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PRACTICES RELATED TO PREGNANCY AND CHILD BIRTH: A CROSS SECTIONAL STUDY AMONG WOMEN OF AHMEDABAD DISTRICT

Yagnavalkya K Jani¹, Aparajita A Shukla², D V Bala³

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Author's Affiliation:

¹Third Year Resident; ²Associate Professor; ³Professor & Head, Department of Community Medicine, Smt.NHL Municipal Medical College, Ahmedabad

Correspondence:

Dr. Yagnavalkya Jani
Email: ykjani1212@gmail.com

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ABSTRACT

Purpose: Improving maternal health is one of the UN Millennium Development Goals. Proper ante-natal visits and professional delivery care not only reduces maternal mortality, but also improves maternal and newborn health. So this study was carried out to assess the practices related to pregnancy and child birth among women of Ahmedabad district and study socio-economic and demographic determinants of use of maternal services.

Methodology: A community based cross-sectional study was carried out in urban poor and rural women of Ahmedabad. Study variables included socio-demography, ANC, INC & PNC using the RCH-2 & WHO guidelines. Total 345 mothers of children of 0-36 months were selected by purposive sampling and interviewed after verbal consent.

Results: Mean age of mothers was 25.4± 4.18 years. Literacy rate was 78%. Ante-natal registration was 92.8%, but early registration was only 51.6% and through anganwadis only 47.5%. Except for TT, Early registration, IFA and ANC were highly unsatisfactory. Role of education was established as higher education level correlated with better ANC practices (p=0.03). Multiparous women had better ANC practice (p=0.02). Proportion of home delivery was 7%. Proportion of LBW babies was more in women with less than three ante-natal visits (p<0.0001).

Conclusion: Present study shows that education has positive effect on practice of ANC, INC and PNC. Awareness about ante-natal visits, avoidance of pre-lacteal feed and strengthening of anganwadis for better pregnancy outcome should be promoted.

Key words: practice, ante-natal care, delivery care

INTRODUCTION

Improving maternal health is one of the UN Millennium Development Goals. Every year, almost 99% of deaths due to pregnancy and child-birth related complications occur in developing countries.¹ To prevent unwanted outcomes of pregnancy, antenatal care (ANC) is the most important method for detecting pregnancy problems in the early period.² ANC is a critical element for reducing maternal mortality, and for providing pregnant women with a broad range of promotive and preventive health services.³ One of the most important functions of ANC is

to offer health information and services that can significantly improve the health of women and their children. ANC is also an opportunity to inform women about the danger signs and symptoms for which immediate assistance should be sought from a health care provider.⁴ The National Population Policy 2000 (NPP-2000) envisages the goal of 100 percent registration of pregnancy, 80 percent institutional deliveries and 100 percent deliveries to be conducted by trained staff/birth attendant by the year 2010.⁵ Registration can be done at govt. or private institutes as well as at anganwadis also. So service providers should not register pregnancy

only but also provide thorough knowledge about ANC, INC and PNC particularly workers of anganwadis because in urban poor and rural area, majority women are registered at anganwadis. The link between maternal and infant mortality and the place of delivery is well established as the place of delivery primarily determines the quality of care received by mother and her new born child. The initiation of breast feeding within an hour and the timely introduction of adequate safe and appropriate complementary foods in conjunction with continued breast feeding are of prime importance for the growth, development, health and nutrition of infants and children everywhere. However, there are many cultural practices associated with infant feeding of which certain undesirable practices need to be discouraged.

The objectives of the study were to assess the practices related to pregnancy and child birth among urban poor and rural women of Ahmedabad district and also to study socio-economic and demographic determinants of use of maternal services.

METHODOLOGY

A community based cross-sectional study was carried out in under-privileged population of both urban and rural field practice areas of the department of Community Medicine. Questionnaire including socio-demography, ANC care, delivery care & initiation of breast-feeding using the RCH-2 & the WHO IYCF guidelines was used. We had selected anganwadis of respective field practice areas and mothers (total 345) of all those children (0-36 months) who were registered at anganwadis were selected by purposive sampling and interview was taken at their houses by resident doctors of community medicine. They were interviewed after verbal consent with a pre-tested questionnaire in the months of September-October, 2012. Descriptive statistical tests i.e. Odds ratio, Chi-square test were used to analyze data and p value <0.05 was considered significant. Multivariate analysis was done taking effect of type of family, ante-natal visit, sex of child and pre-lacteal feed on initiation of breast feeding. Early ANC registration means women who have been registered within three months of pregnancy. Women who have taken at least three ANC visits were considered as having adequate ANC visits. Child's birth weight was recorded by using documents available with the mothers i.e. government hospital or private hospital records and birth weight less than 2.5 kg

was considered low birth weight. Early BF term includes children who initiated BF within one hour in case of normal delivery & children who initiated BF within four hours in case of Caesarean sections as per WHO IYCF guidelines.

RESULTS

The study population comprised of 345 mothers of children of 0-36 months of age. They belonged to urban poor and rural sections of Ahmedabad district. Age of mothers was between 21.3 to 29.5 years. Literacy rate was found to be 78%. Proportion of mothers from rural area was 54.5%. Proportion of housewives was 87.5% and rest of the women were working as farm labourers in rural area and as housemaids in urban area. Proportion of primipara was 48.1%. Out of total ante-natal registrations (n=320, 92.8%), early registration was seen only in 51.6% ANC women. Almost half ANC (47.5%) were registered at Anganwadis. Women with one or two visits were 27.9% while 7.2% did not have a single visit. Taking 51.9% (n=179) multipara mothers into consideration, 34.1% (n=61) mothers had practised spacing of ≥ 3 years.

Table 1: Determinants of ante-natal care (n=345)

| Variables | Number of Ante-natal visit | | | χ^2 value, P value |
|------------------|----------------------------|-----|----------|-------------------------|
| | Nil | 1-2 | ≥ 3 | |
| Age | | | | |
| <24 | 5 | 41 | 75 | 7.9, 0.09 |
| 25-29 | 13 | 45 | 108 | |
| ≥ 30 | 7 | 10 | 41 | |
| Parity | | | | |
| Multipara | 17 | 40 | 122 | 7.2, 0.02 |
| Primipara | 8 | 56 | 102 | |
| Residence | | | | |
| Urban | 8 | 34 | 115 | 8.9, 0.01 |
| Rural | 17 | 62 | 109 | |

Table 2: Effect of education on no. of ante-natal visits (n=345).

| Education level | <3 ANC | ≥ 3 ANC |
|---------------------------|--------|--------------|
| Illiterate | 29 | 47 |
| Literate but not graduate | 88 | 151 |
| Graduate and above | 4 | 26 |

Chi-square 6.9, p value 0.03

Table-1 shows various determinants of ante-natal care. Although with increasing age number of women taking three or more ante-natal visits also increase but it is not statistically significant (p=0.09).

Table 3: Effect of ante-natal visit & other factors on birth weight (n=345).

| | LBW* | NBW† | OR# (95% CI) | p value |
|--------------------------------|------|------|-----------------|---------|
| Ante-natal visits | | | | |
| <3 | 33 | 88 | 4.3 (2.29-8.03) | 0.0001 |
| ≥3 | 18 | 206 | 1 | |
| IFA‡ Tablets | | | | |
| <90 | 28 | 104 | 2.2 (1.21-4.05) | 0.008 |
| ≥90 | 23 | 190 | 1 | |
| Ante-natal registration | | | | |
| Anganwadi | 20 | 132 | 1 (0.52-1.93) | 0.9 |
| Others | 22 | 146 | 1 | |

*Low birth weight; † Normal birth weight; ‡ Iron Folic acid; #Odds Ratio

According to education level, women with graduation and higher qualification (86.7%) took more adequate .ANC visits followed by women who were literate but not graduate (63.1%) fol-

lowed by illiterate women (61.8%) (p=0.03, table-2). This shows that with education practice of ANC improves. Women from urban area had undergone adequate ante-natal visits as compared to women from rural area and this difference was statistically significant (p=0.01). Multiparous women were found to be significantly better in ante-natal visit with p=0.02. Work (job) & type of family had not any significant association with number of ante-natal visits with p value of 0.7 and 0.9 respectively.

Total hospital deliveries were 93%, out of which 55.1% were conducted at govt. facilities. Common mode of delivery was normal delivery (80.6%). Residential area (p=1.9), age (p=0.1), Education (p=0.05), type of family (p=0.5), parity (p=0.09), no. of ante-natal visit (p=0.5) had no effect on place of delivery.

Table 4: Determinants of early breast feeding (n=345)

| | Early BF* | Late BF* | Chi square value | p value | Odds ratio(OR) | 95% CI |
|------------------------------|-----------|----------|------------------|---------|----------------|-------------|
| Gender | | | | | | |
| Male | 129 | 48 | 8.7 | 0.003 | 1.96 | 1.2 - 3.08 |
| Female | 97 | 71 | | | | |
| Type of Family | | | | | | |
| Nuclear family | 144 | 62 | 4.4 | 0.03 | 1.6 | 1.02 - 2.5 |
| Joint family | 82 | 57 | | | | |
| Ante-natal Visit | | | | | | |
| Ante-natal visit≥3 | 153 | 71 | 2.1 | 0.13 | 1.4 | 0.9 - 2.2 |
| Ante-natal visit<3 | 79 | 56 | | | | |
| Duration of Gestation | | | | | | |
| Term infant | 207 | 96 | 8.7 | 0.003 | 2.6 | 1.4 - 5.02 |
| Preterm | 19 | 23 | | | | |
| Type of Delivery | | | | | | |
| Normal delivery | 208 | 70 | 54.9 | 0.0001 | 8.09 | 4.4 - 14.8 |
| Caesarean section | 18 | 49 | | | | |
| Pre-lacteal feed | | | | | | |
| No Pre-lacteal feed | 175 | 40 | 63.7 | 0.0001 | 6.8 | 4.1 - 11.08 |
| Pre-lacteal feed given | 51 | 79 | | | | |

* Breast feeding

Table 5: Effect of various factors on initiation of breast feeding by logistic regression analysis

| Factors | Wald | df* | p value | Odds ratio(OR) | 95% CI |
|---------------------------|--------|-----|---------|----------------|----------------|
| No pre-lacteal feed given | 54.943 | 1 | <0.001 | 6.829 | 4.109 - 11.351 |
| Male | 8.474 | 1 | 0.004 | 2.120 | 1.278 - 3.517 |
| Nuclear family | 3.561 | 1 | 0.059 | 1.631 | 0.981 - 2.712 |
| Any ant-natal visit | .060 | 1 | 0.807 | 1.124 | 0.440 - 2.869 |

* Degree of freedom

Out of total 345 children born to the women included in the study, 51.3% children were males and 48.7% were females. Proportion of children born pre-term was 12.2%. Practice of pre-lacteal feed was seen in 37.7% with jaggery water being the commonest (83.1%). Proportion of low birth weight babies was less among women with ade-

quate ante-natal visits and IFA tablets (p<0.05) and OR is 4.3 (with 95% CI- 2.29 to 8.03) and 2.2 (with 95% CI- 1.21 to 4.05) respectively as shown in table-3. In table-4 determinants of initiation of early breast-feeding are mentioned. Male sex of the new born (p=0.003), nuclear family (p=0.03), term birth (p=0.03), normal delivery (p=0.0001)

were determinants which significantly favoured early initiation of breastfeeding. Logistic regression showed pre-lacteal feed as the most important factor determining the initiation of breast feeding (OR=6.8, 95% CI 4.1-11.3) followed by male sex (OR=2.1, 95% CI 1.2-3.5) [Table-5].

DISCUSSION

Findings related to maternal and child health indicators of present study are compared with DLHS-3 data as shown in table-6.

Table 6: Comparison of Maternal & child Health indicators of present study (n=345) with DLHS-3⁶

| Indicators | Present study | Ahmedabad | Gujarat | India |
|---|---------------|-----------|---------|-------|
| Women with three or more ante-natal visit | 64.9 | - | 54.8 | 49.8 |
| TT immunization practice | 92.2 | 79.9 | 68.4 | 73.4 |
| Iron folic acid tablets≥90 | 62 | - | 50.7 | 46.6 |
| Institutional delivery | 93 | 80.3 | 56.4 | 47.0 |
| Colostrum | 85.8 | - | - | 80 |
| Early Breast feeding | 65.5 | - | 48 | 41 |

'-' indicates 'data not available'

Though the difference was statistically insignificant, educational status of women clearly has a positive effect on approach for ante-natal check-up which ultimately affects delivery-care and child birth-weight. Female Literacy rate (78%) in the current study was higher than the national (65.46%) and state (70.7%) female literacy rate (census 2011)⁷. It still needs to be higher to improve utilization of maternal health services. Almost 47.5% of ANC registrations were at anganwadi because of services by locally employed personnel (Anganwadi workers) who are familiar with the lifestyles and culture of the people living in the villages. This trend can be seen as a positive sign as pregnant women are very much the beneficiaries of anganwadi. Therefore, by improving the maternal skills of anganwadi workers, better pregnancy and delivery outcomes can be achieved. Regular ANC visits can provide a strong relationship between beneficiaries and the service providers along with other benefits that can result in reducing complications during pregnancy.⁸ The results showed that 64.9% women received at least three ante-natal visits, which was higher than state average 54.8% and national average of 49.8% compared to the DLHS-3.⁶ In the present study, women with adequate ANC visits were 70% and with two visits were 20.9% while 9.06% had only a single visit. Similar study by Hitesh Shah, Binita Desai et al showed out of 264(96.35%) who received ante natal care 85.7% received it for three or more times while 10.9% received it for two times and 3.4% received it for a single time during their pregnancy.⁹ Women from urban area had undergone adequate ante-natal visits as compared to women from rural area and this difference was statistically significant (p=0.01) and similar finding in a study by Digamber A. Chimankar,

women living in urban areas use full ANC more than their rural counterparts.¹⁰ Role of education was established as higher education level correlated with better ANC practices (p=0.03). Similarly, women's education consistently showed a positive association with antenatal care check-ups through visits to a health facility in all the states in India.¹¹ This study categorized women in two groups, viz. primiparous and multiparous rather than categorizing by specific number of children. Our results indicated parity as one of the important predictors for receiving ANC visits. Multiparous women were observed to undergo ANC visits more adequately (p=0.02, table-1). Likewise, in study by Agus and Horiuchi, multiparous women (73.5%) experienced at least four ante-natal visits more than primiparous women (26.5%), (p<0.001).⁸ Low ANC attendance among primiparous might be a lack of understanding concerning the importance of ANC during pregnancy.

Low birth weight babies was less among women with adequate ante-natal visits (p<0.05 and OR=4.3 with 95% CI- 2.29 to 8.03. Similar findings were observed in a study by Mean-Heng NGY and Keiko NAKAMURA.¹² In recent years, main attention is given to ways and means of prevention of LBW babies through good prenatal care and intervention programmes.¹³ The present study also supports this hypothesis. Among multiparous women (51.9%) spacing greater than or equal to three years was only seen in 34.1% which suggests poor utilization of family planning services. Good number of mothers 91.9% had taken IFA tablets, but continuation was practised in only 67.1%.

Institutional delivery was 93% which was much higher than District (80.3%), State (56.4%) and

national (47%) figures.⁶ Among the institutional deliveries, majority were government hospital deliveries (55.1%) as compared to private institutions. Proportions of home deliveries in urban and rural area were 5.3% and 8.9% respectively.

In a study by A. Rahman and I. Anwar, Women with complete knowledge of all five pregnancy danger signs were 1.13 (Adjusted Odds: 1.13, 95% CI, 1.01-1.27) times more likely to have institutional deliveries than those without knowledge when the effect of socio-demographic co-variables were held constant. Focused BCC using pictorial cards during routine ANC improves knowledge of pregnant women and their use of health facilities for conducting deliveries which may contribute in achieving MDG 5 targets by 2015.¹⁴

According to IYCF guidelines,¹⁵ Government of India recommends that initiation of breastfeeding should begin immediately after birth, preferably within one hour. In the present study, practice of early breast feeding was seen in 65.5% newborns which were much higher than state level (48%) and national level (41%). In the study by Kumar D in urban slums, reasons for the late initiation of breast-feeding were the family restrictions (social customs (38.8%) and religious beliefs (25.2%) which was also found in our study like goddess' curse (31.9%).¹⁶ Pre-lacteal feed was given to 37.7% new-borns mainly due to cultural beliefs. Logistic regression showed pre-lacteal feed as the most important factor determining the initiation of breast feeding (OR=6.8, 95% CI 4.1-11.3) followed by sex (OR=2.1, 95% CI 1.2-3.5).

CONCLUSION & RECOMMENDATIONS

Adequate ante-natal visits were more significant in women from urban area and multiparous women. Education showed positive effect on practice of institutional deliveries while other factors were found to have no effect on place of delivery. BCC activities for ante-natal visits & institutional delivery should be improved. Strengthening of anganwadi for better pregnancy outcome should be promoted. Training & incentives can be thought of. Awareness programmes regarding avoiding practices of pre-lacteal feed and timely initiation of BF is highly recommended in the community.

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