Original Research Article

Knowledge on essential newborn care among antenatal mothers attending tertiary care hospital

Aravindan J.*, Indira N. C., Mithun Kumar A.

Department of Community Medicine, Government Sivagangai Medical College, Sivagangai, Tamil Nadu, India

Received: 25 November 2020
Revised: 25 January 2021
Accepted: 04 February 2021

*Correspondence:
Dr. Aravindan J.,
E-mail: aravindan1982@yahoo.com

ABSTRACT

Background: Globally 4 million newborn die every year before they reach the age of one month. To achieve the millennium developmental goals newborn survival is essential. Aim of the study was to assess the level of knowledge of antenatal women on essential new born care and danger signs during neonatal period, to find the association of sociodemographic and obstetric characteristics with maternal knowledge level. Settings and design included descriptive cross-sectional study was conducted in a tertiary care hospital.

Methods: The study enrolled 439 antenatal women by convenient sampling technique. A pretested semi structured questionnaire was used to assess the knowledge. Statistical package for the social sciences (SPSS) 21 version was used to analysis the data. Chi square was calculated to find the association. P value of <0.05 was considered statistically significant.

Results: The study shows that 16.7% respondents had adequate knowledge about danger signs during neonatal period. The maternal age, parity, socioeconomic status, parity had significantly associated with the maternal knowledge regarding new-born care (p<0.05).

Conclusions: Majority of the ante natal mother had poor knowledge on new born care.

Keywords: New born danger signs, New born, Essential new born care

INTRODUCTION

Every year around 7.7 million under 5-year children die around the world. Out of this, neonatal deaths constitute around 3.1 million.1 Due to high rates of unhygienic cord care practices, cord infections are prevalent in many developing countries.2 Infections like sepsis, pneumonia, tetanus, diarrhoea lead to 36% of neonatal deaths, whereas 28% are preterm deaths and 23% results from birth asphyxia.3,4 In order to reduce neonatal morbidity and mortality world health organisation has recommended clean cord care, thermal care and initially breast feeding immediately or within the first hour after birth as essential new-born care practices.5

By practising essential new-born care, new-born deaths due to sepsis/pneumonia, preterm birth and tetanus can be reduced significantly in the developing countries.6

Reducing neonatal mortality and morbidity by practicing essential new born care depends more on knowledge attitude and practice of the mothers.7 From various previous studies it was observed that postnatal mother lacks awareness towards neonatal care. It was also found that this can be improved by providing health education on essential new born care for antenatal mothers.8 Hence this study was undertaken to assess the knowledge on essential new born care among antenatal mothers and its association with various sociodemographic and obstetric characteristics.
METHODS

A hospital based descriptive cross-sectional study was conducted for a period of six months from March to September 2019 among pregnant women in a government tertiary care hospital, Sivagangai district. Study population were selected by convenient sampling technique. All antenatal mothers attending the antenatal clinic for follow up visit irrespective of their period of gestation were taken as study population. Those with severe illness and who did not consent for the study were excluded from the study. After obtaining verbal consent from the study participants’ data was collected.

A pretested, semi structured questionnaire was used to collect data from the study participants. Questions included identification details, details on sociodemographic profile, maternal knowledge on danger signs during neonatal period and knowledge on the four components of essential new born care.

Those respondents who were able to mention more than four out of the nine serious danger signs during neonatal period were considered to have adequate knowledge. With respect to essential new born care, respondents who were able to identify at least two out of the four components, dry and wrap, cord care, eye care and exclusive breast feeding were considered knowledgeable.

Questionnaire was checked for completeness daily by the primary investigator. Data was entered in Microsoft excel, statistical package for social science windows version 21.0 was used for analysis.

Univariate analysis was done using descriptive techniques and bivariate analysis using Chi square test for independence. Factors with p value <0.05 were considered to have statistically significant association with maternal knowledge.

RESULTS

A total of 439 pregnant women who fulfilled the inclusion criteria were enrolled in the study. The mean age of the mothers was 24.2 years (SD±3.35).

Only 26% of the mothers correctly answered that poor feeding is a danger sign, almost 44.6% of mothers recognized yellow skin/eye as sign of severe illness but only 29.4% recognised fast breathing as a danger sign. Of the study participants only 72 (16.7%) were able to mention at least four signs of the total nine danger signs.

According to Table 3, the knowledge score was statistically different among various age groups (p<0.001). The independent variables socioeconomic status and parity were significantly associated with maternal knowledge with chi square value 59.616 (p<0.001), 34.875 (p<0.001) respectively. However, there was no significant influence of religion, gestational period and previous history of still birth on maternal knowledge.

Similarly, Chi square test was applied to test the factors associated with knowledge on new born danger signs. Maternal age, socioeconomic status, history of stillbirth and parity of mother were found to have statistically significant association with p value <0.05.

| Variables                  | Frequency (N) | Percentage (%) |
|----------------------------|---------------|----------------|
| Age group (in years)       |               |                |
| <20                        | 53            | 12.1           |
| 20-25                      | 238           | 54.2           |
| 25-30                      | 131           | 29.8           |
| 30-35                      | 17            | 3.9            |
| Religion                   |               |                |
| Hindu                      | 373           | 85             |
| Christian                  | 37            | 8.4            |
| Muslim                     | 29            | 6.6            |
| Socioeconomic status       |               |                |
| Upper middle               | 76            | 17.3           |
| Lower middle               | 199           | 45.3           |
| Upper lower                | 164           | 37.4           |
| Gestational age            |               |                |
| First trimester            | 22            | 5.0            |
| Second trimester           | 118           | 26.9           |
| Third trimester            | 299           | 68.5           |
| Parity                     |               |                |
| Primi                      | 302           | 68.8           |
| Multi                      | 137           | 31.2           |
| History of still birth     |               |                |
| Yes                        | 69            | 15.7           |
| No                         | 379           | 84.3           |

Table 1: Sociodemographic and obstetric characteristics of study participants (n=439).

| New born danger sign        | Aware (frequency) | Percentage (%) |
|-----------------------------|-------------------|----------------|
| Difficulty / fast breathing | 129               | 29.4           |
| Yellow skin/eye             | 196               | 44.6           |
| Poor feeding                | 114               | 26             |
| Pus/bleeding/discharge from around umbilical cord | 98 | 22.3 |
| Small for date              | 150               | 34.2           |
| Skin lesion/blisters        | 14                | 3.2            |
| Convulsions                 | 7                 | 1.6            |
| Lethargy/ unconscious       | 32                | 7.3            |
| Red/swollen eyes            | 13                | 3.0            |

Table 2: Knowledge on new born danger signs among study participants (n=439).
Table 3: Factors associated with maternal knowledge on essential newborn care.

| Factors                        | Knowledge | Chi-square | P value |
|--------------------------------|-----------|------------|---------|
|                                | Adequate (>2) | Inadequate (<2) |        |
| Age group (in years)           | 53        | 0          | 47.143  | <0.001** |
| <20                            |           |            |         |          |
| 20-25                          | 185       | 53         |         |          |
| 25-30                          | 71        | 60         |         |          |
| 30-35                          | 10        | 7          |         |          |
| Socioeconomic status           | 29        | 47         | 59.616  | <0.001** |
| Upper middle                   |           |            |         |          |
| Lower middle                   | 150       | 49         |         |          |
| Upper lower                    | 140       | 29         |         |          |
| Religion                       | 270       | 103        | 0.166   | 0.92     |
| Hindu                          |           |            |         |          |
| Christian                      | 27        | 10         |         |          |
| Muslim                         | 22        | 7          |         |          |
| Gestational age                | 18        | 4          | 0.2996  | 0.224    |
| First trimester                | 91        | 27         |         |          |
| Second trimester               | 210       | 89         |         |          |
| Parity                         | 245       | 57         | 34.875  | <0.001** |
| Primi                          |           |            |         |          |
| Multi                          | 74        | 63         |         |          |
| History of still birth         | 50        | 19         | 0.002   | 0.977    |
| Present                        |           |            |         |          |
| Absent                         | 269       | 101        |         |          |

DISCUSSION

In the present study only about 120 (27.3%) had adequate knowledge on essential new born care. This was inconsistent with the study conducted by Sharafi et al in Iran which revealed a 78% and 18% of mothers to have moderate and good knowledge on essential new born care.9 However, King and Mann et al in their study in rural Guinea Bissaeu found poor knowledge and practice.

In the current study majority of the mothers were unaware of the general danger signs of new born. This study revealed mothers to consider yellow skin/eyes, small for date, difficulty/fast breathing and poor feeding as danger signs with a response rate of 44.6%, 34.2%, 29.4% and 26% respectively.

In a similar study conducted by Yadav et al almost 50% of mothers considered fever, vomiting and jaundice as danger signs.10 Whereas, Aswathi et al found fever and excessive cry as to be the serious danger signs.11

It was observed that 72 (16.7%) of the respondents had adequate knowledge in neonatal danger signs. Similar study conducted by Rama and Gopalakrishnan et al in Kancheepuram highlighted that the percentage of their study participants who had adequate knowledge was 33%.12 In contrast, a study carried out by Anu et al in Mangalore found that 62% of mothers had good knowledge regarding newborn illness.13

The current study identified a statistically significant association of maternal knowledge on essential new born care with maternal age, socioeconomic status and parity. It is consistent with other studies which have proven that higher levels of education and income have a significant impact on the level of knowledge about danger signs and their health behaviour.14-16 The findings of the current study revealed a huge gap in the knowledge on essential new born care. Though Tamilnadu is one among the few states with highest number of institutional deliveries, this lacuna might hinder the success of MCH. This could be improved by providing health education for antenatal mothers at primary health centre level.

Limitations

The determination of causal relationship may not be possible but only to test associations due to the nature of the present study. Some respondents may have been reluctant to disclose information since this is a hospital-based study.

CONCLUSION

The knowledge of essential new born care among the study population was found to be low. Knowledge gap was found to exist towards feeding practices, cord care and neonatal
infections. Maternal knowledge was found to be significantly associated with few sociodemographic factors.

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

REFERENCES

1. C Rajaratnam JK, Marcus JR, Flaxman AD, Wang H, Levin-Rector A, Dwyer L, Costa M, Lopez AD, Murray CJ. Neonatal, postneonatal, childhood, and under-5 mortality for 187 countries, 1970–2010: a systematic analysis of progress towards millennium development goal 4. Lancet. 2010;375(9730):1988-2008.

2. Opara PI, Jaja T, Dotimi AD, Alex Hart BA. Newborn Cord Care Practices amongst Mothers in Yenogoa Local Governmental Area, Bayelsa State, Nigeria. Int J Clin Med. 2011;22-7.

3. Neonatal mortality, 2017. Available at: https://www.who.int/gho/child_health/mortality/neonatal_text/en Accessed on: 10 September 2020.

4. Newborn death and illness - WHO. Available at: https://www.who.int/pmnch/media/press_materials/fs/fs_newborndeath_illness/en/. Accessed on: 20 September 2020.

5. Marsh DR, Darmstadt GL, Moore J, Daly P, Oot D, Tinker A. Advancing newborn health and survival in developing countries: a conceptual framework. J Perinatol. 2002;22(7):572-6.

6. Darmstadt GL, Bhutta ZA, Cousens S, Adam T, Walker N, de Bernis L. Evidence-based, cost-effective interventions: how many newborn babies can we save? Lancet. 2005;365(9463):977-88.

7. Yadav MK. A Study to Assess the Knowledge, Practices and Attitude of Primigravida Mothers on Newborn Care at JJR Maternity Centre. Karnataka, Bangalore, India. 2013.

8. Monebenimp F, Mireille EM, Chelo D, Pascal F, Christopher K, Charles K. Mothers’ Knowledge and Practice on Essential Newborn Care at Health Facilities in Garoua City, Cameroon. Health Science. 2013;1-6.

9. Sharafi R, Esmaeili H. Knowledge assessment of neonatal care among postnatal mothers. Ir J Neonatol. 2013;4:28-31.

10. Yadav SP, Saund M, Thakur J, Yadav P, Yadav S, Shah GS. Knowledge, attitude and practices on the care of the newborn in postnatal mothers delivering at a tertiary care centre in Nepal. Sri Lanka J Child Health. 2016;45(3):189.

11. Awasthi S, Verma T, Agarwal M. Danger signs of neonatal illnesses perception of care givers and health workers amongst mothers in India. Bull World Health Organization. 2006;84(10):819-26.

12. Rama R, Gopalakrishnan S, Udayshankar PM. Assessment of knowledge regarding new-born care among mothers in Kancheepuram district, Tamil Nadu. Int J Comm Med Public Health. 2014;1(1):58.

13. Anu D, Anu J, Anu PS, Anumol K, Arya J, Shilpa GS, et al. Knowledge on warning signs of newborn illness among the mothers with a view to develop an information booklet. Am Int J Res Hum Arts Soc Sci. 2013;4(1):92-4.

14. Devi S. Knowledge of mothers regarding the growth and development of infants. Int J Nurses Care. 2013;1(2):125-8.

15. Obimbo E, Musoke RN, Were F. Knowledge attitude and practices of mothers and knowledge of health workers regarding care of newborn umbilical cord. East Afr Med J. 1999;76(8):425-9.

16. Asifpadiyath M, vishnuBhat B, Ekambaram H. Knowledge attitude and practice of neonatal care among postnatal mothers. JIPMER, Puducherry, India. 2010;14:7-12.

Cite this article as: Aravindan J, Indira NC, Kumar AM. Knowledge on essential newborn care among antenatal mothers attending tertiary care hospital. Int J Community Med Public Health 2021;8:1236-9.