## **Original Research Article**

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# Cross sectional study on newborn care practices in a rural area

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#### **ABSTRACT**

**Background:** NMR contributes to two-third of infant mortality and proper newborn care is essential for achieving the target of reduction in IMR. The present study was conducted to find the newborn care practices in a rural community and to explore the associated factors.

**Methods:** The present community based cross sectional study was conducted upon children born in the study area within past three months. Mothers were interviewed using pretested proforma.

**Results:** It was seen that 87.3% children were cared by their mothers, rooming-in was universal, 82.1% children were kept warm, early bathing was avoided by 45.8% mothers, 96.2% of children were given vaccine at birth and umbilical stump hygiene was maintained in 61.3% cases.

**Conclusions:** The newborn care practices are far from ideal. Community based interventions can be helpful to improve the same.

Keywords: Cross sectional study, Newborn care practices, Rural area

### INTRODUCTION

It has been estimated that about 1.3 billion babies are born every year worldwide. But, 4 million children die within one month of their birth. Neonatal mortality contributes to about two-third of infant deaths. Reduction in infant mortality can only be achieved by controlling neonatal mortality. This is important to ensure India's commitment to sustainable development goals.

Improper perinatal care leads to increased long term morbidity and mortality in infants and young children. Perinatal care is dependent upon cultures and beliefs, awareness of parents and accessibility to health care services.<sup>2</sup> Another key determinant of neonatal health is institutional delivery and availability of trained health workers. Birth preparedness, proper breastfeeding advice and counselling of mothers for care of the newborn can

be achieved by properly trained staff.<sup>3</sup> This intervention has long term implications on infant health and survival.

This issue has been addressed by many researchers. Vijaylakshmi et al found that there was gender bias in new born care while Dhillon et al and Sinha et al have reported that rates of ideal newborn care practices were very low in North India. 1.2.4 Dhir et al observed in Punjab that there were many gaps in newborn care. 3 Studies have not been conducted in this area to explore reasons for inadequate newborn care. Hence, the present study was conducted to find the gaps in newborn care and factors responsible for the same.

#### Aims and objectives

The present study was conducted to find the newborn care practices in a rural community and to explore the associated factors.

### **METHODS**

The present study was community based cross sectional in nature conducted in the rural population attached with the field practice area of Shri Shankaracharya Institute of Medical Sciences, Bhilai, Chhattisgarh. The study was conducted between April 2016 to September 2016. The study subjects were children born in the selected area within past three months. This time period was considered to avoid any recall bias. Mothers of children less than three months of age and enrolled at the selected Anganwadi centers were included in the study. Mothers of children with known anomalies, whose child was very sick needing emergency care and who failed to provide consent for any reason were excluded from this study.

In the study conducted by Dhir et al, it was observed that 51% children were initiated breastfeeding timely. Using 10% absolute precision and considering the non-response rate of 10%, the sample size was calculated as below-

Sample size = 
$$(Z^2 \times p \times q / d^2) \times 1.1 \times 2 = 212$$
.

A total of 212 children fulfilling eligibility criteria participated in this study. Cluster sampling was done. Before data collection process, permission was taken from ICDS authority for the study. Mothers of consecutive child fulfilling the inclusion criteria were enrolled in the study until the required sample size was reached. Mothers were informed about the study and consent was taken. Semi quantitative technique was used for the data collection. Structured and semi-structured questionnaire was used to collect the data with mother. Details about socio-demographic background and newborn care practices were assessed.

Data was entered in Microsoft Excel and statistical analysis was done using SPSS version 16.0. Results were reported in terms of standard statistical description. For calculation of significance, p<0.05 was taken into consideration. Informed consent was taken from all the participants and they were explained about the procedure & its various aspects. Confidentiality was maintained and the study subjects were free to quit from the study.

## **RESULTS**

In the present study, a total of 212 mothers of children of born during the previous three months were interviewed. Table 1 shows the background profile of the respondents. Mean age of the mothers was 26.7±3.9 years. About two third (66.1%) lived in joint families and about one third (33%) of them were illiterate. 66% of them were housewives. Most of them were Hindus (82.1%).

Regarding the reproductive profile, two fifth of them (39.6%) had less than two children, four ANC was done for 58.1%, 91% received TT immunization and 61.3% delivered in healthcare institution.

Table 1: Showing socio-demographic profile of respondents.

Socio-demographic factor		Frequency (%)
Mean age of the mother	-	26.7±3.9 years
Type of family	Nuclear	33.9
	Joint	66.1
Education of mother	Illiterate	33.0
	Literate	16.5
	Primary	24.5
	Secondary	21.2
	Graduate and above	4.7
Occupation of mother	Housewife	66.0
	Labourer	22.2
	Agriculture	9.9
	Professional	1.9
Religion	Hindu	82.1
	Muslim	17.9
Parity	<2	39.6
	>2	60.4
Four ANC done	Yes	58.5
	No	41.5
TT	Yes	91.5
	No	8.5
Place of delivery	Home	38.7
	Institutional	61.3

Table 2: Showing newborn care practices.

Newborn care practices	Value	Frequency (%)	95% CI (%)
Caretaker	Mother	185 (87.3)	82-91.4
	Grandmother	24 (11.3)	7.4-16.4
	Father	3 (1.9)	0.3-4.1
Rooming in	Yes	210 (99.1)	96.6-99.9
	No	2 (0.9)	0.1-3.4
Prevention of	Yes	174 (82.1)	76.2-87
hypothermia	No	38 (17.9)	13-23.8
Early	Yes	115 (54.2)	47.3-61.1
bathing	No	97 (45.8)	38.9-52.7
Vaccination at birth	Yes	204 (96.2)	92.7-98.4
	No	8 (3.8)	1.6-7.3
Colostrum given	Yes	59 (27.8)	21.9-34.4
	No	153 (72.2)	65.6-78.1
Early	Yes	84 (39.6)	33-46.6
initiation of breastfeeding	No	128 (60.4)	53.4-67
Exclusive	Yes	118 (55.8)	48.7-62.5
breastfeeding	No	94 (44.2)	37.5-51.3
Umbilical	Yes	130 (61.3)	54.4-67.9
stump hygiene	No	82 (38.7)	32.1-45.6

Table 2 shows details of newborn care practices. 87.3% children were cared by their mothers while the remaining were taken care of by the grandmother and fathers. Rooming in was universal and only two children were kept separate from their mothers because of maternal illness. 82.1% children were kept warm by keeping them close to their mothers, covering them properly and

keeping the room warm. Early bathing was avoided by 45.8% mothers, 96.2% of children were given vaccine at birth and umbilical stump hygiene was maintained in 61.3% cases. It was seen that there is significant association between socio- economic status and care of umbilical cord. Poor mothers used to apply home remedies over umbilical stump.

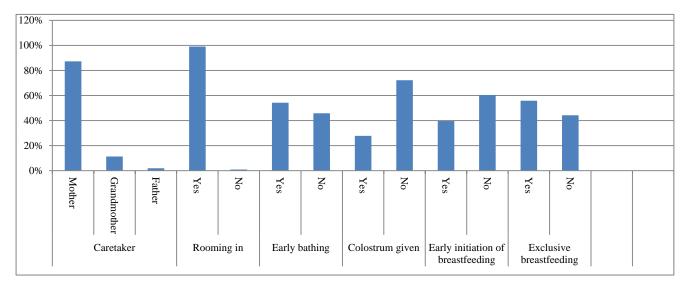


Figure 1: Showing key indicators of newborn care.

Regarding newborn feeding practices, early initiation of breastfeeding was done in 39.6% of cases, colostrum was given in 27.8% children and exclusive breastfeeding was done in 55.8%. Bottle feeding was seen in only three children while other mothers giving top milk used Katori and spoon.

#### **DISCUSSION**

Perinatal care is one of the key determinants of survival of the newborn.<sup>5</sup> Institutional delivery is important factor which helps in proper perinatal care. The newborn child is especially vulnerable to hypothermia and hypoglycaemia. Simple measures like Kangaroo Mother Care and early initiation of breastfeeding are effective in preventing these complications.

NFHS-4 found institutional delivery rate to be 64.5% in this area. So, around 35% mothers missed the opportunity of adequate care and counselling. Dhir et al found that 84% children were taken care of by their mothers and grandmothers and fathers hardly shared the responsibility. Practice of rooming in was universal, 86% mothers took steps to keep the baby warm. Early bathing was done in 54. 2% cases and 96.2% children received vaccine at birth. Vijayalakshmi et al observed that the majority of newborn belonged to Hindu families, 37.5% belongs to lower middle class and 71.3% were educated up to 12th standard. 83.8% of them were housewives and 53.7% lived in nuclear families. 83.8% had less than two children. 94.1% were wrapped up immediately after birth, 14% children had application of some chemical over

there umbilical stump, 70.6% newborns had their bathing delayed till third day.<sup>2</sup>

Madhu et al found that 97% the mothers initiated breastfeeding, 19% used pre-lacteal feeds, 90% had hospital delivery and 50% used house knife to cut the umbilical cord among mothers delivered at home. Dhillon et al conducted study in rural India to assess newborn care practices among home births and reasons for delivering at home. They found that 93.3% of the newborn were given their first bath within 24 hours of birth including 77.3% within three hours of birth. Only 6.0% mothers were initiating breast feeding within one hour of birth and 38.2% within 24 hours.

The socio-demographic profile of the respondents was similar to other studies conducted in north India. Mothers were the usual care taker and rooming in was universal as evident by different studies. Practice of early bathing was prevalent and must be addressed to by health workers because this part of the country witnesses low temperature during winter and exposes newborn to risk of hypothermia. Poor umbilical hygiene was seen in poor mothers and though TT immunization rate among mothers is high, poor hygiene leads to risk of infections. Breastfeeding was usual but early initiation, administration of colostrums and exclusive breastfeeding need to be looked into.

Effective implementation of community based programs and regular monitoring are essential to ensure that the targets of SDGs can be reached in time and India's commitment towards this goal can be conclusively proven.<sup>8</sup>

#### **CONCLUSION**

The present study found poor newborn care practices. Health workers of the area need to be sensitized towards this issue and community based interventions in the form of home based newborn care is important.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

#### REFERENCES

- Sinha LN, Kaur P, Gupta R, Dalpath S, Goyal V, Murhekara M. Newborn care practices and homebased postnatal newborn care programme – Mewat, Haryana, India, 2013. WPSAR. 2014;5(3):14.
- Vijayalakshmi S, Patil R, Datta SS. Communitybased Study on Newborn Care Practices and its Determinants in Rural Pondicherry, India. J Neonatal Biol. 2014;3:158.
- 3. Dhir SK, Batta M. Neonatal rearing and breastfeeding practices in Punjab, India. Int J Community Med Public Health. 2015;2:435-40.

- 4. Dhillon BS, Singh S, Chandhiok N, Shekhar C. A community survey of newborn care practices in rural India. Int J Reprod Contracept Obstet Gynecol. 2016;5:4275-80.
- George M, Johnson AR, Basil RC, Murthy SN, Agrawal T, Postpartum and Newborn Care - A Qualitative study. Indian J Comm Health. 2018;30(2):163-5.
- 6. National Family Health Survey 4, 2015 -16. District Fact Sheet, Durg, Chhattisgarh. International Institute for Population Sciences (Deemed University), Mumbai, 2016.
- Madhu K, Chowdary S, Masthi R. Breast feeding practices and new born care in rural India: A descriptive cross sectional study. Indian Journal of Community Medicine 2009;34(3):243-6.
- 8. Neogi SB, Zodpey S. Newborn Care in India: Where do we stand in 2015? JKIMSU. 2015;4(2):1-9.

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