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Original Research Article

Utilization of Postnatal Care Service in a Rural Area Of Southern Odisha: A Community Based Cross Sectional Study

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Abstract:

Introduction & Objective: Most maternal and infant deaths occur in first 42 days after childbirth.[2] Proper utilization of postnatal care services plays an important role in reducing the maternal mortality rate. The objective of the study was to assess the utilization of the postnatal services provided to mothers and associated factors.

Materials and Methods: A community based, cross sectional study using multistage sampling methodology was carried out from 1st May, 2016 to 30th April, 2017, in Southern Odisha. Married women with 6 weeks to 6 months old baby were included in the study.

Results: 85.5% of women received postnatal visit by the health personnel within 42 days of delivery. The main reason for non-utilization was no-one visited their house and unawareness about the PNC. The factors associated with low utilization were education, socio economic status and parity of mother, frequency of ANC and place of delivery.

Conclusion: The study highlighted gap in the post-natal services received by the mother which could be strengthened by counselling to all mothers attending the VHND Sessions and involvement of the family members.

Keywords: Rural, Community Based Study, Postnatal Care, Utilization.

Introduction

The health of a mother and her newborn child depends not only on the health care she receives during her pregnancy and delivery, but also on the care she and the infant receive during the first few weeks after delivery. Globally, over 500,000 women die around childbirth every year, with over 90% of the deaths occurring in the developing countries. [1] Postnatal period is a six-week interval between birth of a newborn and the return of the reproductive organs to their normal non-pregnant state.

Most maternal and infant deaths occur in first 42 days after childbirth. [2] Medical supervision of mothers within the first 24 hours after delivery can help in identifying and addressing the problems that may occur. After discharge from the hospital, outreach services are provided to the mother through a multi-purpose health worker-female (MPHW-F) and an accredited social health activist (ASHA). [3] World Health Organization (WHO) recommends that mothers receive postnatal care within the first 24 hours, followed by postnatal check on the second or third day and then on the seventh day after delivery. [1]

Post-natal care is essential for both mother and baby as it provides opportunity to identify any health problem or complication that may develop during the postnatal period to take corrective action. Despite the critical importance of this period for both maternal and child survival, postnatal care consistently has among the lowest coverage of interventions on the continuum of maternal and childcare. The 2015-16 NFHS 4 found that among women age 15-49 giving birth in the five years before the survey, 65% had a postnatal checkup during the first two days after birth and 30% of mothers did not receive any postnatal checks. [4] The trend of postnatal checkups within 2 days after the delivery has recorded a fall of 4%, that is, 61% in NFHS-5 as compared to 65% during NFHS4. [5]

Non-utilization of postnatal care is affected by demographic, factor, Socio-economic status, cultural practices, accessibility and availability of maternal and child health services etc. identification of the gap and subsequent follow up action will increase the acceptance or utilization rates of post-natal services. Hence current study was conducted in a rural area of Southern Odisha to assess the utilization of post-natal care services and associated factors.

Materials and Methods

This–community based cross sectional study was carried out from 1st May, 2016 to 30th April, 2017 in a block under the rural field practice area of MKCG Medical College and Hospital. Married women with 6 weeks to 6 months old baby residing in the area were the study population. Unmarried mothers, divorcee and nonresident women were excluded from the study.

The sample size (n) was calculated by using the formula $n=Z^2pq/d^2$ (where Z=1.96 at 95% confidence level; p=expected Prevalence, q=1-p & d= absolute allowable error.

From recent NFHS 4 data, [4] expected prevalence (p) was taken considering the prevalence of postnatal checkup during the first two days after birth in rural India as 61.7%. Thus, the sample was calculated to be 110 women, considering 20% non-response rate and 10% allowable error. Multistage sampling technique was used to select the villages (Figure 1). In the first stage, one Community Health Centre (CHC) was chosen randomly out of three blocks under the RHTC area of the Institution. Subsequently two PHCs from the CHC and 2 sub enters from each of the selected PHCs were chosen randomly.

Then two villages from each sub centre were selected randomly. In each of the selected 8 villages, Health worker female (HWF) and Anganwadi worker (AWW) were contacted. From the Anganwadi registers, names of the women who had delivered within last 6 weeks to 6 months prior to study were collected. The houses of women were visited with the help of AWW and ASHA starting from the first house till 12-15 women were included from each village to obtain the required number of samples.

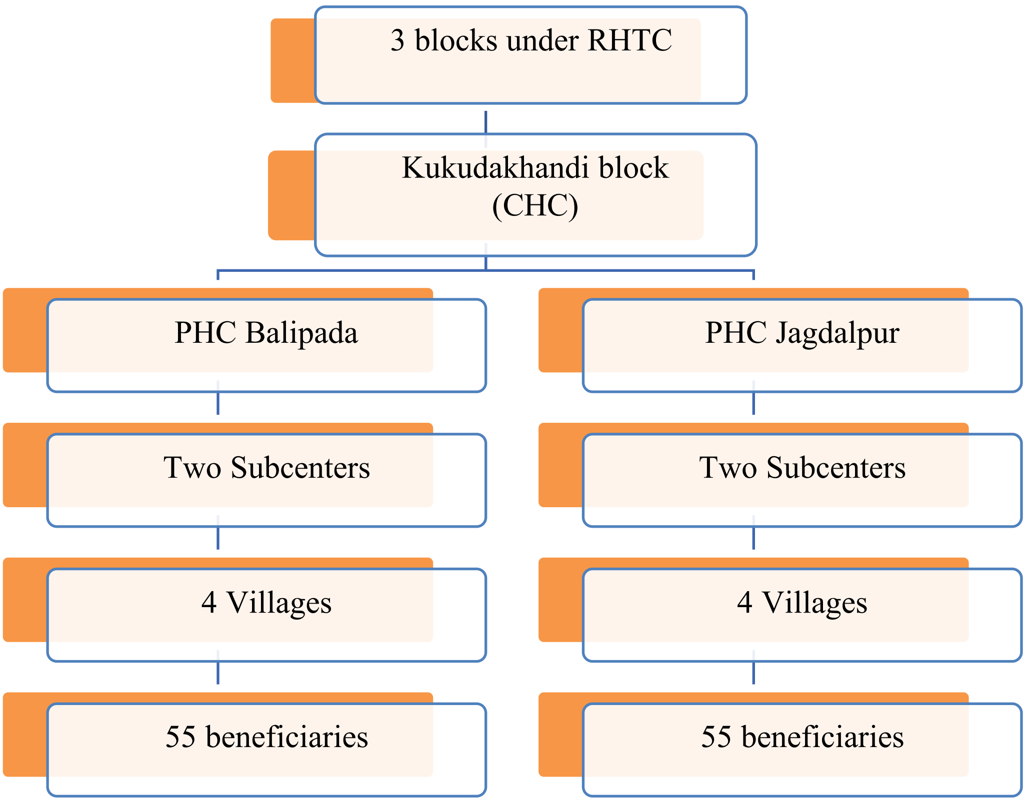

Figure 1: Sampling Technique

After obtaining clearance from Institutional ethical committee, permission was obtained from the CDM & PHO of the District. Selected mothers were contacted with the help of the AWW and ASHA of the village and data was collected by interviewing them using a pre-designed pretested semi-structured questionnaire after obtaining written consent.

The questionnaire was divided into three parts. First part recorded the socio-demographic information including age, education, and occupation, type of family, caste and family income. Second part of the questionnaire was about the obstetric history of the woman, (birth order, and history of abortion and usage of family planning methods). The third part of questionnaire was covering details of utilization of ANC, Delivery and PNC services & reasons of non-utilization. Participation in the study was on a voluntary basis and responses were kept confidential and anonymous.

Statistical analysis was done by using SPSS version 22 software. Descriptive statistics for Socio-demographic factors was done. Cross tabulation was used to find association between different variables by using Chi-square test and Fisher's exact test wherever applicable. P value of <0.05 was taken as significant.

Results

Of the total 110 mothers interviewed, age range was between 18 years to 31 years (mean = 23.6±3.8 years). Majority 64(58.2%) of the women were aged between 21- 30 years with 35(31.8%) women aged 20 years or less and 10% above 30 years. For 68(61.8%) women, age at marriage was less than 18 years and the age at first childbirth was less than 20 years for 46(41.8%) women. Considering the birth order of the last pregnancy, 48(43.6%) deliveries were of the birth order one and 32 (29.1%) were of the order three or more. [Table 1]

All were hindu by religion and 53 (48.2%) belonged to Schedule Caste (SC). Considering the educational status of the participants, it was found that 24 (21.8%) were illiterate. Majority 89(80.9%) were housewives, and most women (83.6%) were living in joint families. As per the Modified B. G. Prasad's Socio-economic status Classification 2017- India, [6] 45(40.9%) belonged to the middle followed by lower middle (24.5%), lower (19.1%), upper middle 12(10.9%) and upper in 5(4.5 %). [Table 1] As shown in Table 2, all had antenatal registration, 44(40.0%) had registered in the first trimester and only 2(1.8%) had registered after 24 weeks. Majority 82 (74.5%) mothers had four or more antenatal visits. Only 5(4.5%) had delivered at home and majority of the institutional deliveries took place at district hospital (38.2%). CHC and PHC and tertiary hospital accounted for 28.9%, 6.3% and 15.4% respectively. [Table-2]

Regarding PNC, 94(85.5%) women received postnatal visit and 16(14.5%) had not received any post-natal visit. PNC within 48 hours of delivery was received by 86 (78.2%) mothers. PNC was provided by ASHA/ AWW 77(81.9%), health worker/ Nurse 67(70.5%) and doctors 45(47.8%). Majority of the women 64(58.2%) received PNC two to three times during postnatal period, 21(19.1%) got 4 times or more and 9(8.2%) had only one postnatal checkup [Table-3]

Mothers who had not received any PNC were asked about the reason for the same. Of them 6(37.5%) replied that neither ASHA nor HWF visited their house for checkup and 5(31.2%) were not aware about the PNC. As there was no health-related issues, 3(18.7%) mothers did not go to the health centre and because of other family issues 2(12.5%) mothers could not go to the hospital. [Table 3].

During postnatal visits, counselling was given by the health workers /ASHA during PNC. Most of the women were counselled about the benefits of breast feeding (95.7%), about nutrition education (65.9%), immunisation and baby care (57.4%), family planning methods (41.4%) personal hygiene (34%) and exercise (17%). Only 23.4% mothers received advice regarding possible complications for mother and baby in the post-natal period and 22.3% were advised to come for follow up visits [Figure 2].

The association of factors with utilization of PNC services was explored using variables such as age, level of education, women occupation, type of family, socio economic status, and parity, frequency of ANC and place of delivery as shown on Table 4. It was found that the utilization of PNC was significantly more in educated mothers (χ^2 = 8.98 df 2, P = 0.011), upper socio economic status (χ^2 = 36.5 df 4, P = <0.001) and of birth order one (χ^2 = 12.1 df 2, P = 0.002) frequency of ANC (P = 0.019) and place of delivery (P = 0.005).

There was no significant statistical association found between age, occupation and type of family of the respondent and utilization of PNC services [Table 4].

Table 1: Socio demographic characteristics of postnatal mothers (n=110)

Characteristics	Number	%
Age of women		
<21 years	35	31.8
21- 30 years	64	58.2
>30 years	11	10.0
Mean age in year (Mean ± SD)= 23.6 ± 3.8		
Age at marriage in years		
<18	68	61.8
18- 25	34	30.9
>25	8	7.3
Age at first child birth in years		
<20	46	41.8
21- 25	56	50.9
>25	8	7.3
Birth order last pregnancy		
1	48	43.6
2	30	27.3
≥3	32	29.1
Religion		
Hindu	110	100
Literacy of mother		
illiterate	24	21.8
primary	36	32.7
secondary and above	50	45.5
Caste		
General	57	51.8
SC	53	48.2
Type of family		
nuclear	18	16.4
joint	92	83.6
Occupation of mother		
Home maker	89	80.9
Working	21	19.1
SES*		
lower	21	19.1
lower middle	27	24.5
middle	45	40.9
upper middle	12	10.9
upper	5	4.5

***Using Modified BG Prasad SES Scale [6]**

Table 2: Utilization of Antenatal and Delivery services (N=110)

Variables	Number	%
ANC registration done		
Yes	110	100
Time of ANC registration		
<12 wk	44	40.0
12- 24 wk	64	58.2
>24wk	2	1.8
Frequency of ANC		
≤3	28	25.5
≥4	82	74.5
Place of delivery(n=110)		
Home	5	4.5
PHC	7	6.3
CHC	23	20.9
District hospital	42	38.2
Tertiary hospital	17	15.4
Private institution	16	14.5

Table 3: Details of utilization of postnatal services

Post-natal care services	Number	%
Received any PNC in last pregnancy(n=110)		
Yes	94	85.4
No	16	14.5
PNC within 48 hrs by health personnel		
Yes	86	78.2
No	24	21.8
Providers of PNC (n=94)		
Doctor	45	47.8
Health worker/Nurse	67	70.5
ASHA/AWW	77	81.9
Number of PNC visits received (n=94)		
1	9	8.2
2 to 3	64	58.2
4 or more	21	19.1
Reason of not receiving PNC (n=16)		
No-one visited my house	6	37.5
Not aware	5	31.2
No health problem	3	18.7
Attending to other family matters	2	12.5

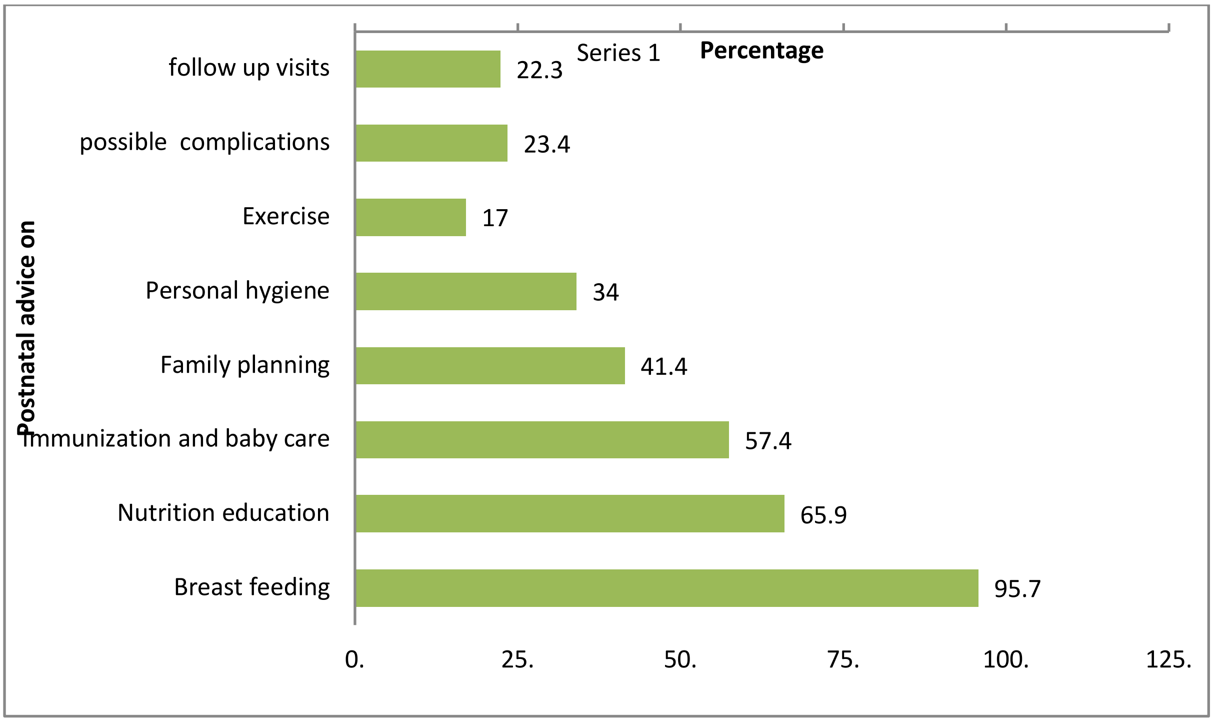

Figure 2: Varying postnatal advice received by mothers

Table 4: Association between demographic/socioeconomic factors and postnatal care

Factors	Utilisation of PNC within 48 hours Number (%) (N=110)		χ^2	df	p value
	Yes	No			
Age of mother					0.071
<21 years	32 (91.4)	3 (8.6)	5.28	2	
21- 30 years	46(71.9)	18(28.1)			
>30 years	8(72.7)	3(27.3)			
Literacy of mother					0.011*
illiterate	16(66.7)	8(33.3)	8.98	2	
primary	22 (61.1)	14(38.9)			
secondary and above	44(88.0)	6(12.0)			

Occupation of mother					0.270
home maker	68(76.4)	21(23.6)	0.86	1	
working	18(85.7)	3(14.3)			
Type of family					0.067
nuclear	11(61.1)	7(38.9)	3.68	1	
joint	75(81.5)	17(18.5)			
SES					
lower	7(33.3)	14(66.7)			<0.001*
lower middle	18 (66.7)	9 (33.3)	36.5	4	
middle	39(86.7)	6(13.3)			
upper middle	11 (91.6)	1 (8.3)			
upper	5(100)	0(0)			
Birth order					0.002*
1	45(93.8)	3(6.3)	12.1	2	
2	20(66.7)	10(33.3)			
3 or more	21(65.6)	11(34.4)			
Frequency of ANC					
≤3	17(60.7%)	11(39.3%)	5.42	1	0.019*
≥4	69(84.1%)	13(15.9%)			
Place of delivery					
Home	1(20%)	4(80%)	10.4	2	0.005*
Govt institution	72(80.9%)	17(19.1%)			
Private institution	13(81.3%)	3(18.8%)			

Discussion:

The present study highlighted the utilisation of maternal health services by the beneficiaries in their postnatal period and factors associated with the non-utilisation. Of the total 110 mothers interviewed, around one third of the women were aged 20 years or less and 10% above 30 years. Age at marriage was less than 18 years of age for 68(61.8%) women and the age at first childbirth was less than 20 years in 46 (41.8%) women. This shows early marriage and the risk of teenage pregnancy among the population. Similar findings were obtained in study by Jolly SP et al where early marriage was prevalent in the study area, with the average age of first marriage being 16.8 and the age of the first conception was 17.7 years. [7] In the present study, most of the women (55%) were illiterate or educated upto primary. The reason might being cultural factors like gender bias in rural areas due to orthodox thinking. As per the socio economic status, majority of them belonged to lower, lower middle and middle class which indicates social factor like poverty in the population. In this study, 83.6% had joint family where the elders may influence the major decisions made by the couple.

The result of the study shows antenatal registration was done for all but only 40.0% had registered their pregnancy in the first trimester. This finding is similar to that of study by Srivastava A et al [8] which revealed that out of the 387 women enrolled in the study, 88.6% of pregnancies were registered for ANC; only one quarter of the women were registered for ANC before 16 weeks of gestation. Whereas Study by Dolma Y et al [9] shows that 86.5% majority of women got registered themselves in 1st trimester of pregnancy. In this study, 95% study participants had institutional delivery [district hospital (38.2%), CHC and PHC and tertiary hospital accounted for 28.9%, 6.3% and 15.4% respectively]. Probably close proximity of the District and Tertiary care hospital and free ambulance services were the factors for influencing the decision for place of delivery. Out of 110 mothers, 85.5% of women received postnatal visit by the health personnel within 42 days of delivery including home visits by ASHA and 78.2% mothers received PNC within 48 hours of delivery.

The findings were comparable with that of 2015-16 NFHS 4 where 65% women had a postnatal check during the first two days after birth4 and study by Singh R et al revealed that only about one third of the women stayed for 48 h or more whereas the utilization of any PNC services within 42 days of delivery was low (26%) which is a point of concern in rural UP. [10] Majority of the women (58.2%) received PNC two to three times during postnatal period, 19.1% got 4 times or more and 8.2% had only one PNC in this study. The coverage was not adequate in spite of provision of ASHA incentives in Home Based Post Natal New-born Care (HBPNC) programme where ASHA is paid monetary incentive for making six postnatal (on days 1, 3, 7, 14, 28 and 42) home visits. [11]

Majority of the respondents received PNCs by ASHA/ AWW (81.9%), 70.5% by HWF/ Nurse and 47.8% by doctors. This could be due to increase in the number of institutional deliveries and provision of incentives to ASHAs. Uppadhaya SK et al, observed that most of mothers received PNC by doctors (48.35%) and ANMs (46.70%). [12] Different reason was given by the mothers for not attending postnatal care services. Those who had not received any PNC from them, (37.5%) replied that no health worker visited their home to provide PNC and (31.2%) were not aware about the availability of postnatal care. Though all had received antenatal care, it was expected that they should have been counselled about PNC. Similar findings were reported in the study by Sharma A et al [13] on utilization of post-natal care in tribal area of Madhya Pradesh, 28.1% mothers didn't receive post-natal check-up, and most common reason of not receiving post-natal check-up was that mothers were not aware about this and nobody visited in 57.6% cases. The study by Uppadhaya SK et al shows that main reason of not receiving 2 or more postnatal care visit within 42 days of delivery was lack of knowledge/ Unawareness (90.55%). Only 9.45% of study subjects said that facilities are not accessible to them. [12]

Present study observed that during postnatal visits, most of the women were counselled about the benefits of breast feeding (95.7%), about nutrition education (65.9%), immunisation and baby care (57.4%), family planning methods (41.4%) personal hygiene (34%) and exercise (17%). In study done by Uppadhaya SK et al, [12] almost all postnatal mothers received advice on diet (96.15%), family planning (92.31%), immunization (98.87%), exclusive breast feeding (98.87%) and newborn care practice (98.87%) but no mother received advice on postnatal exercise. The association of factors with utilization of PNC services revealed that the utilization of PNC was significantly associated with literacy of mother, socio economic status, birth order, and frequency of ANC and place of delivery. Significantly more number of mothers with secondary and more education had utilized PNC services effectively. There are a number of studies found with similar findings. Kardalkar et al and Uppadhaya et al found that Primi mothers, who were educated availed the PNC services effectively, emphasizing the fact that literacy played a major role. [14,12]

Socio economic status was found to be a predictor of utilization of services. Mothers from lower and middle class being less likely to be utilizers than those in the higher economic status. In this study service utilization was comparatively lower among the lower SES group. These findings are consistent with findings by Uppadhaya et al and Paudel et al (2014) also found that mothers who had high family income were more likely to have obtained postnatal care (PNC) service than women with low income. [15] Also there was association between fewer numbers of children with post-natal services. The women are significantly more likely to use postnatal care services for their first child than later children: Possible explanations for this could be that women who are pregnant with their first child are usually happier, eager and anxious as a result of the pregnancy. This study shows that those women who received four or more antenatal services, also utilized post-natal services more, as compared to those, who received three or less antenatal services. This might be due to counselling in each antenatal session about PNC. Place of birth was also significantly associated with utilization of PNC ($p<0.05$), mothers delivered at government or private health facility utilized PNC more than home delivery mothers which might be due to the advice by health care personnel during discharge.

The findings are in agreement with the study conducted by Paudel, et al in Belgaum Karnataka which revealed that mothers who delivered in hospital or PHC used more PNC service than the mother who delivered at home and also utilization of antenatal and delivery care services has positive impact on the use of PNC. [15]

Conclusion

Counselling should be given to all mothers attending the VHND Sessions about PNC and this message should be communicated to the family members of the pregnant women. Elderly member of the family should be counselled for PNC as well. Supportive supervision of the VHND sessions to be done. All these will create awareness about the Post-natal care and will create demand generation for the same.

Acknowledgement: We express our sincere gratitude to all the women who participated in the study spending their precious time.

Limitation of the Study

Despite the fact that those mothers who gave birth in the last 6 months are included in the study, there might be a recall bias. The cross-sectional nature of the study does not confirm the definitive cause and effect relationship.

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