

Original Research Article

Assessment of utilization of maternal health care services in rural field practice areas of VIMS, Ballari

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Received: 16 October 2017

Revised: 29 November 2017

Accepted: 30 November 2017

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ABSTRACT

Background: Maternal mortality and morbidity remains high even though national programs exist for improving maternal and child health in India. This could be related to several factors, an important one being non-utilization or delay in seeking care of maternal health-care services, especially amongst the rural poor and urban slum population due to either lack of awareness or access to health-care services. Our study was aimed to know the utilization of maternal health care services during antenatal and post natal period and factors affecting them.

Methods: A Community based cross sectional study was carried in the rural field practice areas of VIMS, Ballari (three primary health centres (PHC) Kudithini, Koluru, Kurugodu) among all married women in the age group of 15-45 years who were in the post natal period (less than 2 months) at time of interview. A total 152 women were included in the study by door to door survey, among all the 3 PHC's. The women absent during the survey were excluded.

Results: Only 101 (66.44%) of women utilized antenatal care and 18 (11.8%) utilized post natal care (at least three postnatal visits) from the health care facility. Mothers who were of Muslim religion, <20 years of age, higher education of participant as well as husband, higher occupation status, high SES, less parity had higher odds of utilizing antenatal care. Health education by the health worker regarding post natal services to women ranged from 62.5-90.8%. Mothers of Muslim religion, higher education, higher occupation status, normal vaginal delivery and home delivery had higher odds of utilizing postnatal services

Conclusions: The study shows unacceptably low utilization of postnatal care services. It shows the coverage of postnatal care services is inadequate. This is an important message to health service providers and policy makers to strengthening not only antenatal health services and institutional deliveries but also postnatal care services to reduce maternal and neonatal morbidity and mortality.

Keywords: Antenatal services, Post natal services, Maternal health

INTRODUCTION

In the Indian epic Mahabharata, a woman was always blessed as "sau putravati bhavh" (be mother of hundred sons), because in those days, the prime role of women was childbearing. In many rural parts of India, the

situation is still the same; the main role assigned to her is that of child bearer. Therefore pregnancy is one of the most important events in the life of Indian women.¹ The awareness can be raised with routine antenatal visits about the need for care at delivery, familiarity with health facilities that enable them to seek help more efficiently during crisis.¹

Maternal mortality rate (MMR) is only 9/100,000 live birth in UK as compared to 167/100,000 live births in India, where as in Karnataka it is 133/1000 live births.²

Good maternal health and maternal deaths can be reduced by providing better maternal health care services. Though national programs exist for improving maternal and child health in India, maternal mortality and morbidity remains still high. This could be attributed to several factors, an important one being non-utilization or delay in seeking care of maternal health-care services, especially amongst the rural poor and urban slum population due to either lack of awareness or access to health-care services.³

Understanding of the knowledge and practices of the community regarding maternity care during pregnancy, delivery and postnatal period is required for program implementation.

Our study was aimed to know the utilization of maternal health care services during antenatal, delivery and post natal period and factors affecting them.

METHODS

The present community based descriptive cross sectional study was planned to carry out in rural areas of Ballari district to study utilization of various maternal health care services from June 2017 to August 2017. The study conducted in Kudithini, Koluru and Kurugodu Primary Health Centres (PHC), field practice areas of Department of Community Medicine, Vijayanagara Institute of Medical Sciences (VIMS), Ballari, after approval from the institutional ethical committee.

One of the important indicator for determination of maternal health care delivery utilization is, minimum four antenatal care visits to health care facility. According to NFHS-3 survey 83.3% women in rural area had at least three or more antenatal care visits for their last birth, in Karnataka.⁴

A respondent woman means- women who had less than 2 month child at the time of interview. Mother who had less than 2 month child at the time of interview and should be resident of particular area for previous 2 years or more and who were willing to participate in this study were included. Those mothers who had more than 2 month child and who were not willing to participate in this study and who were absent during the scheduled visit were excluded.

Health education received: if the study participant told that she received advice regarding rest, nutrition, exercises, counselling, breast feeding, immunization during pregnancy from health worker then it was considered as a health education received.

JSY benefit: the study participant who received monetary benefit of JSY scheme considered as JSY benefited women.⁵

Post natal visit: the study participant who had paid at least one visit to health facility within seven days of delivery considered as post natal visit paid.

Before the commencement of the study in any rural area, a preparatory call was made by the investigator to that village. A meeting with the Anganwadi worker (AWW) was made after taking permission from the respective PHC Medical Officer. The objectives and purpose of study was explained to the AWW. During the interview, AWW accompanied with the investigator in village. The respondent women were co-operative, after seeing the familiar personnel.

A door to door survey was carried out in all the selected PHC areas to identify the women who had less than 2 month child.

We could collect information from 52 respondent women of village Kudithini. Once first village was covered fully we moved to next PHC i.e. Koluru. Here we could find 39 respondent women. Last PHC visited was Kurugodu, and here we could collect information from 61 respondent women. Total 152 rural respondent women were enrolled for the study after getting informed written consent. We introduced our self-first to the family and explained details regarding the purpose of the study. These women were interviewed using a pre-structured interview schedule including identification data, socio-demographic profile, details of antenatal care, delivery, postnatal care.

Data was coded, entered and analyzed using SPSS (version 20.0) package. Data was expressed in percentage. Chi-square test was used for evaluating association between antenatal care (ANC), post natal care (PNC) and categorical variables. Associations between significant variables in the Chi-square test were then further examined using crude (unadjusted) odds ratios. P value less than 0.05 was considered statistically significant.

RESULTS

The socio demographic characteristics are presented in table 1. The mean age of the study participants was 22.97 ± 3.3 . Majority (82.9%) were from Hindu religion, most (54.6%) were unemployed* i.e. all were housewife in our study, whereas husband's occupation was better. illiterates were same in number among both husband and respondent. All were from low socio economic class, no one from class one or class two.

Table 1: Socio demographic characteristics of the respondents.

Variables	Number	Percentage (%)
Age (in years)		
≤20	39	25.7
21-30	107	70.4
31-40	6	3.9
Religion		
Hindu	126	82.9
Muslim	18	11.8
Others	8	5.3
Subject education		
Illiterate	36	23.7
1-4	15	9.9
5-7	34	22.4
8-10	49	32.2
PUC/diploma	9	5.9
Degree	9	5.9
Subject occupation		
Unskilled	44	28.9
Semiskilled	10	6.6
Skilled	13	8.6
Professional	2	1.3
Unemployed*	83	54.6
Husband education		
Illiterate	34	22.4
1-4	15	9.9
5-7	27	17.8
8-10	35	23
PUC/diploma	17	11.2
Degree	24	15.8
Husband occupation		
Unskilled	48	31.6
Semiskilled	52	34.2
Skilled	27	17.8
Professional	9	5.9
Unemployed*	16	10.5
Socio economic class		
III	55	36.2
IV	31	20.4
V	66	43.4
Age at marriage (in years)		
<15	9	5.9
15-20	120	78.9
>20	23	15.1
Birth order		
1	63	41.4
2	49	32.2
3	28	18.4
≥4	12	7.9

Utilization of antenatal care and postnatal care services

27% (41 respondents) had less than 4 ante natal visits, 61.2% (93) did not take single visit within first week of

delivery. 121 children received complete zero dose (BCG, OPV and Hepatitis B) immunization.

Table 2: Utilization of antenatal and post natal services.

Variables	Number	Percentage (%)
ANC visits		
<4	41	27
4	28	18.4
>4	83	54.6
PNC visits		
No visits	93	61.2
<3	41	27
3-6	18	11.8
Zero dose immunization		
Given	121	79.6
Not given	31	20.4
IFA tablets consumed		
Yes	146	96.1
No	6	3.9
TT injection		
Taken (1 or 2)	150	98.7
Not taken	2	1.3

Factors associated with antenatal care services utilization

Women who were <20 years (OR 1.2, CI 0.53-2.65), Muslim religion (OR 1.7, CI 0.51-5.3), higher education of the respondent (OR 8.8, CI 0.5-155.3) as well as husband (OR 2.2, CI 0.58-7.8), professional occupant of husband (OR 3.8, CI 0.46-31.1), higher SES class (OR 2.8, CI 0.99-7.7), higher age at marriage (OR 1.5, CI 0.64-3.3) and less parity (OR 1.4, CI 0.64-2.9) had higher odds of utilizing antenatal services.

Factors associated with postnatal care service utilization

Women who were of Muslim religion (OR 2.43, CI 0.76-7.8), had higher education (OR 5.46, CI 0.66-44.8), professional by occupation (OR 2.6, CI 0.11-58), higher primary education of their husband (OR 2.04, CI 0.8-5.2), lower socio economic class V (OR 1.7, CI 0.86-3.3), delivered at home (OR 2.6, CI 0.28-23.9), and by normal vaginal route (OR 3.1, CI 1.44-6.6) showed higher odds ratio of utilization of post natal care services.

Health education

During the post natal period health worker visited the respondent woman to their home and it was around 91.4% (139 women). And the counselling regarding post natal care was not fully focussed on all the services; they missed some services for some respondent woman. Only 41 respondent women received financial benefit (JSY).

Table 3: Factors associated with antenatal care services utilization.

Variables	ANC care			
	Yes (105) (%)	Odds ratio	Confidence limits	P value
Age (in years)				
≤ 20	28 (72)	1.19	0.53-2.65	0.684
21-30	73 (68.2)	1.14	0.53-2.45	0.736
31-40	4 (66.7)	1.12	0.2-6.3	0.603
Religion				
Hindu	89 (70.6)	1.5	0.23-6.5	0.369
Muslim	14 (77.8)	1.7	0.51-5.3	0.022
Others	2 (25)	0.13	0.025-0.68	0.417
Subject education				
Illiterate	22 (61)	0.625	0.29-1.4	0.276
literate	83 (72)	1		
Subject occupation				
Employed	47 (68.1)	0.92	0.46-1.8	0.816
Unemployed*	58 (70)	1		
Husband education				
Illiterate	19 (55.9)	0.47	0.21-1.03	0.034
Literate	86 (72.9)	1		
Husband occupation				
Unemployed*	9 (56.2)	1.9	0.65-5.4	0.269
Employed	96 (70.6)	1		
Age at marriage (in years)				
< 15	5 (55.5)	0.54	0.14-2.1	0.39
15-20	85 (70.8)	1.46	0.64-3.3	0.37
>20	15 (65.2)	0.81	0.32-2.1	0.66
Birth order				
1	43 (68.3)	0.96	0.47-1.9	0.85
2	36 (73.5)	1.4	0.64-2.9	0.43
3	20 (7.1)	1.1	0.46-2.8	0.78
≥4	6 (50)	0.41	0.13-1.4	0.16
Distance from the health facility (kms)				
<5	51 (60.7)	0.04	0.2-0.8	0.013
>5	54 (79.4)	1		

Table 4: Factors associated with post natal care services utilization.

Variables	PNC CARE			
	Yes (93) (%)	Odds ratio	Confidence limits	P value
Age (in years)				
≤ 20	24 (61.5)	1.02	0.48-2.2	0.96
21-30	66 (61.7)	1.073	0.52-2.2	0.84
31-40	3 (50)	0.622	0.12-3.2	0.59
Religion				
Hindu	73 (57.9)	0.41	0.15-1.1	0.072
Muslim	14 (77.8)	2.43	0.76-7.8	0.12
Others	6 (75)	1.96	0.38-10.1	0.44
Subject education				
Illiterate	22 (61.1)	0.996	0.46-2.1	0.493
Literate	71 (61.2)	1		
Subject occupation				
Unemployed*	52 (62.6)	1.14	0.59-2.2	0.343
Employed	41 (59.4)	1		

Variables	Yes (93) (%)	Odds ratio	Confidence limits	P value
Husband education				
Illiterate	19 (55.9)	0.75	0.35-1.6	0.239
Literates	74 (62.7)	1		
Husband occupation				
Unemployed*	8 (50)	0.6	0.21-1.7	0.174
Employed	85 (62.5)	1		
Age at marriage (in years)				
< 15	5 (55.5)	0.78	0.2-3.03	0.724
15-20	73 (60.8)	1.4	0.63-2.9	0.43
>20	15 (65.2)	1.2	0.48-3.1	0.68
Birth order				
1	39 (61.9)	1.05	0.54-2.04	0.881
2	29 (59.2)	0.88	0.44-1.8	0.728
3	18 (64.3)	1.17	0.50-2.8	0.722
≥4	7 (58.3)	0.87	0.26-2.9	0.828
Spacing				
Yes	52 (65)	1.4	0.72-2.7	0.315
No	41 (56.9)	1		
Distance from the health facility (kms)				
<5	56 (66.7)	0.49	0.23-1.03	0.06
>5	37 (54.4)	1		
ANC care				
Yes	59 (56.2)	0.49	0.23-1.03	0.06
No	34 (72.3)	1		
Place of delivery				
Home	4 (80)	2.6	0.28-23.9	0.436
Government hospital	71 (59.2)	0.66	0.28-1.5	0.333
Private hospital	18 (66.7)	1.33	0.55-3.2	0.533
Type of delivery				
NVD	78 (67.8)	3.1	1.44-6.6	0.003
LSCS	15 (40.5)	1		

Table 5: Services provided by the health worker.

Variables	Number	Percentage (%)
Breast feeding		
Yes	138	90.8
No	14	9.2
Immunization		
Yes	138	90.8
No	14	9.2
Family planning		
Yes	121	79.6
No	31	20.4
Diet		
Yes	133	87.5
No	19	12.5
Personal hygiene		
Yes	136	89.5
No	16	10.5
Postpartum complications		
Yes	117	77
No	35	23
Postpartum exercises		
Yes	95	62.5
No	57	37.5

Variable	Number	Percentage (%)
Financial benefit		
Yes	41	32.8
No	111	67.2

DISCUSSION

We have documented utilization of maternal care services in a rural community of Ballari, Karnataka in a cross sectional study. Most maternal deaths is preventable, if women have access to basic medical care during pregnancy, childbirth and post natal period.⁶ In India, these services are provided through a network of health centres in outpatient clinics, as well as through home visits by health workers. However, utilization of these services by the target population remains very poor. This could be due to lack of awareness, availability or accessibility to these services.

In the present study most of the respondent women 111 (73%) had paid four or more than four antenatal visits and 41 (27%) paid less than four antenatal visit. Das observed that 14 (23.7%) women paid one antenatal visit, 8 (13.6%) paid two, 15(25.4%) paid three and 22(37.3%) paid equal to and above four antenatal visits.⁷

Dabade et al showed 110 respondents (53.4%) had paid three or more than three antenatal visits and 12 (5.8%) did not pay any antenatal visit.⁸ According to NFHS-3 survey (2005-06) 83.3% of rural women paid at least three antenatal care visits in Karnataka.² In the present study women paid 4 or more visits are less compared to survey; but there they considered three visits as per the guidelines, and recently it was changed.⁹

In the present study, higher education of study participant as well as husband, birth order of two, professional by occupation and married between 15-20 years, had higher odds of taking antenatal care services.

There is very much need for improvement in knowledge and awareness regarding the benefits of ANC. Some factors that lead to restriction of ANC visits by the women such as cultural, socioeconomic and others. We should thus focus on these factors while planning and implementing maternal health care services.

Ninety three women (61.2%) had not paid a single post natal visit, where as only 18 had taken three or more visits. Khanal et al reported than less than half (43.2%; 95% CI (39.9-46.5%)) of the mothers had attended at least one postnatal care visit within 42 days of delivery.¹⁰ In the present study, place of delivery (OR 2.6, CI 0.28-23.9) was significantly associated with attending immediate postnatal care. Women, who deliver at home, received medical care from health facility immediately, may be because of fear of complications. Where as in Khanal et al study significant association was found with the women delivered at health facility.¹⁰ Our study

showed only five respondents had delivered at home. Kumar et al reported that 73% women delivered at home.¹¹

In our study, women with higher education, and professional by occupation had high odds of receiving post natal care, indicating the impact of education on awareness and health status. Two women did not receive single tetanus toxoid (TT) also, inspite of 100% coverage should be there under Universal Immunization program. Agrawal reported 17% had missed TT injections.³

Home visit by the health worker was not 100%, this may be due to distance from the health facility or the unavailability of the women at the time of visit. Health worker did not counselled women equally on all the post natal care services (regarding rest, nutrition, exercises, counselling, breast feeding, and immunization). This shows that the health workers have to be trained well in providing maternal health care services, especially counselling of mothers.

CONCLUSION

The study shows unacceptably low utilization of postnatal care services. It shows the coverage of postnatal care services is inadequate. Antenatal care service utilization was better. This is an important message to health service providers and policy makers to strengthening not only antenatal health services and institutional deliveries but also postnatal care services to reduce maternal and neonatal morbidity and mortality.

Limitations

We missed some women, as they were absent during the survey.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Raj P. Pregnancy complications and health-seeking behavior among Married women in Uttar Pradesh, India. *Res Practice Social Sci*. 2005;1:48-63.
2. Sample registration system 2015.
3. Agarwal P, Singh MM, Garg S. Maternal Health-Care Utilization Among Women in an Urban Slum in Delhi. *Indian J Community Med*. 2007;32(3):203-5.

4. Ministry of health and family welfare. District level facility and household survey 4. 2012-13.
5. Operational Guidelines for Janani Suraksha Yojana. Mission Directorate National Rural Health Mission, Health and Family Welfare Department, Government of Orissa. <http://angul.nic.in/JSY.pdf> accessed on 27/7/2011.
6. Mother-baby package: Implementing safe motherhood in countries. World Health Organization: Geneva; 1994.
7. Das R. Utilization and Coverage of services by women of Jawan Block in Aligarh. *Indian J Community Med*. 2001;26(2):94-99.
8. Dabade KJ, Dabade SK, Khadilkar HA. A Study on Utilization of Maternal Health Care Services in Rural Area of Aurangabad District, Maharashtra. *Natl J Community Med*. 2013;4(4):579-83.
9. Park K. Park's Textbook of Preventive and Social Medicine. 23th Ed. Jabalpur, India: Banarasidas Bhanot; 2015.
10. Khanal V, Adhikari M, Karkee R, Gavidia T. Factors associated with the utilisation of postnatal care services among the mothers of Nepal: analysis of Nepal Demographic and Health Survey 2011. *BMC Women's Health*. 2014;14:19.
11. Sanjay K, Premarajan KC, Nagesh S, Nilamber J. Utilization of maternal health care services in a rural community of Nepal. *Int J Scientific Res Publications*. 2015;5:2.

Cite this article as: Neeta PN, Sameena ARB, Suresh CM, Goud G, Bharat, Sajjan S, et al. Assessment of utilization of maternal health care services in rural field practice areas of VIMS, Ballari. *Int J Community Med Public Health* 2018;5:170-6.