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Status of maternal and child health services amongst migrants in Ludhiana slums – how far from the MDG targets?

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ABSTRACT

Background: It is essential to monitor the coverage of health interventions in subgroups of populations, especially the marginalized and those at higher risk, because national averages can hide important inequalities. This study was carried out to find out the utilization and coverage of MCH services among migrants in the slums of Ludhiana, Puniab.

Methods: Cross-sectional sample study. 370 women, who had childbirth within two years prior to the survey, were randomly selected from the 3947 newer migrant households in 30 slum settlements in Ludhiana surveyed for provision of health care, and information obtained from them with regard to MCH services availed by them for their last pregnancy and childbirth. Their children 12-23 months old, 195 in number, were studied for child health services. Results: Antenatal care (ANC) was availed by 44.0% of the women, with 24.6% of them going for minimum 4 antenatal visits and 29.1% having an institutional delivery but only 35.9% by trained health personnel. Place of delivery was found to be a significant predictor of antenatal care. Women staying in Ludhiana availed the least ANC. Complete immunization coverage in the 12-23 month olds was 37.4%. Government health worker visited 7.8% of the

Conclusions: Despite the relative proximity and concentration of health centers in urban compared to rural areas, migrant slum-dwellers are still not able to access quality MCH care. The problem of non-availability of essential healthcare and uneven distribution of skilled health care providers is the central challenge in meeting our health goals.

Keywords: Migrant, Urban slum, Millennium development goals, Maternal and child health services

INTRODUCTION

In 2013, 232 million people, 3.2% of the world's population, lived outside their country of origin, crossing borders in search of better livelihood. Internal migration, the result of people's response to inequitable distribution of resources, services and opportunities, has contributed to the explosive growth of cities around the globe. More than half of the world's population now lives in towns and cities, and by 2030 this number is estimated to increase to 5 billion.2 Migration has a major impact on access and utilization of health services. Gaps in

coverage are concentrated among the most vulnerable, the poorest and the least educated. The demand for and utilization of antenatal care (ANC) depends on numerous factors, many beyond a woman's direct control, more so for the disadvantaged.

One fourth of the urban population in India, over 80 million people, live below poverty line. Poverty and insufficiency of health services leaves a considerable percentage of this population with limited access to basic healthcare facilities.³ The urban population growth in India represents the 2-3-4-5 syndrome: in the last decade

India grew at an average annual growth rate of 2%, urban India grew at 3%, mega cities at 4%, and the slum population rose by 5-6%.⁴ One of the most significant changes in migration patterns in the last half century is that more women migrated than ever before. Punjab and Haryana top in the proportion of female migrants from other states.⁵ In Ludhiana also, where 38.5% of the population are migrants, the female migrants (62.7%) are nearly double than male (37.3%). Women migrants frequently end up in low-status working conditions, poorly paid service jobs in unregulated sectors. They are exposed to a much higher risk of exploitation, violence and abuse, often lacking medical or legal services.⁶

Countdown to 2015 for maternal, newborn, and child survival, consists of a list of indicators to track country and global progress towards achievement of millennium development goals 4 and 5.7 Goal-4 involves reduction in child mortality and goal-5 focuses on providing increased access to public health interventions that result in better maternal health. Women's utilization of maternal health care facility is an important health issue with regard to the wellbeing and survival of both the mother and her child. The gap in evidence-based literature in coverage of maternal and child health (MCH) care amongst the poor, slum-dwelling migrants in the wake of the National Urban Health Mission fuelled the need to carry out this study to find out the utilization and coverage of MCH services among migrants in the slums of Ludhiana, Punjab's most populated and rapidly growing city.

METHODS

Study design

Cross-sectional.

Study sample and participants

A list of the slums was obtained from the Municipal Corporation of Ludhiana. 91 slum settlements in the city, with 2, 58,118 population in approximately 54,054 households were listed. The study sample comprised of

3947 households of "newer migrants" (those who migrated to the city more than 30 days but within 10 years), obtained by purposive sampling using "snow-balling" technique from 30 slums selected randomly from the list. From these households, a 10% sample (395) of women who had childbirth within the preceding 2 years was taken as respondents for this study, to study the MCH services. 370 women participated in the study (response rate 93.7%).

Ethics approval and consent

The study protocol was approved by the Institutional Ethics Committee, and informed consent obtained from the respondents.

Data collection and instruments

Data was obtained from the respondents on their availing ANC for the last child birth, the delivery and the birth attendant, use of postnatal care services and reason(s) for not availing ANC and postnatal care (PNC). Among the under-2 year old children of these women, vaccination coverage was assessed in the 12-23 months old which numbered 195.

Data analysis

Data was analyzed in SPSS software version 21. Data analysis included proportions. Odds ratio and its 95% confidence intervals were calculated, where appropriate. Chi-square test was used to determine statistical significance.

RESULTS

ANC was availed by only 163 (44.0%) of the women as shown in Table 1.

More than half (56.8%) of the women stayed in Ludhiana city during the entire duration of their pregnancy and one-third (33.2%) stayed in their native place. About one-

Table 1: Receipt of ANC according to place and type of delivery.

Variable	ANC Received (n=163)	ANC Not received (n=207)	Total (n=370)	P-Value (X ² -test)	Odds Ratio (95% CI)	
Place of stay during pregnancy:						
City (Ludhiana)	73 (34.8)	137 (65.2)	210		1 (Reference)	
Native place	65 (52.8)	58 (47.2)	123	< 0.001	2.10 (1.30 - 3.40)	
Both	25 (67.6)	12 (32.4)	37		3.91 (1.76 – 8.81)	
Place of Delivery:						
Home	90 (33.7)	177 (66.2)	267	< 0.001	1 (Reference)	
Hospital	73 (70.9)	30 (29.1)	103	<0.001	4.79 (2.84 – 8.10)	
Type of Delivery:						
Normal	154 (43.4)	201 (56.6)	355	- >0.05	1 (Reference)	
Caesarean section	9 (60.0)	06 (40.0)	15	<i>></i> 0.03	1.96 (0.62 – 6.34)	

Table 2: Multiple logistic regression analysis.

	D.	Q.E.	XX7-1.1	De	g:-	A J' OD	95% CI for Adj. OR	
	В	S.E.	Wald	Df	Sig	Adj. OR	Lower	Upper
Place of stay Ludhiana						Ref		
Native Place	-133	.204	.422	1	.516	.876	.587	1.307
Both Place	.210	.380	.307	1	.580	1.234	.586	2.600
Place of delivery Home						Ref		
Hospital	.973	.262	13.766	1	.000	2.645	1.582	4.421
Type of delivery Normal						Ref		
Caesarean	1.311	1.179	1.236	1	.266	.270	.027	2.719

Adj. OR = adjusted odds ratio; CI = confidence interval; Ref = Reference.

Table 3: Care received by the women during their last pregnancy.

Variable	No.	(%)	Variable	No.	(%)
Source of ANC Nil Govt. health facility/hospital Non- Government hospital Qualified private practitioners MPHW(F) Dai Unqualified local practitioners	207 50 56 28 19 7 3	56.0 13.5 15.1 7.6 5.1 1.9 0.8	Prophylaxis against Tetanus and Anemia Tetanus toxoid: Nil 1 dose only 2 or more doses Iron-folate tablets: Nil <100 tablets 100 or more tablets	110 10 250 263 107 0	29.7 2.7 67.6 71.1 28.9 (-)
First ANC Visit Nil 1 -3 months 4 -6 months 7- 9 months	207 111 33 19	56.0 30.0 8.9 5.1	MPHW (F) Visited Yes No	29 341	7.8 92.2
Total no. of ANC Visits Nil 1 only 2 visits 3 visits 4 or more	207 7 39 26 91	56.0 1.9 10.5 7.0 24.6	Trimester of First Visit by MPHW(F) (n=29)** 1 st Trimester 2 nd Trimester 3 rd Trimester	17 11 1	58.6 37.9 3.5
Weight measurement Blood pressure measurement Urine test for sugar & albumin Abdominal examination Hemoglobin estimation Ultrasonogram	104 105 111 134 89 101	63.8 64.4 68.1 82.2 54.6 62.0	Delivery conducted by Doctor Nurse/Midwife Untrained hands	97 36 237	26.2 9.7 64.0

^{* 163} women who had received ANC

third (34.8%) of those who stayed in Ludhiana during their pregnancy received ANC (P<0.001). Those who stayed in their native place were 2.10 times and those who spent part of their ante-natal period in Ludhiana and part in their native place were 3.91 times more likely to have received ANC as compared to those who stayed in Ludhiana only during their pregnancy.

The majority (72.2%) of the women delivered at home, and only one-third of them (33.7%) received ANC, as

compared to 27.8% who had institutional delivery, of whom 70.9% received ANC. Those who delivered in hospital were 4.79 times more likely to have received ANC than those who delivered at home.

355 (96.0%) women had normal delivery, of which only 43.4% received ANC. 15 women had a Caesarean section, of which 9 received ANC. However, the difference was statistically not significant.

^{** 29} women who had been visited at home by Female Multipurpose Health Worker.

Place of delivery was found to be a significant predictor for seeking ANC even in multivariate analysis as shown in Table 2. Those who delivered in hospital were 4.79 times more likely to have received ANC as compared to those who delivered at home (P<0.001).

Non-government hospital was the most common source of ANC (15.1%) followed by government facility as shown in Table 3.

Only 30.0% received ANC in the first trimester of pregnancy, and 24.6% had the required 4 or more visits. Only 7.8% were visited by the health worker during the pregnancy. 71.1% did not receive Iron-folate tablets, 29.7% did not receive tetanus prophylaxis. Delivery was conducted by trained hands in 35.9% of the women. However, even the women who received ANC did not all receive all the components of ANC: 82.2% had an abdominal examination, 68.1% had their urine tested for sugar and albumin, 64.4% had their blood pressure measured and 63.8% had their weight taken, 62.0% had an ultrasound examination and 54.6% had hemoglobin estimation.

The immunization coverage in 12-23 months old children was BCG: 65.1%, DPT (3rd dose): 49.7%, OPV (3rd dose): 50.8%, and Measles vaccine: 39 %. Only 37.4% of the children were vaccinated against the seven Universal Immunization Program (UIP) vaccines as shown in Table 4

Table 4: Immunization coverage in the 12-23 months old migrant children (n=195).

Vaccine	No.	(%)
BCG	127	65.1
OPV-0	128	65.6
OPV-1	117	60.0
OPV-2	107	54.9
OPV-3	99	50.8
DPT-1	119	61.0
DPT-2	104	53.3
DPT-3	97	49.7
Measles	76	39.0
Fully immunized against 6 VPDs	73	37.4
Fully immunized against 7 VPDs	37	19.0

Hepatitis-B vaccine was introduced in the UIP in Punjab in late 2011. Hepatitis-B (3 doses) coverage was 23.1%. Complete vaccination coverage for 7 VPDs (vaccine preventable diseases) including Hepatitis-B vaccine was 19.0%.

DISCUSSION

From amongst 3947 newer migrant families, 370 women who had childbirth within the last two years, and 195 children aged 12-23 months, were assessed in this study.

MCH utilization was less than optimal and below the national and state indicators for these services.

In a study on migration and MCH services use, Tam reported migrants to be under-utilizing health services in their new environment owing to problems of access, urban assimilation and the continuation of traditional rural practices, yet have been reported to increase their utilization of services relative to those remaining in rural areas.⁸

More than half of the study women did not avail ANC. Those who stayed in their native place were 2.10 times and those who spent part of their ante-natal period in Ludhiana and part in their native place 3.91 times more likely to have received ANC as compared to those who stayed in Ludhiana only during their pregnancy. The newer migrants under study, as yet unsettled and unfamiliar with the health system in a new place, were most disadvantaged and underserved if they stayed in the city of migration for the entire duration of the pregnancy. Those who went back to their native place for the duration were better off. However, the highest coverage was in those who availed services from both their native place as well as the city of migration, taking advantage of services in both places. Local bias acts as a selfperpetuating force, sustaining the migrant's negative conditions. About a quarter of the women in the present study had minimum four ANC visits, though the figures for India as a whole for the same indicator is reported to be 37.0%. There was non-availability of essential healthcare facilities and uneven distribution of skilled health care providers. Government health posts were not there in all the slums and the 'availability' of the migrants sometimes only in the evenings, made provision of health care all the more difficult. Minimum four ANC visits is a tracking indicator for millennium development goal 5 target 5A. The WHO also recommends at least four antenatal visits, each of which should include at least four parameters: blood pressure measurement, urine testing, blood testing and weight/height measurement. 11 Kusuma et al also reported that though 44.0% migrant women in Delhi availed at least one antenatal visit, the reception of various components of ANC was largely inadequate. 12

In the present study 90.3% of the women who had no ANC had no felt need. Out of the women who availed ANC, the majority (69.3%) depended on private practitioners, including unqualified practitioners. The demand for and utilization of maternal health services depends on various perceived barriers and facilitators like costs incurred, waiting times, competency of hospital staff, availability of supplies and drugs and sensitive behavior of the hospital personnel towards the slum dwellers. The newer migrants under study, as yet unsettled and unfamiliar with the health system in a new place, were most disadvantaged and underserved if they stayed in the city of migration for the entire duration of the pregnancy. Those who went back to their native place

for the duration were better off. However, the highest coverage was in those who availed services from both their native place as well as the city of migration, taking advantage of services in both places. Most of the women (72.2%) had a home delivery, showing their reliance on traditional childbirth practices. The deliveries were conducted by trained personnel in 35.9% of the women. Similar findings were reported from the slums of Aligarh, with 79.5% of women choosing to deliver at home, and 78% of the deliveries assisted by untrained birth attendants. In a study in Delhi, seeking ANC was reported to have a strong influence on place of delivery, 70% of women with inadequate ANC had home delivery.

The vaccine coverage in the 12-23 month old children was highest for the birth dose vaccines OPV-0 and BCG while it was lowest for measles. Only one-third received protection against all six VPDs though the coverage with UIP vaccines at that age should have been 100%. A study in Delhi found the proportion of fully immunized migrant children to be far lower compared with the children of the general population of Delhi. 14 In another study only 42% of the slum children were reported to have received all the recommended vaccinations. 15 Measles vaccine coverage in our migrant slum population was found to be 39% compared to 74% reported for India, which shows that national averages hide the picture in the vulnerable urban slums. 16 The present study uses recall of mothers for the preceding two years for the MCH services received; hence, some recall bias is expected where information is obtained only from recall. However, we

have also obtained and confirmed immunization history of the child from the immunization card wherever available.¹⁷

An understanding of people's health-seeking behavior has the potential to influence the provision of health-care services. Stephenson and Matthews showed that while both migrant and non-migrant women faced the barriers of availability, accessibility and affordability of services, and prevailing traditional attitudes towards childbirth to prevent them from utilizing maternal health-care, the migrant women faced the additional problem of being new to the city which, unless they had adequate social networks, limited their knowledge and access to maternal health-care. 18 Babu et al, in a study among migrants in Bhubaneshwar, showed that the availability of essential elements like doctors and medicines, and people's judgment of quality of care were seen as a prerequisite to the credibility of health services, while issues of accessibility, affordability and loss of income from visits to the health facility were major obstacles. 19

A study on psychosocial health of migrant employees underscores the need to establish help lines and set-ups for extending care, help and support to migrant employees, focusing on their needs in terms of accommodation, settling-in, social interaction, medical care, counseling, information and advice. Ideally such support needs to be family-based and made available to the employees for a minimum period of one year after migration to help in acculturation.²⁰

Table 5: Comparison of MCH indicators between India, Punjab and the migrant slum-dwellers of Ludhiana.

Indicator	India ¹⁰ (%)	Punjab ¹⁰ (%)	Ludhiana Migrants(%)
ANC (4 or more visits)	37.0	NA	24.6
ANC (3 visits)	51.0	74.8	7.0
ANC (at least 1 visit)	76.4	88.9	44.0
TT coverage	76.0	83.8	70.3
Received IFA tablets	65.1	65.5	28.9
Institutional deliveries	38.7	51.3	27.8
Skilled attendant at delivery	52.0 ¹⁶	NA	35.9
Routine complete immunization coverage in 12-			
23 months old children	44.0	60.0	37.4
Measles vaccine coverage	74.0^{16}	NA	39.0

A comparison of major maternal and child health indicators between India and the state of Punjab according to the National Family Health Survey-3 data and the migrant slum-dwellers of Ludhiana shows the latter to be faring poorly in all indicators as shown in Table 5.¹⁰ It reveals the wide disparity in provision of essential health care to the migrants, and the fact that national or state averages mask the poor picture in the most vulnerable and needy populations.

CONCLUSION

In conclusion, despite the relative proximity and concentration of health centers in urban areas, the migrant slum-dwellers are observed to be still not able to access quality MCH care. The problem of non-availability of essential healthcare and uneven distribution of skilled health care providers is the central challenge in meeting our health goals. Universal health

coverage came into existence since 2005, in which all WHO Member States committed to make advances in the provision of health services and in financial risk protection. This is illustrated by progress towards the health-related MDGs, and in the widespread fall in cash payments made for using health services. Despite this progress, the coverage of health services and financial risk protection currently fall far short of universal coverage.²¹

This study exposes the gaps in coverage of MCH services in the urban migrant slum-dwellers. It underscores the need to identify and recognize these settlements, and target this population for provision of essential healthcare on priority. Migrants being an important source of labor, the services and support for migrant workers need to be seen as an essential investment. Health policy makers and healthcare providers need to strengthen program management so that resources are allocated according to need, following the principle of "healthcare for all, but more for those in greater need."

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