A cross-sectional study of migrant women with reference to their antenatal care services utilization and delivery practices in an urban slum of Mumbai

Vijay Loknath Badge¹, Minal Pandey², Mridula J. Solanki³, Ratnendra Ramesh Shinde³

¹Department of Community Medicine, Government Medical College, Akola, ²Department of Public Health, MCGM (Municipal Corporation of Greater Mumbai), ³Department of Community Medicine, Seth GSMC and KEMH, Mumbai, Maharashtra, India

Abstract

Introduction: Migrant is a vulnerable population. They face several barriers in accessing health services. The immigration status presents various challenges for maternity services utilization. So this study was conducted (1) to estimate proportion of women utilizing full ANC package and to find out reasons for its nonutilization (2) to estimate the proportion of institutional deliveries and reasons for home deliveries. Methods: A cross-sectional community based study was conducted among migrant women in reproductive age group in an urban slum. The sample size was 120. Multistage simple random sampling was done. Results: Maximum numbers of migrants (71.7%) were from Uttar Pradesh. Sixty two percent married before the age of 18 years. Full ANC package was received by only 18% migrants. Proportion of home deliveries was 12%, and all were conducted by Untrained Dai. Lack of transport facility and availability of Dai (local birth attendant) were the reasons mentioned for home delivery. For nonutilization of full ANC package, far location of health center (30%); it is not necessary (25.8%); and family did not allow them to visit health center (21.8%) were the reasons mentioned. Religion and type of family were significantly associated with nonutilization of full ANC package. Conclusion: The present study revealed low utilization of ANC services and high proportion of home deliveries among the migrant women even after availability of health facilities for providing ANC care and to conduct deliveries in urban area.

Keywords: Antenatal care, home deliveries, migrant, utilization

Introduction

Women’s reproductive health is a major area of concern, especially in developing countries. Maternal complications and poor perinatal outcome are highly associated with nonutilization of antenatal and delivery care services and poor socioeconomic conditions of the patient. Poorer outcomes are seen in unregistered than registered patients.[1] More than half a million women die annually worldwide because of pregnancy-related complications.[2] About 90%–95% of these women come from developing countries.[3] The maternal mortality ratio in India is 178/100,000 live births.[4]

Urban growth has been exponential in India over the last few decades. Migration is the most observable and impressive fact in the growth of cities, and it is also considered as an essence of urbanization in the globe. In India, major cities have noticed an increase of around 75% population due to migration.[5]
Materials and Methods

A cross-sectional community-based survey was conducted among migrant women in reproductive age group in an urban slum of population (30,000), which is the field practice area of a medical college. Sample size was calculated using formula

\[ n = \frac{4pq}{l^2} \]

where \( P \) is prevalence of the event, \( q \) is probability of nonoccurrence of event, and \( l \) is allowable error. The prevalence of ANC services utilization according to the National Family Health Survey-3 is 77%, and considering 10% allowable error, sample size comes approximately 120. Multistage simple random sampling was done. The total population of field area is about 30,000, having 13 subareas. Initially, five subareas were selected using lottery method. Then, 24 houses were selected randomly from each subarea. If there are no women fulfilling inclusion criteria in a randomly selected household, then next household was selected. If there is more than one woman in a household fulfilling inclusion criteria, then only one woman was selected by lottery method from that household.

Operational definition

The National Sample Survey Organization 2008\[2] defined migrant as “A household member whose last usual place of residence (UPR) any time in the past was different from the present place of enumeration was considered as a migrant member in a household.” In this survey, UPR of a person was defined as a place (village/town) where the person had stayed continuously for a period of 6 months or more.

Full ANC received by women: It is defined as having 3 components (a) at least 3 antenatal visits to health center, (b) at least 1 tetanus toxoid (TT) vaccine taken before delivery, and (c) consumption of 100 or more iron and folic acid (IFA) tablets.

Inclusion criteria

- Migrants (as per the above definition) from outside Maharashtra (interstate migrants)
- Married women in the age group of 15–45 years who had delivered within last 2 years
- Those who consent was included in the study.

Interviews were conducted at the randomly selected households after getting informed written consent of participants. Pretested semi-structured questionnaire for face-to-face interview was prepared. Initial visits to the above-said areas were done to build rapport with the population as they are hesitant to get interviewed. Their household was visited with the female social workers, and meetings conducted by social workers were attended. While interacting with the participants, one representative from the social workers was always present. Confidentiality about participants’ details was strictly maintained. Ethical clearance from the Institutional Ethics Committee was obtained. Information was cross-checked with the available record to minimize the recall bias. Data were coded, entered, and
analyzed using Open epi software (Open Source Epidemiologic Statistics for Public Health) Version 3.01. Data were expressed in percentage and proportion. Chi-square test was used for evaluating association between ANC utilization and categorical variables.

**Results**

Table 1 shows that 77% (93/120) of migrants were under the age of 29 years. Sixty-two percent (74/120) of migrants were married before the age of 18 years though marriage before the age of 18 years is punishable by law. Seventy-three percent (87/120) migrants were Muslims by religion. Twenty-seven percent (32/120) female migrants were illiterate. Literacy was very low. Only 9% (11/120) female migrants studied after 10th std. Education of their husbands was also similar to them. Sixty-seven percent (80/120) of migrants were living in nuclear family. Sixty-four percent (77/120) of migrants were belonged to lower socioeconomic class. Almost all husbands of female migrants were working as tailor in garment industries.

Table 2 shows that almost three-fourth of migrants were hailing from Uttar Pradesh followed by Bihar, i.e. 11.7% (14/120). Most of the migrants were living in urban slum area for 6 years. Thirty-three percent (40/120) of migrants visited their native place at least once in 6 months.

Table 3 depicts that even after availability of reproductive and child health (RCH) services in slum area, still 10% (12/120) of mothers did not register for ANC services. Eighty-one percent (97/120) of mothers registered in government health facility. Registration percentage in the first trimester is less, i.e., 21% (25/120). Almost half of mothers registered in the second trimester. Every fourth mother registered in the third trimester. This delayed registration deprived mothers of very essential health services. These women could not be educated about various health topics such as nutrition, immunization, and family planning. Their personal health issues remain unsolved. High-risk mothers can also be detected at the earliest. Nearly 63.4% (76/120) of mothers visited at least three times to health-care facility. Thirty-seven percent (44/120) of mothers were not able to visit health-care facility at least three times. The percentage of consumption of IFA tablets is very low. Fourteen percent (17/120) of mothers did not consume a single tablet of IFA. Only 28% (33/120) of mothers consumed 100 tablets of IFA. Ten percent (12/120) of mothers did not receive a single injection of TT. Hence, only 18% (22/120) of mothers received complete ANC package.

Table 4 shows that 12% (15/120) of deliveries occurred in home. Even after implementation of RCH program with Janani Suraksha Yojana which emphasizes on institutional delivery, this proportion is higher. All home deliveries were conducted by untrained dai (local birth attendant).

Table 5 shows that most of the participants, i.e., 30% (36/120) mentioned that too far location of government health facility was the most common reason for full nonutilization of ANC services. They did not want to bear expenses toward traveling to health center, and visit to health center leads to loss of their daily wages. Nearly 25.8% (31/120) migrant women did not think

---

**Table 1: Sociodemographic profile of migrant women with their association with full antenatal care package utilization**

| Sociodemographic factors | Full ANC package utilization | Total (%) | P  |
|--------------------------|-----------------------------|-----------|----|
|                          | Yes | No |                |    |
| Age                      |     |    |                |    |
| 18-23                    | 8   | 39 | 47 (39)        | 0.132 |
| 24-29                    | 12  | 34 | 46 (38)        | 0.025* |
| >29                      | 2   | 25 | 27 (23)        | 0.480 |
| Age at marriage          |     |    |                |    |
| <18                      | 10  | 64 | 74 (62)        | 0.739 |
| >18                      | 9   | 37 | 46 (38)        | 0.132 |
| Religion                 |     |    |                |    |
| Hindu                    | 1   | 32 | 33 (27)        | 0.090 |
| Muslim                   | 21  | 66 | 87 (73)        | 0.377 |
| Education of women       |     |    |                |    |
| Illiterate               | 5   | 27 | 32 (27)        | 0.4478 |
| Up to 5th                | 7   | 34 | 41 (34)        | 0.008* |
| Up to 10th               | 6   | 30 | 36 (30)        | 0.4347 |
| >10th                    | 4   | 7  | 11 (9)         |    |
| Education of husbands    |     |    |                |    |
| Illiterate               | 8   | 20 | 28 (23)        | 0.354 |
| Up to 5th                | 4   | 25 | 29 (24)        | 0.730 |
| Up to 10th               | 7   | 40 | 47 (39)        |    |
| >10                      | 3   | 13 | 16 (13)        |    |
| Type of family           |     |    |                |    |
| Nuclear                  | 20  | 60 | 80 (67)        | 0.025* |
| Joint                    | 1   | 29 | 30 (25)        |    |
| Three-generation family  | 1   | 9  | 10 (8)         |    |
| Social class             |     |    |                |    |
| >Lower                   | 6   | 37 | 43 (36)        | 0.354 |
| Lower                    | 16  | 61 | 77 (64)        |    |

*Statistically significant. ANC: Antenatal care

**Table 2: Migration details of female migrants**

| Migration details | Full ANC package utilization | Total (%) | P  |
|-------------------|-----------------------------|-----------|----|
|                   | Yes | No |                |    |
| Native place      |     |    |                |    |
| Uttar Pradesh     | 18  | 68 | 86 (71.7)      | 0.480 |
| Bihar             | 2   | 12 | 14 (11.7)      | 0.132 |
| Others            | 2   | 18 | 20 (16.6)      |    |
| Here since when (years) |   |    |                |    |
| <1                | 4   | 20 | 24 (20)        | 0.730 |
| 1-6               | 13  | 49 | 62 (51.6)      |    |
| >6                | 5   | 29 | 34 (28.3)      |    |
| Visit to native place |   |    |                |    |
| Within 6 months   | 8   | 32 | 40 (33.3)      | 0.739 |
| After 6 months    | 14  | 66 | 80 (66.7)      |    |

*ANC: Antenatal care
it is necessary to utilize full range of ANC services. According to them, one or two visits in ANC period are sufficient. Elder members in family did not allow 20.8% (25/120) ANC mothers to go for regular ANC visits as they did think it is necessary. They expect that their children should follow the same practice as they practiced at their time. Poor quality service at health center 17.5% (21/120) was one of the important reasons mentioned by migrants. Staff working at health center was not cooperative, spoke arrogantly, investigations and necessary medicines were not available are the reasons included in poor quality services. 15.8% of migrant women said they have not utilised ANC services fully as they were not having any information (Lack of knowledge) about this services.

### Discussion

A study conducted in urban slums of Delhi showed that majority of migrants were Hindus (61%), aged 24–29 years (44%), with a literacy rate of 38%. ANC utilization was significantly lower among illiterate women. In the present study, majority of migrants were Muslims (73%), aged 18–23 years (39%). Twenty-seven percent were illiterates, and ANC care utilization was significantly associated with religion and type of family. No significant association is seen with literacy. The study area was predominant with Muslim population.

A cross-sectional study conducted in tribal blocks of Maharashtra showed that ANC registration in the first trimester is 63.8%, 82% received TT injections, 65.8% consumed IFA tablets, and 72% paid at least three visits to health centers. Adequate ANC services utilization rate in the present study was 64.76%. As compared to this study, in the present study, the percentage of ANC registration in the first trimester is very low, i.e., 21%. Most of the ANC migrants registered in the second trimester. Almost 91% of migrant women received at least one TT injection. IFA tablets are consumed by all, but ≥100 tablets were consumed by only 28% of migrants. Nearly 63.4% of migrants had paid at least three visits. Therefore, in the present study, IFA consumption and no of ANC visits to health center are very less. Adequate ANC services utilization rate in the present study is 18%. These figures clearly point out toward the inadequate utilization of ANC services by migrants women.

A cross-sectional study was carried out among recently delivered women residing in tea gardens of Darjeeling district of West Bengal. It mentioned that the major barrier toward utilization of these services was ignorance followed by distance to the health-care center. Similar results were also found in the present study. According to the District Level Household and Facility Survey 2007/2008, the percentage of institutional delivery and home delivery in urban area is 87.5% and 12.5%, respectively. These results are similar to the present study. In this survey, delivery at home conducted by skilled health personnel was 2.8%. In the present study, all home deliveries were conducted by untrained dai.

### Table 3: Antenatal care services utilization by migrant women

| Variables                  | Details of variables | Total (%) |
|----------------------------|----------------------|-----------|
| ANC registration           | Yes                  | 108 (90)  |
|                           | No                   | 12 (10)   |
| Place of ANC registration  | Government facility  | 97 (81)   |
|                           | Private hospitals    | 11 (9)    |
|                           | Did not register     | 12 (10)   |
| Timing of ANC registration| First trimester      | 23 (21)   |
|                           | Second trimester     | 54 (45)   |
|                           | Third trimester      | 29 (24)   |
|                           | Did not register     | 12 (10)   |
| Number of ANC visits       | 0                    | 12 (10)   |
|                           | 1                    | 3 (2.5)   |
|                           | 2                    | 29 (24.2) |
|                           | 3                    | 74 (61.7) |
|                           | >3                   | 2 (1.7)   |
| Consumption of IFA tablets| 0                    | 17 (14)   |
|                           | <50                  | 28 (23)   |
|                           | 50–99                | 42 (35)   |
|                           | 100 or >100          | 33 (28)   |
| Number of TT injections received | 0            | 12 (10)   |
|                           | 1                    | 17 (14)   |
|                           | 2                    | 91 (75.8) |
| Full ANC package received  | Yes                  | 22 (18)   |
|                           | No                   | 98 (82)   |

### Table 4: Delivery practices of migrant women

| Variables                  | Details of variables | Total (%) |
|----------------------------|----------------------|-----------|
| Place of delivery          | Hospital             | 105 (88)  |
|                           | Home                 | 15 (12)   |
| Who conducted delivery     | Doctor               | 86 (72)   |
|                           | Nurse                | 19 (16)   |
|                           | Dai                  | 15 (12)   |
| Reasons for home delivery  | Tradition            | 2 (13)    |
|                           | Dai available        | 2 (13)    |
|                           | No transport facility| 11 (73)   |

### Table 5: Reasons for nonutilization of full antenatal care services n = 98 (82%)

| Reasons1                     | Frequency (%) |
|------------------------------|---------------|
| Not necessary                | 31 (25.8)     |
| Cost too much                | 5 (4.16)      |
| Too far                      | 36 (30)       |
| Poor quality service         | 21 (17.5)     |
| Family did not allow         | 25 (20.8)     |
| Lack of knowledge            | 19 (15.8)     |
| No time to go                | 16 (13.3)     |

1Multiple responses

A community-based cross-sectional study conducted in urban area in Nainital district mentioned that high proportion of home deliveries even in urban area despite proximity to hospitals is a result of many factors including weak demand, minimal outreach services, weak community-provider linkages, and timings that often do not suit the daily-wage-earning
urban poor. In the present study, out of 15 home deliveries, 11 deliveries reason mentioned was lack of transport facility to hospital. Other reasons were dai available and tradition of home delivery. Maternity care is an essential care which has to be made acceptable, accessible, and available at a cost affordable to women, but in case of migrant women, it is available but not acceptable and accessible due to above-mentioned reasons.

Conclusion

The present study revealed low utilization of pregnancy-related health-care utilization among the study population.

ANC utilization was significantly lower among Muslims. Health-care workers and influential people from Muslim community should be made aware and trained in explaining necessity of maternal and child health (MCH) care.

ANC utilization was significantly lower among women belonging to joint families. Moreover, in 20.8% cases, family did not allow women for ANC visits. For this purpose, during health awareness session, elder members of the family specially mother-in-laws have to be involved on a priority basis and educated about importance of full ANC care utilization and institutional delivery. Their myths and misconceptions regarding ANC and delivery practices have to be addressed effectively. If necessary, one-to-one counseling should be provided to convince them about correct practices.

In the present study, the percentage of ANC registration in the first trimester is very low, i.e., 21%. Moreover, migrant woman feels comfortable to conduct delivery by dai if she is available. It means that the message of “importance of institutional delivery” is not reached or convinced to beneficiaries. Auxiliary nurse midwife, Accredited Social Health Activist, and Anganwadi workers are not reached to them. Then, it becomes necessary to train presently working and close to population dais also so that they will conduct deliveries following proper aseptic precautions, i.e., to follow all 7 Cs - clean hand, clean blade, clean cut, clean cord, clean tie, clean towel, and clean bed.

Poor quality service by health workers is one of the reasons for nonutilization of ANC services.

Health-care workers and beneficiaries relationship should be improved. Health-care workers should give sufficient time to counsel patients, or one counselor should be posted for a primary health center (PHC) area (six subcenters) so that he/she should visit each subcenter under the PHC area at least for a day in a week and educate groups or counsel patients on various health topics with proper feedback mechanism.

Frequency of outreach activities should also be increased for migrant women staying at a far distance from health center in slums which does not come under Municipal Corporation.

This study can provide new insight for policy makers to devote resources for achieving the best possible quality of MCH services.

Acknowledgment

We express our gratitude toward nongovernmental organizations’ social workers for their cooperation, who have helped throughout the process of data collection.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Owolabi AT, Fatusi AO, Kut O, Adeyemi A, Faturoti SO, Obiajuwa PO. Maternal complications and perinatal outcomes in booked and unbooked Nigerian mothers. Singapore Med J 2008;49:526-31.
2. NSS Report No. 533: Migration in India: July, 2007-June, 2008, National Sample Survey Office, Ministry of Statistics and Programme Implementation, Government of India; 2010.
3. Tinker AG. Improving women’s health in Pakistan. Human development network series. Washington, DC: The World Bank; 1998.
4. Special Bulletin on Maternal Mortality in India 2010-2012. Sample Registration System office of Registrar General, India; 2013. Available from: http://www.censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_Bulletin-2010-12.pdf. [Last cited on 2014 Sep 12].
5. Chhikara K, Kodan AS. Migration of rural women in India: Trends, streams and motivation. Greener J Soc Sci 2012;2:127-33.
6. Census of India. Office of the Registrar General and Census Commissioner, India. Ministry of Home Affairs, Government of India. Available from: http://www.censusindia.gov.in/Census_And_You/migrations.aspx. [Last cited on 2014 Sep 20].
7. Jafary SN. Maternal mortality in Pakistan: An overview. Maternal and prenatal health. Karachi: TWEL Publications; 1991. p. 21-31.
8. Ackah C. and Medvedev, D. (2010) Internal Migration in Ghana – Determinants and Welfare Impacts. World Bank Policy Research Working Paper, No. 5273. Washington DC: World Bank.
9. Alderliesten ME, Vrijkotte TG, van der Wal MF, Bonsel GJ. Late start of antenatal care among ethnic minorities in a large cohort of pregnant women. BJOG 2007;114:1232-9.
10. Agarwal P, Singh MM, Garg S. Maternal health-care utilization among women in an urban slum in Delhi. Indian J Community Med 2007;32:203-5.
11. Mumbare SS, Rege R. Ante natal care services utilization, delivery practices and factors affecting them in tribal area of North Maharashtra. Indian J Community Med 2011;36:287-90.
12. Bhattacharjee S, Datta S, Saha JB, Chakraborty M. Maternal health care services utilization in tea gardens of Darjeeling, India. J Basic Clin Reprod Sci 2013;2:77-84.

13. District Level Household and Facility Survey Report 2007-2008. Ministry of Health and Family Welfare, Government of India. International Institute for Population Sciences; April, 2010. Available from: http://www.rchiips.org/pdf/india_report_dlhs-3. [Last cited on 2014 Sep 18].

14. Pandey S, Shankar R, Rawat C, Gupta V. Socio-economic factors and delivery practices in an urban slum of district Nainital, Uttarakhal. Indian J Community Med 2007;32:210-1.