

## Research Article

### Assess the Knowledge and Practice on Nesting of New Born among Postnatal Mothers with a View to Prepare Information Booklet

Arunima Sreeletha, Dipali Rajendra Salunke, Maheshwari Eknath Sasane, Prajkta Dattatray Waingankar, Rushabh Kishor Kamble, Sandhya Suresh Ghadge, Santosh Ramsubhavan Rajak

Department of Child Health Nursing, Bharati Vidyapeeth (Deemed to be University), College of Nursing, Navi Mumbai, Maharashtra, India

#### ABSTRACT

**Background:** Maintaining thermoregulation is very vital for newborn babies in the immediate newborn period and continues until the first half of infancy. Different thermoregulation techniques should be followed traditionally by mothers for the same. **Objectives:** The objectives of the study were to assess knowledge and practice on nesting among postnatal mothers, find out the association between selected demographic variables and knowledge. **Materials and Methods:** This study was a descriptive survey method. The study was conducted at selected hospital in Navi Mumbai in 120 postnatal mothers. Non-probability purposive sampling was used. Tools include sociodemographic and clinical data, knowledge questionnaire, and observational checklist. The tool reliability score is 0.9. **Results:** Frequency distribution of demographic data was calculated. Demographic data reveal that there is an association between age, education, and number of postnatal days with knowledge regarding nesting. Knowledge level regarding nesting among postnatal mothers represents that only one mother has excellent knowledge, 11 have good knowledge, 80 have adequate, and 28 have poor knowledge regarding nesting. Practice on nesting among postnatal mothers represents that 11 mothers have good practice on nesting, 99 are average, and 10 are having poor practice regarding nesting. From finding the researchers found out that knowledge and practice regarding nesting of newborn among postnatal mothers are average. **Conclusion:** As hypothermia is the leading cause of death in neonates, thermoregulatory measures have been recommended by health-care members. Hence, the present study was conducted to assess knowledge and practice on nesting of newborn among the postnatal mothers to prevent hypothermia.

**Keywords:** Nesting, Newborn, Postnatal mothers

**Address for Correspondence:** Arunima Sreeletha, Department of Child Health Nursing, Sector-7, Rain Tree Marg, Belpada Complex, Opp. Kharghar Railway Station, Navi Mumbai - 400 614, Maharashtra, India. Phone: +91-8108688533. E-mail: arunima.sreeletha@bharativedyapeeth.edu

#### Access this article online

Website: <a href="http://www.innovationalpublishers.com/journal/ijnr">www.innovationalpublishers.com/journal/ijnr</a>	e-ISSN: 2456-1320
DOI: <a href="https://doi.org/10.31690/ijnr/91">https://doi.org/10.31690/ijnr/91</a>	

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution Noncommercial Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**How to cite this article:** Sreeletha A, Salunke DR, Sasane ME, Waingankar PD, Kamble RK, Ghadge SS, Rajak SR. Assess the Knowledge and Practice on Nesting of New Born among Postnatal Mothers with a View to Prepare Information Booklet. Int J Nur Res. 2020; 6(1): 9-14.

#### Introduction

Neonatal hypothermia as a factor contributing to morbidity and mortality risk of newborns has been recognized by the World Health Organization (WHO). Hypothermia has been defined by the WHO as body temperature below the normal range (36.5–37.5°C) and has been sub classified into three grades: mild (36.0–36.5°C), moderate (32.0–35.9°C), and severe (<32.0°C) hypothermia. For each of these classifications, there are guidelines in place for responding to or managing hypothermia. Furthermore, the WHO has published guidelines on thermal care and has included

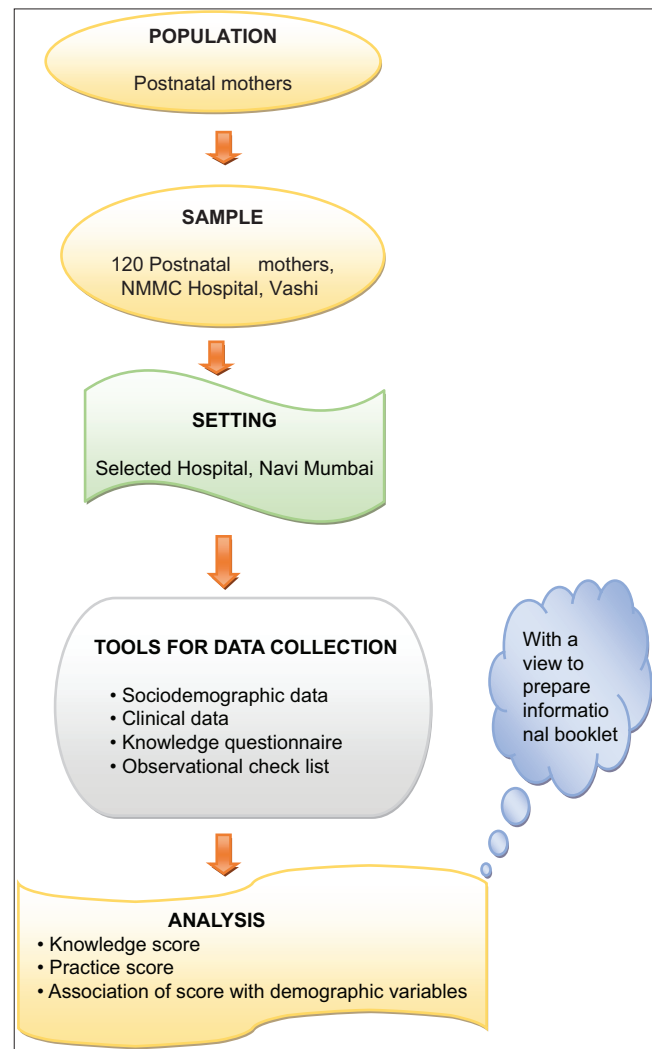
thermal care of newborns as one of the elements of essential newborn care that should be provided to all newborns regardless of setting. Thermal protection of the newborn is the series of measures taken at birth and during the 1<sup>st</sup> day of life to ensure that the baby does not become either too cold.<sup>[1,2]</sup>

**Methods** - Using PubMed as our principal electronic reference library, we searched studies for prevalence and risk factor data on neonatal hypothermia in resource-limited environments globally. Studies specifying study location, setting (hospital or community based), sample size, case definition of body temperature for hypothermia, temperature measurement method, and point estimates for hypothermia prevalence were eligible for inclusion. **Results** - Hypothermia is common in infants born at hospitals (prevalence range, 32–85%) and homes (prevalence range, 11–92%), even in tropical environments. The lack of thermal protection is still an underappreciated major challenge for newborn survival in developing countries. Although hypothermia is rarely a direct cause of death, it contributes to a substantial proportion of neonatal mortality globally, mostly as a comorbidity of severe neonatal infections, preterm birth, and asphyxia. Thresholds for the definition of hypothermia vary, and data on its prevalence in neonates are scarce, particularly on a community level in Africa. **Conclusions:** A standardized approach to the collection and analysis of hypothermia data in existing newborn programs and studies is needed to inform policy and program planners on optimal thermal protection interventions. Thermoprotective behavior changes such as skin-to-skin care or the use of appropriate devices have not yet been scaled up globally. The introduction of simple hypothermia prevention messages and interventions into evidence-based, cost-effective packages for maternal, and newborn care has promising potential to decrease the heavy global burden of newborn deaths attributable to severe infections, prematurity, and asphyxia. Because preventing and treating newborn hypothermia in health institutions and communities is relatively easy, addressing this widespread challenge might play a substantial role in reaching Millennium Development Goal 4, a reduction of child mortality.<sup>[3,4]</sup>

## Materials and Methods

### Study design and setting

The quantitative approach was used in the study. The research design selected for the present study is a descriptive survey method. Figure 1 explains the schematic representation of the research study. In the present study, nesting of newborn is the dependent variable and knowledge and practice are an independent variable. The study was conducted at the selected hospital in Navi Mumbai. The population target population is postnatal mothers and assessable population is postnatal mothers of selected hospital in Navi Mumbai.



**Figure 1:** Schematic representation of the research study

### Sample size and sampling method

In the present study, the sample is the postnatal mothers who are admitted in postnatal ward of selected hospital in Navi Mumbai. The study includes mothers who understand Marathi and available during the period of data collection. The study excludes mothers who are critically ill and mothers of babies who are admitted to neonatal intensive care unit (NICU). The sample size consists of 120 postnatal mothers. Purposive sampling, also termed judgmental sampling, is a type of non-probability sampling in which subjects are selected because they are identified as fulfilling the inclusion criteria.

### Data collection tool and technique

The tools consist of the following sections:

- **Sociodemographic data** – It contains the demographic profile of mothers such as age, sex, education, religion, residence, type of family, monthly income, education, and occupation.

- Clinical data – It contains the number of parities, type of delivery, and number of postnatal days.
- Knowledge questionnaire – It contains questions to assess knowledge of mothers regarding thermoregulation, hypothermia, and nesting.
- Observational checklist – It contains steps to observe the practice of mother regarding nesting.

The tool was prepared in consideration of objectives, operational definition, and hypothesis and was given to seven subject experts. Minor modifications made based on recommendations and suggestions from experts. After consulting with the guide, final tool was reframed. In the current study, test-retest reliability was used and given the tool to ten samples and again after 4 days, we give the same tool to the same samples. Tool reliability was done. The reliability score is 0.9. After getting permission from the concerned authority of the hospital, the data collection started on February 13, 2017, for 2 weeks. The researchers visited the hospital to obtain the consent from the mothers and the tools were provided to samples and checklist was done by the researchers.

## Results

The data are analyzed under various sections. The analysis was done according to inferential and differential statistics. Description of baseline characteristics using frequency and percentage and knowledge and practice assessment is by inferential and differential statistics. Chi-square is

used to find the association between selected variables and knowledge.

## Section I

Figure 2 represents the frequency of samples according to demographic variables. Age – 0% (0) of the mothers belongs to the age group of <20 years, 74.16% (89) of the mothers belongs to the age group of 20–25 years, 22% (27) of the mothers belongs to the age group of 25–30 years, 3% (4) of the mothers belongs to the age group of 30–35 years, and 0% (0) mothers belong to the age group of 35–40 years. Religion states that 93% (112) mothers belong to Hindu religion, 2.5% (3) mothers belong to Muslim religion, 0% (0) mothers belong to Christian religion, and 4.16% (5) mothers belong to others. Residence represents that 53.3% (64) mothers belong to urban residency, 41.6% (50) mothers belong to rural residency, 4.16% (5) mothers belong to semi-urban residency, and 0.83% (1) mothers belong to semi-rural residency. Type of family represents that 43.3% (52) mothers belong to nuclear family, 55.8% (67) mothers belong to joint family, 0.83% (1) mothers belong to broken family, and 0% (0) mothers belong to expanded family. Monthly income shows that 41.66% (50) have a family income of Rs <10,000, 54.16% (65) have a family income of Rs 10,001–20,000, 1.6% (2) has a family income of Rs 20,001–30,000, and 2.5% (3) have a family income of Rs more than 30,000. Mother's education shows that 16.6% (21) mothers are illiterate, 40.83% (49) mothers are primary educated, 32.5% (39) mothers are secondary educated, 6.6%

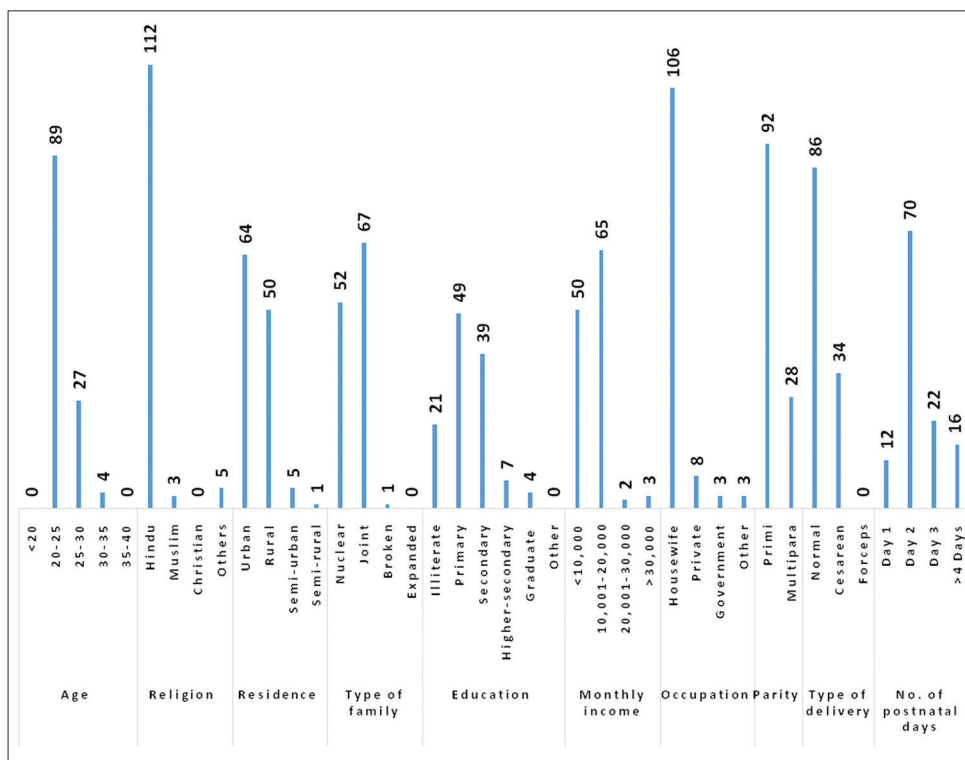


Figure 2: Depicts samples according to demographic variables

(7) mothers are secondary educated, and 3.33% (4) mothers are graduate. Mother's occupation represents that 88.3% (106) mothers are housewife, 6.66% (8) mothers are private workers, 2.5% (3) mothers are government workers, and 2.5% (3) mothers belong to other occupation. Parity shows that 76.66% (92) mothers have primi delivery and 23.33% (28) mothers have multipara delivery. Type of delivery shows that 71.66% (86) mothers deliver the baby by normal delivery, 28.33% (34) mothers deliver the baby by cesarean delivery, and 0% (0) mothers deliver the baby by forceps delivery. The number of postnatal days represents that 10% (12) mothers are with first postnatal day, 58.33% (70) mothers are with second postnatal day, 18.33% (22) mothers are with third postnatal day, and 13.3% (16) mothers are with fourth and more than fourth postnatal day.

## Section II

The association between selected demographic variables and pre test level of knowledge on nesting of newborn among mothers. Since  $P < 0.05$ , there is an association between age, education, and number of postnatal days and knowledge regarding nesting. Since  $P > 0.05$ , there is no association between religion, residence, type of family, monthly income, occupation, and number of delivery and knowledge regarding nesting. Table 1 shows the association of demographic variables with knowledge on nesting of newborn among postnatal mothers.

## Section III

Assess the level of knowledge on the nesting of new-born among postnatal mothers.

Figure 3 depicts the knowledge level regarding nesting of newborns among postnatal mothers. The results reveal that only one mother has excellent knowledge, 11 mothers have good knowledge, 80 mothers are having adequate, and 28 mothers are having poor knowledge regarding nesting of newborn.

## Section IV

Assess the level of practice on nesting of new-born among postnatal mothers.

Figure 4 represents the level of practice on nesting of new-born among postnatal mothers. The data show that 11 mothers have good practice on nesting, 99 mothers are average, and ten mothers are having poor practice regarding nesting of newborn.

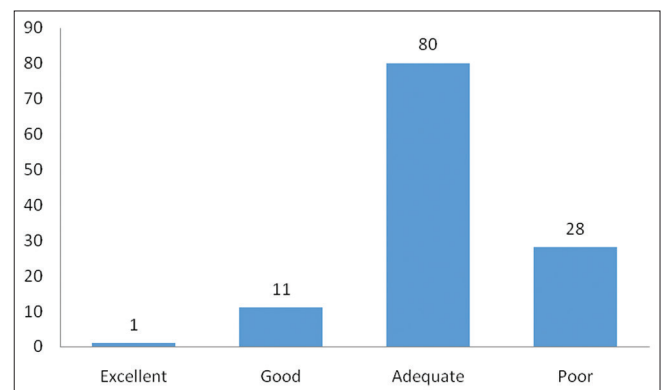
## Discussion

Knobel-Dail conducted a study on the role of effective thermoregulation on premature neonates in 2014. The finding from the study states that in health-care practices to maintain proper thermoregulation in neonates, effective measures need

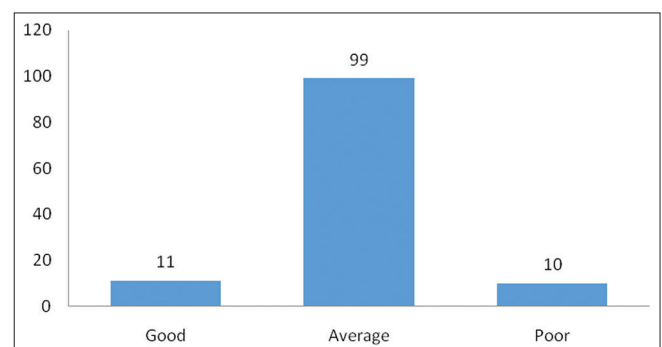
to be practiced to reduce the heat loss from the newborn babies during labor and after delivery when they are staying in NICU or in the postnatal ward. Prevention of heat loss from newborn is effective way to reduce the incidence of hypothermia and thereby reduce morbidity and mortality in future. The study discusses about maintenance of delivery room temperature, heated humidified gas resuscitation, provision of thermal mattress for babies during transport, plastic covering for stability of temperature, kangaroo mother care (KMC) or skin to skin care by placing on mother's chest, combination of different interventions and provision of incubators, and radiant warmers will be effective in reducing heat loss in babies.<sup>[5,6]</sup>

Bera *et al.* conducted a study on the effect of KMC on vital physiological parameters of the low birth weight newborn in India. Two hundred and sixty-five mothers and babies were analyzed. KMC was provided. The study results show that KMC was effective in correcting hypothermia, bradycardia, tachycardia, and low saturation in newborn. Thereby improve the physiological status of newborn babies.<sup>[7]</sup>

In 2019 Mahvish *et al.* conducted a study on knowledge regarding the prevention of hypothermia in newborns among mothers in the North India. Cross-sectional study design was used in 108 postnatal mothers having low birth weight babies in postnatal wards. The focus of the study was to find out the knowledge regarding thermoregulatory measures, 45% have knowledge of wiping the baby after delivery and 3% have



**Figure 3:** Knowledge level regarding nesting of newborn among postnatal mothers  $n=120$



**Figure 4:** Practice on nesting of new-born among postnatal mothers

**Table 1:** Association of demographic variables with the pre-test knowledge level

Demographic variables	Knowledge assessment				Total	$\chi^2$	Pvalue
	Excellent	Good	Adequate	Poor			
Age							
<20	0	0	0	0	0	18.61	0.000938 S
20–25	0	4	70	15	89		
25–30	0	1	17	9	27		
30–35	0	2	1	1	4		
35–40	0	0	0	0	0		
Total	0	7	88	25	120		
Religion							
Hindu	0	6	84	22	112	6.48	0.165 NS
Muslim	0	0	1	2	3		
Christian	0	0	0	0	0		
Others	0	1	4	0	5		
Total	0	7	89	24	120		
Residence							
Urban	0	6	47	11	64	3.75	0.440 NS
Rural	0	1	36	13	50		
Semi-urban	0	0	5	0	5		
Semi-rural	0	0	1	0	1		
Total	0	7	89	24	120		
Type of family							
Nuclear	0	2	38	12	52	5.82	0.212 NS
Joint	0	4	51	12	67		
Broken	0	1	0	0	1		
Expanded	0	0	0	0	0		
Total	0	7	89	24	120		
Education							
Illiterate	0	0	16	5	21	15.77	0.045 S
Primary	0	2	42	5	49		
Secondary	0	2	24	13	39		
Higher-secondary	0	2	5	0	7		
Graduate	0	1	2	1	4		
Other	0	0	0	0	0		
Total	0	7	89	24	120		
Monthly income							
<10,000	0	4	37	9	50	10.37	0.109 NS
10,001–20,000	0	1	50	14	65		
20,001–30,000	0	1	1	0	2		
>30,000	0	1	2	0	3		
Total	0	7	90	23	120		
Occupation							
Housewife	0	6	81	19	106	7.62	0.266 NS
Private	0	0	5	3	8		
Government	0	1	2	0	3		
Other	0	0	2	1	3		
Total	0	7	90	23	120		
Parity							
Primi	0	5	73	14	92	4.30	0.115 NS
Multipara	0	2	17	9	28		
Total	0	7	90	23	120		
Type of delivery							
Normal	0	3	66	17	86	3.75	0.153 NS
Caesarean	0	4	26	4	34		
Forceps	0	0	0	0	0		
Total	0	7	92	21	120		

(Contd...)



**Table 1:** (Continued)

Demographic variables	Knowledge assessment				Total	$\chi^2$	Pvalue
	Excellent	Good	Adequate	Poor			
No. of postnatal days							
Day 1	0	0	9	3	12	13.56	0.034 S
Day 2	0	3	53	14	70		
Day 3	0	0	16	6	22		
>4 days	0	4	12	0	16		
Total	0	7	90	23	120		

knowledge on KMC. The researchers point out the need for training mothers and caregivers in improving the practices in caring the newborn babies to improve the thermoregulation.<sup>[8]</sup> Ramani *et al.* studied on KMC for the prevention of neonatal hypothermia, Zambia, the objective is to check the effect of initiation KMC in neonates with moderate or severe hypothermia at birth and 1 h after birth and compares with standard thermoregulation care. The result shows that when compared with standard thermoregulation care measures and KMC, KMC babies found less risk in hypothermia, not found hypothermia during discharge to those babies regularly practiced KMC. The current study also shows that the duration of KMC either for at least 80% of the time or at least 9 h during the day of birth was effective in preventing hypothermia in term infants.<sup>[9]</sup>

### Conclusion

Thermoregulation is a vital aspect for the immediate care of newborn. The nurses are the primary caregivers in the labor ward who should be knowledgeable to educate the mothers about the importance of thermoregulation in newborn. They should be able to demonstrate different techniques of thermoregulation.

### References

1. Demissie BW, Abera BB, Chichiabellu TY, Astawesegn FH. Neonatal hypothermia and associated factors among neonates admitted to neonatal intensive care unit of public hospitals in Addis Ababa, Ethiopia. *BMC Pediatr* 2018;18:263.
2. Dutta P. *Paediatrics Nursing*. 2<sup>nd</sup> ed. New Delhi: Jaypee Brothers Publishers; 2007. p. 274-3.
3. Karsten L, David EB, Dean TJ, Davidson HH. The global burden of neonatal hypothermia: Systematic review of a major challenge for newborn survival. *BMC Med* 2013;13:1-11.
4. Park K. *Preventive and Social Medicine*. 2<sup>th</sup> ed. Jabalpur: Bhanot Publishers; 2009. p. 142-78.
5. Knobel-Dail RB. Role of effective thermoregulation in premature neonates. *Dovepress* 2014;4:147-56.
6. Wong's Y. *Nursing Care of Infants and Children*. 8<sup>th</sup> ed. New Delhi: Elsevier Publishers; 2009. p. 783-95.
7. Bera A, Ghosh J, Singh AK, Hazra A, Som T, Munian D. Effect of kangaroo mother care on vital physiological parameters of the low birth weight newborn. *Indian J Community Med* 2014;39:245-9.
8. Mahvish Q, Saqib N, Raina R. Knowledge regarding prevention of hypothermia in newborns among mothers in Northern India. *Int J Res Med Sci* 2019;7:1727-32.
9. Ramani M, Choe EA, Major M, Newton R, Mwenechanya M, Travers CP, *et al.* Kangaroo mother care for the prevention of neonatal hypothermia: A randomised controlled trial in term neonates. *Arch Dis Child* 2018;103:492-7.