

Original Research Article

A study on utilization of antenatal care services in urban slums of Amritsar city, Punjab, India

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ABSTRACT

Background: Rapid urbanization in India is fuelling a growth in urban poverty, particularly in the urban slums where the quality of life is extremely poor. There have been limited efforts to capture the health of population living in urban slums and most severely affected are the women of childbearing age and children. So the present study was carried out to assess the utilization pattern of antenatal care and to identify the factors affecting it in urban slums of Amritsar city.

Methods: A cross-sectional study was conducted in 1600 houses selected randomly in four slum areas of Amritsar city in which 659 married women in the reproductive age group of 15-49 years who had at least 1 child and had delivered the last child in the last 3 years were found. Total 659 women were interviewed using a pre-designed and pre-tested proforma.

Results: 58.4% of respondent women attended at least one antenatal visit during last pregnancy. Maximum (43.4%) attended 2 antenatal visits. Majority (64.4%) had their first antenatal visit in 2nd trimester. Majority (57.1%) consumed <100 IFA tablets. Majority (65.6%) were fully immunized with 2 doses/booster of TT. Lack of knowledge about ANC services was the reason given by most of the women (31.0%) for not attending any antenatal visit. The utilization of antenatal care (ANC) services by women was found to be significantly associated with their age, education, birth order, socio-economic status and husband's education.

Conclusions: The utilization of antenatal care services was found to be poor in the study population. Important barriers to service utilization were found to be lack of awareness and lack of felt need. This shows the need for intensive efforts to be made in slum areas to create awareness among women by Behaviour Change Communication (BCC) activities.

Keywords: Antenatal care, Reproductive age group, Slum areas

INTRODUCTION

Pregnancy and childbirth are special events in a woman's life. But during this period they are more vulnerable to disease and death.¹ Antenatal care refers to pregnancy-related health care, which is usually provided by a doctor,

an Auxiliary Nurse Midwife (ANM), or another health professional.² Antenatal care is an important determinant of high maternal mortality rate and one of the basic components of maternal care on which the life of mothers and babies depend.³ The primary aim of antenatal care is to achieve, at the end of pregnancy, a healthy mother and a healthy baby.¹ Ideally, antenatal care should monitor a

pregnancy for signs of complications, detect and treat pre-existing and concurrent problems of pregnancy, and provide advice and counselling on preventive care, delivery care, postnatal care, and related issues.² The World Health Organization (WHO) recommends a minimum of four antenatal visits.⁵

Annually, 5 lakh women die globally as a result of pregnancy and childbirth. Apart from deaths, 50 million women suffer from maternal morbidity due to acute complications from pregnancy. The inequality in the health and well-being of women in the developing world is a cause of immense concern.⁶

India ranks 2nd among the countries with highest rates of maternal mortality.⁷ The current MMR is 167 per lakh live births.⁸ Despite an array of national programs since independence for improving maternal and child health, inadequate access and under-utilization of modern health services are among the prime reasons for the high maternal mortality and morbidity in India. Other common reasons include high illiteracy among females, early marriages, ignorance, low quality as well as high cost of service, social structure and detrimental health beliefs, especially among the rural, tribal and slum populations. So, utilization of these services by the beneficiaries remains unsatisfactory.⁶

Urban poor population constitutes nearly a third of India's urban population. Health status among urban slum dwellers is poor and far from adequate. Though on average health indicators, the situation in cities is better than in rural areas, the enormous social and economic stratification within urban areas results in significant health inequalities.⁹ Therefore, the present study was conducted to assess the utilization pattern of antenatal care and to identify the factors affecting it among married women in the reproductive age group of 15-49 years in urban slums of Amritsar city.

METHODS

Type of study: It is a cross-sectional study

Place of study: It was conducted in four urban slums of Amritsar city

Period of study: The study period was from 1st January, 2014 to 31st December, 2014.

Study population: Married women of reproductive age group (15-49 years) having at least 1 living child and had delivered the last child in the last 3 years.

Instrument: Pre-designed and pre-tested proforma. The purpose of study was explained and written consent was taken from the respondents. The questionnaire elicited information regarding their socio-demographic profile, antenatal care practices during last pregnancy and major factors affecting utilization of antenatal care services.

Sampling technique: Amritsar city has recognized 64 slum areas according to Draft Master Plan 2010-2031 by PUDA Mohali.¹⁰ These 64 areas were divided into 4 sectors depending upon their geographical location (North, South, East and West Amritsar) and then from each sector one area was selected randomly by lottery method. The four areas selected by random method were Verka (Majitha Bypass), Mohkumpura, Bangla Basti and Ekta Nagar covering total population of 37,670. Considering utilization rate of antenatal care services to be 65% in a previous study of slums in North India, a sample size of 598 was calculated using formula $4pq/d^2$. Precision (d) of the study was considered as 6%. To attain equal distribution of population in four slum areas, it was decided to survey 400 houses from each area. The houses present in these areas were enlisted and from each area 400 houses were selected by systematic random sampling method (every 3rd house was selected for interview). All the married women belonging to the reproductive age group of 15-49 years who had at least 1 child and had delivered the last child in the last 3 years in each house were interviewed. If no such woman was found in the selected house, then the next house was considered. So in total, 1600 houses were surveyed in this study in which 659 married women were found in the reproductive age group (15-49 years) having at least 1 child and had delivered the last child in the last 3 years.

Statistical analysis

The data collected was analysed using Epi Info software. Descriptive statistics were presented in frequency and percentage. The chi-square test was used to establish hypothesis.

RESULTS

Table 1 shows that out of total 659 respondents, majority i.e. 331 (50.2%) belonged to the age group of 20-24 years, majority i.e. 602 (91.4%) were migrants from the states of Bihar, Uttar Pradesh, Rajasthan and West Bengal, majority i.e. 599 (90.9%) were Hindus, majority i.e. 607 (92.1%) belonged to upper lower class according to modified Kuppuswamy scale of socio-economic status, majority i.e. 492 (74.7%) were illiterate, majority i.e. 542 (82.2%) were unemployed, husbands of majority of the respondents i.e. 429 (65.1%) were illiterate, husbands of majority i.e. 594 (90.1%) were unskilled workers (like rag pickers, rickshaw pullers, daily wagers, labourers, vendors) and majority of the deliveries were of the birth order 3 i.e. 361 (54.8%).

Table 2 shows that out of total 659 respondents, 385 (58.4%) attended at least one antenatal visit during last pregnancy and 274 (41.6%) did not attend any antenatal visit. Out of total 385 women who attended at least one antenatal visit during last pregnancy, maximum i.e. 167 (43.4%) attended 2 antenatal visits, 92 (23.9%) attended 1 antenatal visit, 86 (22.3%) attended 3 antenatal visits and only 40 (10.4%) attended ≥ 4 antenatal visits.

Majority i.e. 248 (64.4%) of women had their first antenatal visit in 2nd trimester. Majority i.e. 376 (57.1%) of women consumed <100 IFA tablets during last pregnancy, 143 (21.7%) consumed \geq 100 IFA tablets and 140 (21.2%) did not consume even single IFA tablet. Majority i.e. 432 (65.6%) of the respondent women were fully immunized with 2 doses or booster of TT during last pregnancy, 103 (15.6%) were partially immunized with 1 dose of TT and 124 (18.8%) were not immunized at all.

Table 1: Socio-demographic characteristics of the respondents (n=659).

| Socio-demographic characteristics | Number | Percentage |
|-----------------------------------|--------|------------|
| Age (in years) | | |
| <20 | 19 | 2.9 |
| 20-24 | 331 | 50.2 |
| 25-29 | 284 | 43.1 |
| >30 | 25 | 3.8 |
| Nativity | | |
| Native | 57 | 8.6 |
| Migrant | 602 | 91.4 |
| Religion | | |
| Hindu | 599 | 90.9 |
| Sikh | 41 | 6.2 |
| Muslim | 14 | 2.1 |
| Christian | 5 | 0.8 |
| Socio-economic status* | | |
| Lower | 21 | 3.2 |
| Upper lower | 607 | 92.1 |
| Lower middle | 31 | 4.7 |
| Respondent's education | | |
| Illiterate | 492 | 74.7 |
| Primary | 97 | 14.7 |
| Middle | 53 | 8.0 |
| High | 17 | 2.6 |
| Respondent's occupation | | |
| Unemployed | 542 | 82.2 |
| Unskilled | 115 | 17.5 |
| Semi-skilled | 2 | 0.3 |
| Husband's education | | |
| Illiterate | 429 | 65.1 |
| Primary | 156 | 23.7 |
| Middle | 45 | 6.8 |
| High | 28 | 4.2 |
| Diploma | 1 | 0.2 |
| Husband's occupation | | |
| Unskilled | 594 | 90.1 |
| Semi-skilled | 41 | 6.2 |
| Skilled | 15 | 2.3 |
| Shop | 9 | 1.4 |
| Birth order | | |
| 1 | 76 | 11.5 |
| 2 | 135 | 20.5 |
| 3 | 361 | 54.8 |
| >4 | 87 | 13.2 |

*Modified Kuppuswamy scale was used to measure socio-economic status.

Table 2: Distribution of respondents according to antenatal care practices.

| Variable | Number | Percentage |
|---|--------|------------|
| ANC visits during last pregnancy (n=659) | | |
| Yes | 385 | 58.4 |
| No | 274 | 41.6 |
| Number of ANC visits (n=385) | | |
| 1 | 92 | 23.9 |
| 2 | 167 | 43.4 |
| 3 | 86 | 22.3 |
| \geq 4 | 40 | 10.4 |
| Time of first antenatal visit (n=385) | | |
| 1 st trimester | 122 | 31.7 |
| 2 nd trimester | 248 | 64.4 |
| 3 rd trimester | 15 | 3.9 |
| IFA tablets consumed (n=659) | | |
| Not taken | 140 | 21.2 |
| <100 | 376 | 57.1 |
| \geq 100 | 143 | 21.7 |
| TT dose taken (n=659) | | |
| None | 124 | 18.8 |
| 1 dose | 103 | 15.6 |
| 2 doses/booster | 432 | 65.6 |

Table 3: Major factors affecting utilization of antenatal care services.

| Variable | Number | Percentage |
|--|--------|------------|
| Reasons for no ANC visit (n=274) | | |
| Lack of knowledge about ANC services | 85 | 31.0 |
| Need not felt | 61 | 22.3 |
| Financial constraints | 47 | 17.2 |
| Hospital services not acceptable | 31 | 11.3 |
| No transport facility | 20 | 7.3 |
| Non-availability of suitable accompanying person | 17 | 6.2 |
| Too busy | 13 | 4.7 |
| Reasons for incomplete consumption of IFA tablets (n=376) | | |
| Side effects (vomiting, diarrhoea and gastritis) | 138 | 36.7 |
| Bad taste | 126 | 33.5 |
| Forgot | 83 | 22.1 |
| Provided less | 29 | 7.7 |
| Reasons for nil consumption of IFA tablets (n=140) | | |
| Need not felt | 81 | 57.9 |
| Fear of bad effects | 45 | 32.1 |
| Didn't receive the tablets | 14 | 10.0 |
| Reasons for not getting immunized with TT (n=124) | | |
| Didn't know the importance | 54 | 43.5 |
| Lack of time | 41 | 33.1 |
| Fear of side effects | 29 | 23.4 |

Table 3 shows that out of total 274 respondent women who did not attend any antenatal visit during last pregnancy, majority i.e. 85 (31.0%) did not have knowledge about ANC services, 61 (22.3%) did not feel the need, 47 (17.2%) reported that they have financial constraints, 31 (11.3%) mentioned that hospital services are not acceptable (i.e. long waiting time, poor quality of care, lack of privacy in care, poor attitude of doctors, lack of medicines), 20 (7.3%) said that no transport facility was available, 17 (6.2%) said that no suitable accompanying person was available, 48 (17.5%) were unaware about antenatal services and 13 (4.7%) said that were too busy to attend any ANC visit. Out of total 376 women who consumed IFA tablets incompletely during last pregnancy, most of them i.e. 138 (36.7%) gave the reason that they suffered side effects like vomiting, diarrhoea and gastritis, 126 (33.5%) didn't like the taste, 83 (22.1%) forgot to consume and 29 (7.7%) said that they were provided less tablets. Out of total 140 women

who did not consume even single IFA tablet during last pregnancy, majority i.e. 81 (57.9%) said that they didn't feel the need to consume the tablets, 45 (32.1%) had fear of bad effects and 14 (10.0%) said that they didn't receive IFA tablets. Out of total 124 respondent women who did not get immunized with even one dose of TT during last pregnancy, most of them i.e. 54 (43.5%) gave the reason that they didn't know the importance, 41 (33.1%) had lack of time and 29 (23.4%) had fear of side effects.

Highly statistically significant association was found between utilization of antenatal care (ANC) services by women and their age, education and birth order ($p < 0.001$). Socio-economic status and husband's education were found to be significantly associated ($p < 0.05$) with antenatal care services utilization by women (Table 4).

Table 4: Association of antenatal visits with various socio-demographic factors.

| Socio-demographic factors | Antenatal visits during last pregnancy | | Chi-square, df, p-value |
|---------------------------|--|-------------|-------------------------|
| | Yes (n=385) | No (n=274) | |
| Age group (in years) | | | |
| <20 (n=19) | 14 (73.7%) | 5 (26.3%) | 34.37, df:3, p<0.001 |
| 20-24 (n=331) | 226 (68.3%) | 105 (31.7%) | |
| 25-29 (n=284) | 137 (48.2%) | 147 (51.8%) | |
| ≥30 (n=25) | 8 (32.0%) | 17 (68.0%) | |
| Socio-economic status | | | |
| Lower (n=21) | 7 (33.3%) | 14 (66.7%) | 7.46, df:2, p<0.05 |
| Upper lower (n=607) | 356 (58.6%) | 251 (41.4%) | |
| Lower middle (n=31) | 22 (71.0%) | 9 (29.0%) | |
| Respondent's education | | | |
| Illiterate (n=492) | 263 (53.5%) | 229 (46.5%) | 24.68, df:3, p<0.001 |
| Primary (n=97) | 65 (67.0%) | 32 (33.0%) | |
| Middle (n=53) | 41 (77.4%) | 12 (22.6%) | |
| High (n=17) | 16 (94.1%) | 1 (5.9%) | |
| Husband's education | | | |
| Illiterate (n=429) | 235 (54.8%) | 194 (45.2%) | 11.97, df:4, p<0.05 |
| Primary (n=156) | 95 (60.9%) | 61 (39.1%) | |
| Middle (n=45) | 31 (68.9%) | 14 (31.1%) | |
| High (n=28) | 23 (82.1%) | 5 (17.9%) | |
| Diploma (n=1) | 1 (100.0%) | 0 (0.0%) | |
| Birth order | | | |
| 1 (n=76) | 69 (90.8%) | 7 (9.2%) | 104.41, df:3, p<0.001 |
| 2 (n=135) | 103 (76.3%) | 32 (23.7%) | |
| 3 (n=361) | 195 (54.0%) | 166 (46.0%) | |
| >4 (n=87) | 18 (20.7%) | 69 (79.3%) | |

DISCUSSION

In the present study, 58.4% women received at least one antenatal check-up during their last pregnancy. According to a study conducted by Jain T et al in slums of Meerut city, ANC utilization was found to be 49.5%.¹⁰

Majority (67.3%) of women did not attend even 3 antenatal visits during last pregnancy. Gupta P et al in their study in urban slums of Lucknow reported that out of those women who received ANC, majority (53.2%) attended less than 3 antenatal visits.¹¹ Majority (64.4%) of women had their first antenatal visit in 2nd trimester.

According to a study conducted by Ghosh-Jerath et al in urban slums of Delhi, most of the women (49.6%) registered for ANC in 2nd trimester.¹² Majority (57.1%) of respondent women consumed less than 100 IFA tablets during their last pregnancy. According to NFHS-3, only 23% of women consumed IFA for at least 90 days for their most recent birth.² According to a study in urban slums of Amritsar conducted by Gill KP and Devgun P, IFA tablets were taken regularly only by 21.4% of study subjects.¹³ Majority (65.6%) of women received two doses or booster of TT during their last pregnancy. Neyaz A et al in their in slum areas of Aligarh reported that majority (89.4%) of women received two doses of TT injections during their recent pregnancy.³

The main reasons for not attending any antenatal visit by women during last pregnancy were lack of knowledge about ANC services (31%) and lack of felt need (22.3%). Similarly, according to a study conducted by Bajpai RC. et al in slums of Varanasi, the most common reasons for not taking antenatal care were lack of knowledge about ANC (43.4%) and lack of felt necessity (28.8%).¹⁴ Side effects like vomiting, diarrhoea and gastritis were the main reason given by most of the women (36.7%) for incomplete consumption of IFA tablets during last pregnancy. Shukla M et al in their study in slums of Lucknow reported that most of the recently delivered women consumed IFA tablets incompletely during pregnancy because of side effects like vomiting, diarrhoea and gastritis.¹⁵ The main reason for nil consumption of IFA tablets was the lack of felt need (57.9%) and the most common reason for not getting immunized with TT was the lack of knowledge about the importance of TT (43.5%). There is need to counsel about the advantages of the IFA tablets and TT among the health care workers, mothers and family members in the slums.

In the present study, utilization of antenatal care (ANC) services was found to be highly statistically significantly associated with women's age, education and birth order ($p < 0.001$). Statistically significant association was found between utilization of antenatal care services by women and their socio-economic status and husband's education ($p < 0.001$). In a study conducted by Neyaz A et al in slum areas of Aligarh, women's education, husband's education, birth order and socio-economic status of the family were found to be significantly associated ($p < 0.05$) with antenatal care service utilization.³ According to a study conducted by Sharma V et al in urban slum and rural areas of Lucknow, highly statistically significant association was found between utilization of antenatal care (ANC) services by women and their age, parity and socio-economic status ($p < 0.001$).¹⁶

CONCLUSION

The utilization of antenatal care services was found to be poor in the study population. It was found that utilization of antenatal care services is dependent on social

determinants and attitude related factors. Physical accessibility to services does not necessarily lead to service utilization. Social and cultural accessibility is as important as physical accessibility. Important barriers to service utilization were found to be unawareness and lack of felt need. This shows the need for intensive efforts to be made to create awareness in slum areas regarding the importance of three or more antenatal visits, registration of pregnancy in first trimester and importance of consumption of more than 100 IFA tablets during pregnancy period through sustained and focused Information, Education and Communication (IEC) campaign.

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