Original Research Article

Study on postnatal care in a tertiary care hospital in eastern India and the reality

Bharati Das*

Department of Paediatrics, Postpartum Programme, SCB Medical College and Hospital, Cuttack, Odisha, India

Received: 30 May 2020
Accepted: 17 September 2020

*Correspondence:
Dr. Bharati Das,
E-mail: bharathidas15@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Post-natal period remains the most important time in which maximum maternal and neonatal mortality occurs. Many studies had been done on postnatal care in India also in abroad before. However, most of them were basically community-based surveys in rural areas or urban slums. The objective of the current study was to assess knowledge and practice of postnatal care services and its status in mothers in urban area.

Methods: It is a prospective, hospital-based study done from February 2019 to July 2019. Data was collected by structured questionnaire method from the mothers who were coming for routine immunization for their babies at 6 weeks.

Results: Total number of mothers were 214, 52.34% were delivered in medical college and DHQH and 47.66% at private sectors. Health related issues were present in 36 (16.6%) of mothers and 33 (15.4%) of babies. Only 2.8% of mothers received post-natal check-up. IFA and calcium supplementation were taken (128) 60% of mothers as opposed to advised in 151 (70.56%) of cases of varying durations.

Conclusions: Post-natal care was unacceptably low despite various government programmes, well socioeconomic status, education of the mother and presence of health-related issues in the mother or the baby. Which was mainly due to lack of proper counselling for postnatal care. Strengthening the postnatal care services by sensitization of the staffs with uniform policy and mother centred counselling remains the need of the hour.

Keywords: Postnatal care, IFA, Calcium, Tertiary care centre

INTRODUCTION

The postnatal period is defined as the time immediately after the birth of the baby and up to 6 weeks (42 days) after birth, which is critical for both the new-born and the mother.1 Earlier international studies have shown that 50% of maternal death and 40% of neonatal deaths occur within 24 hours after birth. For this reason World Health Organization (WHO) recommends the timings for postnatal care within 24 hours, 2nd/3rd day, 7th day after delivery.1 Around the world, it is recognized that postnatal care is crucial in maintaining and promoting the health of the woman and the new born baby. It also gives opportunity for health personnel to promote exclusive breastfeeding, personal hygiene, appropriate feeding practices, family planning counselling and other services. Postnatal care also includes provision of postnatal calcium and iron supplementation to the mother and immunization of newborns too.1,2 Maternal health services includes antenatal services, institutional delivery and postnatal services.

Proper utilization of antenatal and postnatal care services play important role in reducing maternal mortality ratio and infant mortality rate.1 Globally there is decline in maternal mortality ratio (MMR) by 44% over the last 25 years, from 385 maternal death per 100,000 live births in 1990 to an estimate 216 maternal death per 100,000 live births in 2015. Approximately 99% of global maternal deaths in 2015 took place in developing regions, with sub-
Saharan Africa alone accounting for roughly 66% followed by Southern Asia. More than 1/3rd of worlds maternal death occur in 2015 in Nigeria 58,000 (19%) and India 45,000 (15%) respectively.3

Postpartum anemia is the major cause of maternal morbidity and mortality world-wide. It can lead to postnatal depression, delayed wound healing, Urinary tract infection (UTI), increased susceptibility to ductitis and mastitis, fatigue, exhaustion, insufficient and reduced milk quality, low immunity. The prevalence of postpartum anemia in developing countries ranges from 50-80%. More than 70% women in postpartum period were found to be anemic in a survey from a north Indian village.4 The prevalence of anemia increases after delivery is a well-established fact too.5

The long term disability and mortality from postpartum problem can occur due to incontinence, fistula, pelvic inflammatory disease, genital prolapse, hypertension, hemorrhoids, pituitary failure, anemia and infertility.6 Despite the WHO recommendation seven out of 10 women do not receive any postpartum care as per demographic health survey. Mothers only seek postnatal care in the event of complication after birth.7 In developing countries low utilization of postnatal care has been related to lack of knowledge about its importance, lower level of education, lack of access to health services, lack of counselling of postnatal care in institutional deliveries and women’s tendency to give priority to health need of their child than their own. Socio cultural beliefs in the community also play important role.8

Since the launch of Janani Suraksha Yojana (JSY) conditional cash transfer scheme in India, various studies documented proportional rise in institutional delivery.9-11 Though we have succeeded some extent in antenatal care and delivery services, many studies done on postnatal care (PNC) services specially community based surveys in rural India or urban slums shows poor coverage of postnatal care. So, the objective of the current study was to assess knowledge and practice of postnatal care services and its status in urban area in a tertiary care centre.

METHODS

It is a prospective, hospital-based study done from February 2019 to July 2019 in Well Baby Clinic Unit of Post-partum Programme Department of SCB Medical College and Hospital, Cuttack, Odisha.

Methodology

Data were collected by using structured questionnaire method from the mothers who were coming for routine immunization of their babies at 6 weeks of age. The demographic variables collected were age, education status, parity, type of delivery, place of delivery, condition of the mother and the baby, iron and calcium supplementation status, breast feeding practice, postnatal check-up of the mother and the baby for data analysis. Details were verified and confirmed by different reports and the discharge summary brought by the mother. Being a tertiary care centre, we have floating population. The immunization for urban slums and different wards under Cuttack municipality were covered by local Anganwadi Centre. Usually we have educated mass and well socio-economic class people coming for immunization of their children. As all of our cases were delivered in hospital, the routine discharge protocol followed for the normal deliveries were after 3 days and for caesarean deliveries after 7 days or depending upon the case. The routine postnatal follow up visit asked for used to be is 6 weeks. So, instead of taking the number of postnatal visits following delivery we took the postnatal visit after discharge as advised which is at 6 weeks or the days has been asked for depending upon the case. Data received was entered and analyzed by simple frequencies and percentages.

RESULTS

Demographic information

Table 1: Demographic profile of the mothers (n=214).

| Variables             | Frequency (%) |
|-----------------------|---------------|
| **Age group in years**|               |
| <20                   | 24 (11.24)    |
| 21-25                 | 81 (37.85)    |
| 26-30                 | 86 (40.18)    |
| 31-35                 | 19 (8.87)     |
| >36                   | 4 (1.86)      |
| **Education**         |               |
| Under primary         | 4 (1.86)      |
| Under matric          | 24 (11.2)     |
| Matriculation         | 81 (37.85)    |
| 12th class            | 40 (18.69)    |
| Graduate              | 55 (25.72)    |
| Postgraduate          | 10 (4.67)     |
| **Parity**            |               |
| G1                    | 137 (64.01)   |
| G2                    | 55 (25.70)    |
| G3                    | 15 (7.02)     |
| G4                    | 7 (3.27)      |
| **Occupation**        |               |
| Housewife             | 206 (96.26)   |
| Working               | 8 (3.74)      |
| **Mode of delivery**  |               |
| Normal                | 112 (52.33)   |
| Lower segment caesarean section (LSCS) | 102 (47.67) |

Total number of mothers were 214. Age group were 19-38 years. Among which 109 (50.93%) had delivery at our medical college, 3 had at District head quarter hospital, 102 (47.66%) had at private nursing homes. 8 were working mothers having other professional qualifications.
Table 2: Health related issues of mother and babies.

| Mothers                        | Number | Babies | Number |
|-------------------------------|--------|--------|--------|
| Hypothyroid-15 (pregreg 4+ pregnant 11) | 15     | LBW    | 16     |
| GDM                           | 4      | VLBW   | 2      |
| Pre-pregnancy DM              | 2      | ELBW   | 1      |
| PIH                           | 10     | IUGR   | 4      |
| Eclampsia                     | 1      | NNHB   | 8      |
| Convulsive disorder           | 1      | Down syndrome | 1 |
| SLE                           | 2      | Cong anomalies | 1 |
| Sickle-β thalassemia          | 1      | Erb’s palsy | 1 |
|                               |        | HIE    | 1      |
|                               |        | Meconium aspiration syndrome | 1 |
|                               |        | RDS    | 5      |
|                               |        | ROP    | 2      |
|                               |        | Sepsis | 2      |

Table 3: Duration of IFA and calcium advised versus taken.

| Duration of IFA and calcium | Advised (n=151), n (%) | Taken/to be taken (n=128), n (%) |
|-----------------------------|------------------------|---------------------------------|
| 7 days                      | 1                      |                                 |
| 10 days                     | 1                      | 1                               |
| 15 days                     | 1                      | 1                               |
| 6 weeks                     | 7                      | 2                               |
| 1 month                     | 48 (31.78%)            | 48 (37.5%)                      |
| 1-2 month                   | 4                      | 15 (11.71%)                     |
| 2 months                    | 4                      | 15 (11.71%)                     |
| 2-3 month                   | 4                      | 15 (11.71%)                     |
| IFA-1 month and calcium-3 months | 7 (3.2%)          |                                 |
| 3 months                    | 75 (49.66%)            | 24 (19.6%)                      |
| 3-6 months                  | 1                      | 1                               |
| 4 months                    | 1                      | 2                               |
| 6 months                    | 7 (3.2%)               | 20 (15.62%)                     |
| 6 months to 1 year          | 1                      |                                 |
| 1 year                      | 2                      |                                 |
| Not knowing                 | 5                      |                                 |
| Only calcium 3 months       | 1                      | 1                               |

As per current guideline the duration for both IFA and calcium supplementation is 180 days for antenatal period. It should be started by 14 weeks of gestational age and it to be continued in the postnatal period for the duration of 180 days. This has been clearly mentioned in the Maternal and child protection card (MCP card) meant for the beneficiaries and is to be explained by the service care provider usually at public sector. It has been found many didn’t attend the Anganwadi centre in urban area. Do visit only during postnatal period after delivery to get the MCP Card to know the subsequent immunization schedule of the baby as birth dose vaccination has become mandatory at the place of delivery. IFA and calcium is freely supplied at all government health care facilities including AWC, DHQH and Medical Colleges. However, many families prefer to purchase having doubt in quality issues.

DISCUSSION

IFA and calcium supplementation

As per current guideline the duration for both IFA and calcium supplementation is 180 days.

Utilization of postnatal care

128 (59.81%) mothers were taking iron folic acid and calcium supplementation, 86 (40.19%) not on supplementation. In the discharge summary postnatal check-up and continuation of IFA and Calcium supplementation was written in 151 (70.56%) cases and not written in 63 (29.44%) cases. The details regarding the duration of IFA and calcium taken/to be taken against the advice given has been mentioned in (table 3).

Among 214 mothers only 3 mothers (1.4%) received postnatal check-up, another 3 (1.4%) mother knew and planned for it later. 206 (97.2%) of the mothers didn’t have postnatal check-up. Details of which is in (table 4).

Status of mother and child

Total 36 (16.82%) of mothers and 33 (15.4%) of the babies were having different health related issues. Details of which has been described in (table 2).
prescribed in the discharge summary both by the public sector and private sector.

During antenatal period other than 1 mother, others were taking IFA and calcium supplementation.

The reason for taking IFA and calcium supplementation during antenatal period were: as advised by the doctor to take without understanding its use was 62 (29.10%), thinking as it is some sort of vitamin taking for baby’s growth 140 (65.72%) and iron is required for blood and calcium to make baby’s bone strong 11 (5.16%).

So, the main focus and understanding by the mother is for the babies without giving any importance to herself during antenatal period.

The reason for taking IFA and calcium supplementation during postnatal period were: as it was advised in the discharge summary 65 (50.78%), without understanding the advice given in the discharge summary just like that decided to take for 1-3 months till the baby becomes bit strong. 50 (39.06%) and as it was provided by the Anganwadi Centre 13 (10.16%).

The reasons for not taking during postnatal period were: as it was not told or advised by any health care personnel 46 (53.5%), not knowing to be taken 24 (27%), just like that not taking knowingly was 12 (14%), gastritis 2 and piles 1 (3.4%), however all these mothers were taking during antenatal period and sickle beta thalassemia 1 case (1.1%) was taking only calcium.

During counselling came to know certain facts from the husbands that despite it has been provided to the mother and even the availability of the stock in the home, many mothers don’t take it due to callousness. However, after counselling regarding the blood loss during delivery and explaining as mother and child are still one unit as they survive through breastfeeding. All the mothers replied the necessity of IFA and calcium supplementation for 6 months without knowing the existing guideline. Even many mothers felt guilt for their unknowing negligence which might have cause harm to the baby. Also has been convinced to take care of themselves too. The advice given in the MCP card for antenatal and postnatal IFA and calcium intake were also shown to them.

Study done in other tertiary care hospital in Rajasthan showed that IFA supplementation was 75.5% during antenatal period and 11.03% during postpartum period. Reasons for not taken was due to their own wish was 64.82%, 8.96% were not informed or effectively counselled by the health personnel and 26.20% had poor compliance during antenatal period.3

**Post-natal check up**

**Mothers**

The Government of India has recommended that all mothers and new-borns should receive 3 postnatal check-up with-in 42 days of delivery as follows: first with-in 48 hours, second between 3-7 days and third with-in 42 days of delivery. In our study postnatal check-up was only 2.8%, which is very low. Postnatal check-up was done by mother only when they found stitch abscess, wound dehiscence etc. Reasons for not having so were not aware of postnatal check-up was 116 (55%), didn’t find necessity to go 68 (32%), 24 (11.2%) not gone due to negligence. Study done by other tertiary care centre in Delhi showed despite 100% counselling regarding postnatal care and contraception in the antenatal period in the same institute, only 9.3% returned for postnatal care.

**Table 4: Postnatal check-up done / to be done by the mothers.**

| Parity | Education | Place of delivery | Type of delivery | Health issue mother | Health issue baby | IFA and calcium advised | IFA and calcium taken | PNC done | Reason |
|--------|-----------|-------------------|------------------|---------------------|-------------------|------------------------|----------------------|----------|--------|
| G1     | 9th class | Private           | LSCS             | normal              | normal            | No                     | No                   | Yes      | Stich issue |
| G1     | graduate  | Private           | LSCS             | normal              | normal            | 1 month                | 1 month              | Yes      | Routine |
| G1     | graduate  | Medical college   | LSCS             | normal              | normal            | 1 month IFA 3 months   | 1 month              | Yes      | Stich issue |
|        |           |                   | LSCS             |                     |                   |                        |                      |          |        |
|        |           |                   | LSCS             |                     |                   |                        |                      |          |        |

Will Go

| G1     | graduate  | private          | LSCS             | normal              | normal            | No                     | 1 month              | Will go  | Routine |
| G2     | PG        | private           | LSCS             | normal              | normal            | No                     | 1 month              | Will go  | Routine |
| G3     | 12th class| Medical college   | NVD              | hypothyroid         | normal            | 3mo                    | 3 months take        | Will go  | Routine |

International Journal of Community Medicine and Public Health | October 2020 | Vol 7 | Issue 10  | Page 3920
There was significant difference awareness and actual utilization of postnatal care facilities. The low utilization of PNC is also found in other Indian study. Some other study showed only 21% of the mothers visits doctor for more due to their postnatal problem than due to routine check-up. The reasons for not having PNC showed 66% of mothers didn’t found need to go, 14% had lack of time and 20% were unaware of postnatal health services. This was also low comparing to neighboring countries and other developed countries which is 70%. Poor uptake of postnatal care in South Asia particularly in India has also been shown in different study.

Previous study reported the need for PNC utilization and awareness were significantly related to the education of the mother. Some studies also showed increase in post-natal visits occurs significantly with increase in socioeconomic status. In our study as most of them were educated as 86.9% were having higher secondary education and above it and not from low socioeconomic status. So poor counselling for postnatal care both for the mother and babies remained the main cause than education and socioeconomic status. Lack of accessibility to health services remain one of the factors for low utilization of postnatal care in one of the study. Lack of accessibility to health care services was not the issue in our study. Other study done in urban area also showed that in spite of mass availability and physical accessibility of health facility, the utilization of postnatal services was still poor.

**Postnatal care of the babies**

Out of 214 babies 181 were normal and 33 babies were having different health related issues. Mothers were completely ignorant about the Intensive care unit (ICU) issues of the babies. Families used to think the burden was over once they were discharged after long period of hospital stay. Other than the breastfeeding and warmth practices others like sepsis prevention precaution were poorly followed. Many normal babies and ICU babies brought were found studded with different ritual threads, tabis were put at the upper limbs, lower limbs, waist, and neck. At time fragments of broomsticks and hairs were also tied around. Mothers too were having big nails. Though routine Retinopathy of prematurity (ROP) screening and follow up services has been provided in Sick newborn care unit (SNCU) in the Obstetrics and gynecology department, parents of such babies were not aware of it even the babies were admitted there before. However, follow up care protocol were mentioned with dates in the discharge summary meant for the baby.

Majority of the mothers were having knowledge regarding breastfeeding. Regarding knowledge about immunization. As birth dose immunization has become compulsory other than SNCU babies other babies had received birth dose vaccines at their respective places of delivery both in public and private sectors. We have integration of JSY incentives with the birth dose immunization of the newborns by the state government due to very low coverage of 0 dose hepatitis B vaccine earlier. So, the families of the SNCU babies were keener to receive JSY incentives than the postnatal care of mother and the baby. They often force to give immunization to the baby even in unsuitable conditions. It was very difficult to convince them with repeated counselling. Other postnatal care study which included the new-born care services also had highlighted the vital need to improve the knowledge and awareness for newborn care and also advocated for removing the myths and wrong practices which are rampant in our community.

The important things noticed were mothers were not aware of the necessity of requirement and existence of routine postnatal care services. Though the educated mothers sound more receptive. Irrespective of the level of educational qualification none of them either had gone through the discharge summary or had any interest in it. However, they used to take medications whatever was given by the family without understanding the purpose and duration to be taken.

Irrespective of educational status, the necessity of check-up of blood pressure and modification of antihypertensive medications, antithyroid drugs and diabetes management after discharge and follow up for it was not known to them. Even it was mentioned in the discharge summary. However, they followed it after it has been pointed out during counselling.

**Study limitations**

Mothers not having and also reluctant to get the necessary documents of their discharge summary or other related documents were not included in the study which might have had changed the figure we were having. Being it a well baby clinic mothers were counselled for the present postpartum status and referred to the Obstetrics and gynecology OPD details of which were not included in the study.

**CONCLUSION**

Despite of well socioeconomic status and education of the mothers, even with presence of health-related issues in the mother or the baby and accessibility of various government programmes, postnatal care was unacceptably low. Which was mainly due to lack of proper counselling for postnatal care. Lack of uniform policy followed in the advice for IFA and calcium supplementation were noted too.

**Recommendation**

Strengthening of the postnatal care services with uniform policy than casual routine formalities for it is the need of the hour to keep pace with antenatal care and institutional delivery. More sensitization regarding the postnatal care by counselling is not only required for the family or the public but also for the staffs including doctors, nurses and paramedical staffs and other health care personnel who are...
directly or indirectly involved in antenatal and delivery care services. Mothers too should be kept as an integral part of it with active participation than being side-lined.

**ACKNOWLEDGEMENTS**

I would like to acknowledge the mothers and the family for their cooperation and patience even they were coming for routine immunization of the babies which helped to uncover the ground reality and better planning our health service system.

**Funding:** No funding sources  
**Conflict of interest:** None declared  
**Ethical approval:** The study was approved by the Institutional Ethics Committee

**REFERENCES**

1. World Health Organization: Postpartum Care of the Mother and Newborn: A Practical Guide. WHO/RHT/MSM/983.Geneva. 1998. Last accessed on 24 June 2020.
2. World Health Organization: WHO Technical Consultation on Postpartum and Postnatal Care. Maternal, newborn, child and adolescent health; Geneva. 2010. Last accessed on 24 June 2020.
3. Global, regional and national levels and trends in maternal mortality between 1990 and 2015. With scenario – based projections to 2030: a systemic analysis by the UN Maternal Mortality estimation Inter-Agency group. Lancet. 2015;387(10017):467-74.
4. Somdatta P, Reddaiyah VP, Singh B. Prevalence of anaemia in the North Indian village. Trop Doct. 2009;39:211-5.
5. Singhal YK, Fatehpuriya CM, Bhatnagar R. Practice and significance of iron folic acid supplementation in postpartum women attending a tertiary care hospital in Southern Rajasthan. National Journal of Community Medicine. 2015;6(4):614-17.
6. Valley L, Ahmed Y, Murray SF. Postpartum maternal morbidity requiring hospital admission in Lusaka, Zambia- a descriptive study. BMC Pregnancy Childbirth. 2005;5(1):1.
7. Alfredo LK Mktima N. Postpartum Care: Levels and determinants in developing countries. Caiveron, Maryland, USA, Macro International Inc. 2006.
8. Bryant AS, Haas JS, McElrath TF, McCormick MC. Predictors of compliance with postpartum visit among women living in healthy start project areas. Maternal Child Health J. 2006;10:511-16.
9. Randive B, Diwan V, De Costa A. India’s conditional cash transfer programme (the JSY) to promote institutional birth: is there an association between institutional birt: is there an association between institutional birth proportion and maternal mortality? PLoS One. 2013;8(6):e67452.
10. Randive B, San Sebastian M, De Costa A, Lindholm L. Inequalities in institutional delivery uptake and maternal mortality reduction in the context of cash incentive program, Janani eSuraksha Yojana: results from nine states in India. Soc Sci Med. 2014;123:1-6.
11. Lim SS, Dandona L, Hoisington JA, James SL, Hogan MC, Gakidou E. India’s Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. Lancet. 2010;375(9730):2009-23.
12. National Guidelines for Calcium Supplementation During Pregnancy and Lactation. Maternal Health Division, Ministry of Health & Family Welfare. Government of India. December 2014. My Safe Motherhood. Booklet for expecting mothers: 1-24. Last accessed on 24 June 2020.
13. Ministry of Health and Family Welfare (MOHFW). National Population Policy 2000. New Delhi: Government of India. 2000. 24 June 2020.
14. Reena Pal, Anita Mehndiratta. Assessment of Utilization of Postnatal Care Services in Tertiary Care Centre of Delhi. Journal of Dental and Medical Sciences. 2016;15(6):72-5.
15. Singh A, Sabu S, Padmadas, Mishra US. Socio-Economic inequalities in the use of postnatal care in India. 2012;7(5):e37037.
16. Lange JA, Dehmubed A, JS Bhawalkar. Are women availing postnatal care services? Cross-sectional study in urban slum of Mumbai. National Journal of Community Medicine. 2017;8(6):288-91.
17. Dhakal, Chapman, Simkhada. Utilization of postnatal care among rural women in Nepal. BMC Pregnancy and Childbirth. 2007;7:1-9.
18. Hove I, Siziya S, Katiolo C, Tshimanga M. Prevalence and associated factors for non-utilization of postnatal care services: Population-based study in Kuwadzana peri-urban area, Zimbabwe. Afr J Reprod Health.1999;3:25-32.
19. Sines E, Syed U, Wall S, Worley H. Postnatal care: A critical opportunity to save mothers and newborns. Washington DC: Population reference Bureau. 2007.
20. Bhattacharjee S, Datta S, Saha JB, Chakraborty M. Maternal Health Care services Utilization in Tea Gardens of Darjeeling, India. J Basic Clin Reprod Sci. 2013;2:77-84.
21. Ranganath TS, Poornima CA. Study on utilization of of maternal services in urban slums of Bangalore. Int J Basic Appl Med Sci. 2011;1:70-5.
22. Edward S, Iyer RH. Post Natal Care services in a rural population near Chennai. Global journal for research analysis. 2014;3:108-9.
23. Pandey D, Meshram P, Sharma A, Tiwari R, Kesar PK. An assessment of utilization pf postnatal care services in urban area Jabalpur district. International Journal of Community Medicine and Public Health. 2019;6:3660-6.
24. Rahman MM, Haque SE, Zahan MS. Factors affecting the utilization of postpartum care among young mothers in Bangladesh. Health Soc Care Community. 2011;9:138-47.
25. Uppadhyay SK, Bhansali S, Sivodia SK, Agrawal N, Garg K, Singh M. Utilization of postnatal care services in rural areas of western Rajasthan, India. Ntl J Community Med. 2016;7(7):569-72.

26. Purani C, Patel P, Gupta K, KM Mehasiya, Holda A. Knowledge, awareness, and practice of postnatal care among mothers. Indian journal of child Health. 2017;2(2):83-5.

Cite this article as: Das B. Study on postnatal care in a tertiary care hospital in eastern India and the reality. Int J Community Med Public Health 2020;7:3917-23.