants that plausibly differ between the settled and mobile groups sampled here. The magnitude of anaemia in both arms, however — with more than two-thirds of the migratory group also affected — indicates that anaemia control measures such as iron and folic acid supplementation and deworming require intensification irrespective of migratory status, even though the non-migratory group merits particularly urgent attention.

Place of Delivery and Maternal Care

A striking and clinically important difference was observed in the place of delivery. Institutional (hospital) delivery was far more common among the non-migratory group (82%) than the migratory group (35%), with the majority of migratory mothers (65%) delivering at home which was highly significant ($p = 0.0001$). This is among the most policy-relevant findings of the study, since home delivery, particularly in the absence of a skilled birth attendant, is a well-established risk factor for maternal and neonatal morbidity and mortality. The finding is strongly corroborated by the wider literature on migrant maternal health in India: Kusuma, Kumari, and Kaushal (2013)[8], studying socio-economically disadvantaged rural-

to-urban migrants in Delhi, similarly reported low uptake of adequate antenatal care and institutional delivery among migrant mothers, while Jeyashree, Kathirvel, Trusty, and Singh (2018)[9], in a case-control study from Chandigarh, found that ninety-three per cent of home deliveries in their sample occurred among women who had migrated from other states, with migration status being significantly associated with home delivery before adjustment for education and income. Migrant mothers frequently face structural barriers to institutional delivery, including lack of a local address or residency proof required for registration under maternal health schemes, absence from the antenatal tracking system of the local health sub-centre, financial constraints linked to irregular daily-wage income, and the physical unavailability of transport at short notice from temporary work sites to a functioning health facility. This finding suggests that strengthening outreach antenatal registration, portability of maternal health entitlements (such as JananiSurakshaYojana benefits) across administrative boundaries, and provision of mobile or camp-based birthing support at migrant work sites should be prioritized interventions arising from this study.

Read together, the findings of this study depict a complex and, in places, counter-intuitive picture of comparative disadvantage. Contrary to the common assumption that migrant populations invariably fare worse across all health indicators, the non-migratory group in this study exhibited significantly higher rates of stunting, combined wasting-and-stunting, overall morbidity, and anaemia, alongside markedly better rates of institutional delivery. The migratory group, conversely, showed a higher prevalence of underweight children and a substantially higher reliance on home delivery, the latter representing a serious maternal and neonatal health risk that is not adequately captured by anthropometric indicators alone. This divergence is not unique to the present sample; it mirrors a wider tension in the Indian migration-and-health literature, where nationally representative analyses such as those of Mishra et al. (2022) and Mishra, Choudhary, and Anand (2020) have found migrant children to be nutritionally and immunologically better off than non-migrant children on average, even as site-specific, occupation-focused studies of construction-site and slum-dwelling migrants (Singh, 2022; Ravindranath et al., 2019) and maternal-health studies (Kusuma et al., 2013; Jeyashree et al., 2018) consistently document severe deprivation in nutrition, morbidity, and delivery care among particular migrant sub-groups. This underscores an important methodological and public-health point: migratory and non-migratory status should not be treated as a simple, uniform proxy for better or worse health, but rather as two distinct and heterogeneous risk profiles, each requiring a tailored package of interventions — improved access to maternal and institutional delivery care, portable health entitlements, and mobile outreach services for the migratory population; and intensified nutrition rehabilitation, sanitation improvement, and infection control for the non-migratory population.

This study demonstrates that migratory and non-migratory populations in the study area experience distinct, and in several respects contrasting, patterns of nutritional, immunization, morbidity, and maternal health outcomes, despite broadly similar income and educational profiles. Non-migratory households experienced a significantly higher burden of chronic undernutrition (stunting), general morbidity, and anaemia, whereas migratory households experienced significantly higher rates of home delivery and, to a lesser extent, acute underweight status among children. These findings support the design of differentiated, rather than uniform, public-health interventions for the two population groups, with particular urgency attached to expanding institutional delivery access and antenatal care portability for migrant families, and to strengthening nutrition and infection-control programmes for settled, non-migratory slum-dwelling families. Given the very high overall burden of anaemia and illiteracy observed across both groups, universal strengthening of anaemia-control and maternal-and-child health education programmes remains a priority irrespective of migratory status.

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