

Original Research Article

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Utilization of postnatal care services in a rural area of Nalgonda district, Telangana state, India

K. Jahnavi¹, Abhay Subhashrao Nirgude^{2*}, Kondagunta Nagaraj³

¹Department of Community Medicine, Santhiram Medical College, Nandyal, Andhra Pradesh, India

²Department of Community Medicine, Yenepoya Medical College, Yenepoya, Mangaluru, Karnataka, India

³Department of Community Medicine, SVIMS, Sri Padmavathi Medical College for Women, Tirupathi, Andhra Pradesh, India

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***Correspondence:**

Dr Abhay Subhashrao Nirgude,

E-mail: abhaynirgude@gmail.com

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ABSTRACT

Background: Promoting women's health improves not only individual health but also the health of the family, community and the nation. Less attention was given for postnatal period in developing countries; women and their newborns don't receive postnatal care services from a skilled birth attendant during the first days after childbirth. The objective was to study utilization of postnatal care services by recently delivered mothers, to study the geographical accessibility factors influencing utilization of postnatal care services and to study healthcare provider factors influencing utilization of postnatal care services.

Methods: It was a community based cross sectional study conducted in Cherlapally and villages around, which constitute the rural field practice area of Department of SPM, Kamineni Institute of Medical Sciences, Narketpally Telangana from September 2012 to October 2014. A pre-designed and pre-tested questionnaire was used to collect the data. The data was compiled and analyzed using SPSS version 19.

Results: Accordingly, 97.9% of the mothers received postnatal care and 2.7% mothers didn't receive the postnatal care. In the present study postnatal advice was received by 67.8%, 82.2% and 55.1% of mothers regarding family planning, breast feeding and baby care respectively. Majority (79.9%) of mothers travelled greater than 5 kms for delivery and only 20.1% of mothers travelled less than 5 kms for delivery.

Conclusions: Number of institutional deliveries and deliveries assisted by skilled health personnel were more compared to other studies probably because of awareness created during antenatal visits, maternity benefit scheme and role of ASHA workers.

Keywords: Maternal health, Postnatal care, Utilization

INTRODUCTION

Promoting women's health improves not only individual health but also the health of the family, community and the nation. Hence women acquire a special place in the community.¹ Less attention was given for postnatal period in developing countries; women and their newborns don't receive postnatal care services from a skilled birth attendant during the first days after childbirth. Great

majority of maternal and neonatal deaths occur during the first 2 days after childbirth. Hence, postnatal care for the women and the child is important in detecting and treating complications occur during the delivery as well as providing information for the mother on her and her newborn health. A number of programs have been launched by the Government of India for the welfare of the women belonging to reproductive age group, but still significant reduction in maternal mortality and morbidity

has not been achieved yet. The highest maternal mortality ratios can be witnessed in India. India accounts for approximately 20% of all the maternal deaths globally.²

Though the percentage of hospital deliveries is increasing gradually, it is not only the hospital delivery, the duration of stay in hospital after delivery is also equally important. The importance of this is to detect and treat the immediate post natal complications. Percentage of stay in hospital for less than 48 hours in institutional deliveries in India is 43.4%.^{3,4} According to NFHS-report (2007-09) percentage of stay in hospital for 48 hours in institutional deliveries in India is 41.2% and in Andhra Pradesh, now comes under Telangana state after bifurcation of state it is 71.2%.⁵ So this study was used to assess extent of postnatal care utilization, by the recently delivered mothers. Aim was to study utilization of postnatal care services by recently delivered mothers and objectives was to study utilization of postnatal care services by recently delivered mothers, to study the geographical accessibility factors influencing utilization of postnatal care services, to study healthcare provider factors influencing utilization of post natal care services

METHODS

It was a community based cross sectional study conducted in 4 villages namely Cherlapally, Anneparthi, Yellareddyguda and Marrigudawich which constitute the rural field practice area of Rural Health Training Centre of Department of Community Medicine, Kamineni Institute of Medical Sciences, Narketpally, Nalgonda district, Telangana state, from September 2012 to October 2014. Sample size was calculated by using the formula $N=4pq/L^2$ calculated sample size for our study was 216 considering a non-response rate of 10%, the total sample size constitutes to 236. Multi stage sampling procedure was followed. Enlisted the households with recently delivered mothers, who fulfills inclusion criteria (married mothers delivered within last 12 months preceding the survey and residents of the study area) as per the records from ASHA, AWW and ANM. Number of subjects drawn from the villages was calculated by probability proportionate to population size (PPPs) method. Selection of required number of subjects was done by simple random method.

Approval from Institutional Ethical committee was obtained. Informed consent was obtained from the study subjects after explaining the purpose, nature and objectives of the study in their own language and confidentiality was assured. A pre-designed and pre-tested questionnaire used by coverage evaluation survey and National Family Health Survey III and modified as per study objectives was used to collect the data. Data was collected by interviewing the study population by door to door survey. The data was compiled and analyzed using SPSS version 19. Descriptive analysis was done by summarizing continuous variables (mean, standard deviation) and categorical variables (relative frequency).

Univariate analysis was conducted to study the influence of factors on post natal care. A p value of <0.05 was considered as significant.

RESULTS

The study population consisted of all the women in the age group of 15-44 years who had delivered within last one year at the time of interview. Majority were in the group of 20-24 years (59.7%) followed by 25-29 years (32.2%) The mean age of study subjects was 23.1 ± 2.1 years. Of the total study subjects, majority were Hindus (94.5%) followed by Christians (4.2%) and Muslims (1.3%) respectively. Majority of the respondents belong to scheduled caste (42.8%) followed by backward caste (41.5%). According to occupation of respondent husband, 56.8% were skilled workers followed by unskilled workers (33.1%).

In the present study, 23.7% of study subjects were Illiterates and 28.4% completed high school education and 33.9% were graduates. Majority (45.8%) of respondents belong to low socio-economic status class followed by middle class (41.9%) (Modified Udai Pareek's classification). Only 12.3% belongs to high class. Majority of the mothers (65.3%) were multipara and 34.7% of the mothers were Primi para.

Majority (98.7%) of the deliveries were Institutional. Of the total deliveries 58.1% occurred in private health facility and 40.6% in government health facility. Home deliveries were observed in 1.3% of the respondents. Total deliveries conducted by skilled birth attendant were 98.7%.

Accordingly, 97.9% of the mothers received postnatal care and 2.7% mothers didn't receive the postnatal care. In the present study, post natal advice was received by 67.8%, 82.2% and 55.1% of mothers regarding family planning, breast feeding and baby care respectively. In the present study, less than 3 post natal check-ups were received by 36.9% of mothers and ≥ 3 post natal check-ups were received by 63.1% of mothers. Majority (79.9%) of mothers travelled greater than 5 kms for delivery and only 20.1% of mothers travelled less than 5 kms for delivery. Mean distance to place of delivery was 12.2 ± 12.8 km.

In the present study, it was observed that 97.8% and 55.2% of mothers expressed satisfaction with respect to behavior of staff in private health facilities and government health facilities respectively. 82.3% of mothers and 100% of mothers observed that timely attention was given in government health facilities and private health facilities respectively.

Majority of mothers (97.8%) expressed satisfaction regarding cleanliness of ward in private health facilities while only 60.4% of mothers expressed satisfaction in government health facilities. In the similar way majority

of mothers (95.6%) expressed satisfaction in private health facilities regarding cleanliness of bathrooms while only 59.3% of mothers expressed satisfaction in government health facilities.

Table 1: Distribution of study subjects according to place of delivery and person conducting delivery (n=236).

Variable	Number	Percentage
Place of delivery		
Government health facility	96	40.6
Private health facility	137	58.1
Home	3	1.3
Person conducting delivery		
Skilled birth attendant	233	98.7
Un skilled birth attendant	3	1.3
Total	236	100

In the present study, women of age group ≥ 25 years (44%), illiterates (47%), scheduled castes (56.5%), women whose husbands were unskilled workers (53.3%) and women with birth order above 2 (50%) were preferring government health center for place of delivery. In the present study (Table 3) there exists no significant association between age group, educational status of mother and birth order with place of delivery where as significant association was found with caste (OR=3.337,

95% CI=1.935-5.756), educational status of husband (OR=0.511 95% CI=0.286-0.915) and occupation of husband (OR=0.480 95% CI=0.275-0.840) ($p<0.05$).

Table 2: Distribution of study subjects according to post natal care availed within 48 hours of delivery (n=236).

Post natal care	Number	Percentage
Received	231	97.9
Not received	5	2.1

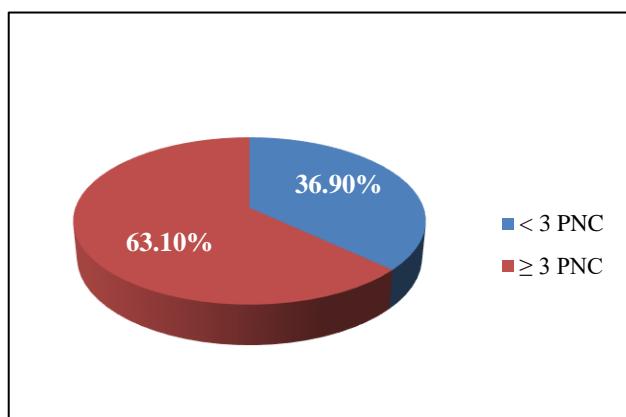


Figure 1: Distribution of study subjects according to number of post natal check-ups (N=236).

Table 3: Association between socio-demographic factors and place of delivery (n=233).

Socio-demographic factors	Government Number (%)	Private Number (%)	Total Number (%)	OR (95%CI)
Age in years				
<25	60 (39.8)	91 (60.2)	151 (100)	0.842 (0.489-1.452)
≥25	36 (44)	46 (56)	82 (100)	
Educational status of mother				
Literates	71 (39.4)	109 (60.6)	180 (100)	0.730 (0.394-1.352)
Illiterates	25 (47)	28 (53)	53 (100)	
Educational status of husband				
Literates	62 (36.7)	107 (63.3)	169 (100)	0.511 (0.286 0.915)*
Illiterates	34 (53)	30 (47)	64 (100)	
Caste				
Scheduled	61 (56.5)	47 (43.5)	108 (100)	3.337 (1.935-5.756)*
Others	35 (28)	90 (72)	125 (100)	
Socio-economic status				
High	14 (48.2)	15 (51.8)	29 (100)	1.389 (0.636-3.030)
Low	82 (40)	122 (60)	204 (100)	
Occupation of Husband				
Skilled	56 (35.4)	102 (64.6)	158 (100)	0.480 (0.275-0.840)*
Unskilled	40 (53.3)	35 (46.7)	75 (100)	
Birth order				
0-2	79 (40)	120 (60)	199 (100)	0.658 (0.317-1.366)
Above 2	17 (50)	17 (50)	34 (100)	

* $P<0.05$ was considered as significant.

Table 4: Association between socio-demographic factors and post natal check-ups.

Variables	<3 PNC	≥3 PNC	Total	OR(95%CI)
	Number (%)	Number (%)	Number (%)	
Age in years				
<25	60(39)	94 (61)	154 (100)	1.300 (0.740-2.283)
≥25	27(33)	55 (67)	82 (100)	
Educational status of mother				
Literates	61 (33.9)	119 (66.1)	180 (100)	0.591 (0.322-1.088)
Illiterates	26 (46.4)	30 (53.6)	56 (100)	
Educational status of husband				
Literates	58 (34.1)	112 (65.9)	170 (100)	0.661 (0.370-1.180)
Illiterates	29 (44)	37 (56)	66 (100)	
Caste				
Scheduled	49 (44.1)	62 (55.9)	111 (100)	1.809 (1.060-3.088)*
Others	38 (30.4)	87 (69.6)	125 (100)	
Socio-economic status				
High	5 (17.2)	24 (82.8)	29 (100)	0.318 (0.116-0.866)*
Low	82 (39.6)	125 (60.4)	207 (100)	
Occupation of husband				
Skilled	49 (31)	109 (69)	158 (100)	0.473 (0.271-0.826)*
Unskilled	38(49)	40 (51)	78 (100)	
Birth order				
0-2	67 (33)	135 (67)	202 (100)	0.347 (0.165-0.730)*
Above 2	20 (58.9)	14 (41.1)	34 (100)	

*P<0.05 was considered as significant.

Table 5: Association between distance and place of delivery (n=233).

Distance	Government	Private	Total	OR(95%CI)
	Number (%)	Number (%)	Number (%)	
0-5 km	23 (49)	24 (51)	47 (100)	1.483 (0.780-2.822)
>5 km	73 (39.2)	113 (60.8)	186 (100)	

DISCUSSION

Of the total deliveries, 58.1% occurred in private health facility and 40.6% in government health facility. Total deliveries conducted by skilled birth attendant were 98.7%. Home deliveries were observed in 1.3% of the respondents. Contrary to the present study in a study conducted by Mrisho et al showed that 58% of all deliveries were conducted in home.⁶ Another study showed that 35.8% women residing in Meghalaya deliver in home.⁷

According to Khan study in urban slum of Uttar Pradesh 79.5% of the women delivered in home which is very high.⁸ In the present study, number of institutional deliveries and deliveries assisted by skilled health personnel were more compared to other studies probably because of awareness created during antenatal visits, maternity benefit scheme and role of ASHA workers. Accordingly, 97.9% of the mothers received postnatal care and 2.7% mothers didn't receive the postnatal care.

The present study findings were in disagreement with a study done by Rudramma in Belgaum of Karnataka in which 46.7% mothers did not receive postnatal care.⁹ Another study conducted by Satish et al in Belgaum found that 55.5% of women did not receive postnatal care.¹⁰ Post natal advice was received by 67.8%, 82.2% and 55.1% of mothers regarding family planning, breast feeding and baby care respectively.

Agarwal et al study reported that advice regarding family planning, breast feeding and baby care was provided in 29.8%, 71% and 59% respectively.¹¹ The present study findings were similar to above study with regard to breast feeding and baby care. Majority of mothers expressed satisfaction regarding quality of services in private health centres compared with government health centres. A study conducted by Singh et al concluded that perception of poor quality of services was responsible for non-utilization of public health care system.¹² Similar results were seen in a study conducted by Ibsina in Kabul and by Envuladu in Nigeria.^{13,14} Dalal et al concluded that the majority of the women in India did not use public

healthcare facilities because their family members allow to use, as the quality of service provided was poor.¹⁵ A study was conducted by Mrisho et al found that quality of services played a major role in choice of place of delivery.⁶ Although some government health facilities were equally close to the place where a majority of women lived, and were free of charge, some women decided to go to more distant private health facilities as they felt that the services provided by government hospitals are poor in quality.

In the present study, women of age group ≥ 25 years, Illiterates, scheduled caste, women whose husbands were unskilled workers and women with birth order above 2 were preferring government health centre for place of delivery. There exists no significant association between age group, educational status of mothers and birth order with place of delivery where as strong and significant association was found with caste, educational status of husband and occupation of husband ($p<0.05$). Roy et al study in Uttar Pradesh found that <25 years of age women had 0.622 odds of going to government hospitals compared to >25 years and scheduled castes are 2.669 odds of going to government hospitals for delivery.¹⁶ Low educated mothers, women belonging to low Socio-economic status and mothers of birth order above 1 had higher chances of going to government hospitals.

Thind et al study conducted in Maharashtra found that age above 30 years (31.8%) and scheduled castes (32.7%) are more likely to go to government hospitals compared to less than 30 years age group (30.8%) and other castes (28.4%).¹⁷ Maternal and paternal education, and scheduled caste status are the predisposing factors that determine the choice between private facilities and public/home deliveries.

Association between socio-demographic factors and Post natal check-ups

Literates, mothers belonging to other castes, high socio-economic status mothers with birth order <2 were associated with more postnatal check-ups. Statistically significant association is seen between caste, socio-economic status, occupation of husband and birth order with postnatal check-ups.

Digambar et al study in Uttarakhand found that literates (88%) were taking more postnatal check-ups compared to illiterates (17.7%).¹⁸ In Chandigarh the likelihood of a birth being followed by a postpartum check-up was higher for literate mothers than illiterate mothers.¹¹ A study in rural Jhang of Pakistan showed that mother's education was associated with dramatic increase in levels of use of post natal Check-ups.¹⁹ Percentage of women who made PNC visits increased substantially with the level of household wealth. Similarly results were found in study in Rural Bangladesh.²⁰ A study by Singh et al found that postnatal utilization (24%) was very low among uneducated women of rural India.¹² Kakavian et al study

found that women having a postpartum visit were more likely to have a husband with a professional or managerial type of occupation.²¹

A study conducted in Rural Bangladesh found that mothers in families whose husbands were in agricultural or skilled labor occupations were more likely to use postnatal care.²⁰ The present study findings were similar with a study conducted by Kakavian et al in which lower parity was associated with uptake of the postpartum visit.²¹ This may be because first-time mothers are more anxious to get health care, or because they have fewer time-demands from older children. Similar results were found in study conducted by Elaine et al, Chandhiok et al, Desai, Shah and Assfaw et al in Ethiopia.²²⁻²⁶

CONCLUSION

Institutional deliveries were very high in the present study and skilled personnel (98.7%) conducted most of the deliveries which is also very high. Three or more than three postnatal visits were received by 63.1% of mothers. In the present study, most of the mothers expressed satisfaction with respect to health care provider factors in private health facilities compared to government health facilities indicating poor functioning of government health facilities. Occupation of husband, socio-economic status and birth order were found to have strong and significant association with number of postnatal check-ups. At individual level and family level, education of the husband, socio-economic status, birth order and caste were associated with utilization of maternal health services.

Recommendations

- Health workers must be educated about the need and importance of postnatal care. But still there is some gap in implementation of this strategy.
- Behaviour Change Communication (BCC) is needed to promote positive health practices for maternal health, and to discourage harmful practices. At the national and state level, this should be undertaken through mass media, to build an enabling environment and create societal acceptance for change. At village level interpersonal communication and community mobilization helps to change the behaviour.
- Health centers are upgraded under NRHM to improve the overall utilization. These Health centers should be made fully operational by providing adequate man power. Continuous training and capacity building is required to improve the quality of care, which is more important.
- Accessibility should be improved particularly in hard to reach areas (HRA). This can be achieved by the provision of good roads and transportation or ensuring frequent visits by Health Workers to their home.

Limitations

The information used is subject to recall bias as it depends on women recall ability about her pregnancy.

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REFERENCES

1. K. Park. Park's Text book of Preventive and Social Medicine. 22nd edition. Jabalpur: Banarsi das Bhanot Publishers; 2013: 480-562.
2. Millennium Development Goals India country report 2011. Available at: from: www.mospi.nic.in. Accessed on 28 October 2013.
3. Health Management Information System (HMIS) Analysis Andhra Pradesh April 11 to September 11 National Health Systems Resource Centre. Available at: www.nhsrindia.org/index.php. Accessed on 28 October 2013.
4. Andhra Pradesh April 12 to January 13 - Comparison with last year performance using HMIS data from National Web portal National Health Systems Resource Centre.
5. International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), 2005-06: India. Volume I. Mumbai: IIPS.
6. Mrisho M. Factors affecting home delivery in rural Tanzania. *Tropical Med Int Health.* 2007;12(7):862-72.
7. Bhattacharyya H, Pala S. Assessment of delivery pattern and factors influencing the place of delivery among women in East Khasi hills District of Meghalaya. *J Evol Med Dental Sci.* 2012;1(4):391-9.
8. Khan Z, Mehnaz S, Siddiqui AR, Ansari A, Khalil S, Sachdeva S. All slums are not equal: maternal health conditions among two urban slum dwellers. *Indian J Commu Med.* 2012;37(1):50-6.
9. Rudramma. Utilization of antenatal, intranatal and postnatal health care services by mothers in rural field practice area of JNMC, Belgaum. A Cross sectional study. K.L.E. University, India. 2010.
10. Satishchandra. D. M. A cross sectional study of utilization pattern of reproductive and child health (RCH) services in the primary health center area of Vantamuri. Rajiv Gandhi University, India. 2010.
11. Agarwal N, Galhotra A, Swami HM. A study on coverage utilization and quality of maternal care services. *National J Commu Med.* 2011;2(1):32-6.
12. Singh PK, Rai RK, Alagarajan M, Singh L. Determinants of maternity care services utilization among married adolescents in Rural India. *PLoS One.* 2012;7(2):e31666.
13. KAP Survey Regarding Reproductive Health Kabul, Oct 2002/ Ibn Sina, ICRH. Accession no: 12142.
14. Envuladu EA, Agbo HA, Lassa S, Kigbu JH, Zoakah AI. Factors determining the choice of a place of delivery among pregnant women in Russia village of Jos North, Nigeria: achieving the MDGs 4 and 5. *Int J Med Biomed Res.* 2013;2(1):23-7.
15. Dalal K, Dawad S. Non-utilization of public healthcare facilities: examining the reasons through a national study of women in India. *Rural Remote Health.* 2009;9(3):1178.
16. Roy MP, Mohan U, Singh SK, Singh VK, Srivastava AK. Factors associated with the preference for delivery at the government hospitals in rural areas of Lucknow district in Uttar Pradesh. *Indian J Public Health.* 2013;57:268-71.
17. Thind A, Mohani A, Banerjee K, Hagigi F. Where to deliver? Analysis of choice of delivery location from a national survey in India. *BMC Public Health.* 2008;8:29.
18. Digambar A, Chimankar K, Sahoo H. Factors influencing the utilization of maternal health care services in Uttarakhand. *Ethno Med.* 2011;5(3):209-16.
19. Agha C. Determinants of institutional delivery in rural Jhang, Pakistan. *Int J Equity Health.* 2011;10:31.
20. Amin R, Shah NM, Becker S. Socioeconomic factors differentiating maternal and child health-seeking behavior in Rural Bangladesh: a cross-sectional analysis. *Int J Equity Health.* 2010;9(9).
21. Khasholian TK, Oona MR, Campbell. A simple way to increase service use: triggers of women's uptake of postpartum services. *Int J Obst Gynaecol.* 2005;112:1315-21.
22. Elaine SB, Olveña VR. Factors affecting maternal health utilization. Available at: www.googlecode.com/RRW/JE/Factors%20Affecting%20Maternal%20Health%20Utilizationin%20the%20Philippines.pdf. Accessed on 28 October 2013.
23. Chandhiok N, Dhillon BS, Kambo I, Saxena NC. Determinants of antenatal care utilization in rural areas of India: a cross- sectional study from 28 districts. *J Obstet Gynecol.* 2006;56(1):47-52.
24. Desai s, Wu I, Joshi BL. Utilization of maternal health care services in India: understanding the regional differences. *Social Sci Med.* 2002;55(10):1849-69.
25. Shah R, Bélanger D. Socioeconomic correlates of utilization of maternal health services by tribal women in India. *Canad Studies Pop.* 2011;38(1):83-98.
26. Assfaw YT. Determinants of antenatal care, institutional delivery and skilled birth attendant utilization in Samre Saharti District, Tigray, Ethiopia. Umea University, Sweden. 2010.

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