

# Beliefs and Practices on Infant Care among Mothers; A Systematic Review

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**Abstract:** *An infant's development is a dynamic and interactive process. Every infant is unique in interacting with world around them, and the way they think and behave. Health beliefs will have health practices as their outcome which are originated from culture of an individual. Cultural practices of family directly effect on a child's development. Aim: The aim of the study was to review the evidence based on literature regarding different views on infant care. Method: In brief literature review, studies conducted in recent 10 years were examined using keywords 'infant', 'infant care', 'primimothers', 'culture', 'practices', 'parenthood preparation' on Google Scholar and PubMed. Findings: In these studies, examined within the scope of research, it was established that infant care practices such as thermoregulation, breast feeding and nutrition, infection prevention, rooming in/ co bedding, stimulus and tender loving care influences an infant's growth. It was determined that families reflect the cultural values on health practices and seek solution of infant care issues in these values. It was determined that cultural values of child, family and their geographical region differ from the perception and belief of infant health care practices. Since cultural structure of infant and family is directly related with health and wellbeing level, nursing care practices are detailed and care programs can be planned in a holistic and transcultural model. Conclusion: Different aspects in an infant care influence the infant health and care practices. Nurses should be careful with the dimensions of infant care aspects and family's cultural practices and beliefs on postnatal care.*

**Keywords:** Infant care, Primimothers, Culture, Practices, Parenthood preparation

## 1. Introduction

Maternal and child health focus neonatal and infant care as a primary aspect. Care rendered to an infant is purely based on a mother's knowledge, attitude and practice on this aspect. As pregnancy, delivery and neonatal period are considered as a vulnerable time for both mother and child. The unique cultural influences children respond to from birth, including customs and beliefs around food, artistic expression, language, and religion, affect the way they develop emotionally, socially, physically, and linguistically.

Twenty - six quantitative studies, three qualitative studies, three systematic reviews were included for systematic review. The care of a newborn categorized into following subheadings.

- a) Infant care aspects
- b) Cultural practices
- c) Importance of parenthood programs

Searching process:

An online search of literature was conducted in Google Scholar and PUBMED. Literatures were searched on infant care, breast feeding, infection prevention, cultural beliefs and cultural practices on newborn and infant care aspects. Majority of literature located were about breast feeding, so knowledge, attitude and practices of breast feeding were studied in - depth. Cultural practices also studied.

Few studies discussed on a whole regarding infant's sleep, thermoregulation, infection prevention, consoling the baby. Cultural beliefs and practices on these aspects were also overviewed. This will help nurses to shed light upon mother's attitude and beliefs on infant care aspects.

### Importance of maternal and newborn care:

According to WHO, guidelines for essential newborn care include clean delivery, keeping newborn warm, early

initiation of breastfeeding, exclusive breastfeeding, care of eyes, care during illness, immunization and care of low - birth weight newborn.

### Thermoregulation

A descriptive cross - sectional study was carried out at eastern Nepal to assess newborn care practices at home among mothers of neonates admitted with sepsis. The objective was to identify newborn practices related to breast feeding, cord care, hygiene of newborn and thermal care practices at home. Consecutive sampling technique was used. Semi structured, pretested questionnaire was used. 40 mothers were interviewed. Results shown that 40% of mothers - initiated breastfeeding within one hour of delivery, 65% given colostrum, 25% were given prelacteal feeds, 45% were given formula feeding and animal milk. 72.5% used mustard oil to care umbilical cord. Before touching baby 72.5% mothers practiced hand washing. 52.5% applied kajal in eyes and 95% were used mustard oil for massaging. Burning charcoal (75%) were used to maintain thermal care. The study shown association between newborn care and mother's education, per capita income of family and family type ( $p=0.012$ ,  $p=0.012$ ,  $p=0.039$ ) respectively. Study concluded that over all breast feeding and thermal care were prior which shows the need for the promotion of health education program to mothers by health facility.<sup>1</sup>

A descriptive study design with qualitative method was used to identify the traditional practices practiced Jordanian mothers while caring their infants. A purposive sample of 30 mothers meeting inclusion criteria were included in the study. Semi structured interview for 15 - 30 minutes was conducted. Mothers followed traditional practices pertinent to bathing of baby including salting for at least 1 week to 40 days. This will help the muscles to strengthen and prevent skin from skin rashes or infections. Applying of antibiotic ointment over the stump even without prescription and knowing that it is an antibiotic. Some applied alcohol, kohla

for drying the umbilical cord. They did swaddle to straighten the limbs of the baby and to make the baby quiet. This traditional information was passed to mothers from grandfathers and grandmothers.<sup>2</sup>

### Breast feeding and nutrition

In a systematic review search done from PubMed and MEDLINE on racial and ethnic disparities in breast feeding reveals that racial and ethnic minority groups continue to have lower breast – feeding rates than white women and are not close to meeting Healthy People 2020 goals. African American women have lowest rate of breast - feeding initiation (60%) and continuation at 6 months (28%) and 12 months (13%) compared to all other racial/ ethnic groups in United States. African American women (32%) are more likely to give formula feeds by 2 weeks of life. Hispanic women have greatest rate of breast - feeding initiation and continuation among all women in United States. American Indian/ Alaska native mothers have second lowest rate of breast - feeding initiation, duration and exclusivity relative to other racial and ethnic groups except for African Americans. Asian women have overall high breastfeeding initiation rates and are currently meeting the Health People 2020 goals. Throughout the literature search the common barriers of breast feeding for mothers were preference to bottle feed, pain, discomfort, lack of social and cultural acceptance, employment, inconvenience, lack of time lack of parental knowledge, lack of maternal access to information that support breast feeding, sexual perception, language and literacy barriers, acculturation, lifestyle choices, lack of support from family, peer, work and health care community, difficulty with the baby latching onto the breast, inadequate milk production<sup>3</sup>.

A longitudinal study conducted in South India to find out infant rearing practices. One hundred and twenty - four infants on a birth cohort were included in the study. Information on rearing practices and anthropometric measurements were recorded every month for a period of 1 year. Results shown that 34.5% newborns were breastfed within half an hour delivery.33.5% newborns were given prelacteal feeds. Demand feeding was practiced by 87% mothers. Bottle feeding was seen in 3.6% cases. Association was seen among prelacteal feeds and home deliveries ( $p=0.0018$ ). weight gain during infancy was found to be maximum when infants were expressed breastfeeding for 6 months ( $p=0.002$ ). gain in all anthropometric measurements was more in the initial 6 months of infancy compared to later. Four infants were malnourished. Oil massage before bath was practiced by 97.4% mothers. Overall, 50% mothers practiced oil application to eyes or ears of infants. Delayed initiation of bath (beyond 1 week) was seen in 7.7%.<sup>6</sup>

A cross sectional study carried out in Bangladesh to assess the knowledge and attitude of essential newborn care among postnatal mothers. A convenient sampling technique was used. Total 211 postnatal mothers were interviewed using a structured questionnaire. Results shown that 37.9% were aged between 16 - 20years.16.1% had no institutional delivery.55% were primimothers. Only 26.5% had attended antenatal visits for more than 4 antenatal visits. Mothers had apparently good knowledge and attitude about thermoregulation, early initiation of breast feeding,

importance of colostrum to newborn, exclusive breast feeding up to 6 months of age and immunization at birth. However, this study identified knowledge gap about cord care, eye care, first bathing and hygiene practices.37% of mothers had good level and 47.4% had attitude on newborn care<sup>7</sup>.

A cross sectional study was conducted among mothers attending well baby clinics in Primary health centres, Unaizah city of Saudi Arabia. The study aimed to assess practices regarding infant feeding infant sleep, use of pacifiers and immunization as to explore the association of the practices with mothers' demographic data. Two stage cluster sampling method was used.50 women participated from each of 4 selected PHCCs leading to a total of 200 participants. Results shown that a total of 124 (62%) respondents were between the ages of 26 and 35 years, 64% had a bachelor's degree and 69.5% were housewives, 88% of mothers practiced breastfeeding; 48% begin infant weaning at 6 months of age and 49% put their infant to sleep on their back. Upto date vaccination was reported for 188 (94%) infants. Infant pacifier use was reported by 58% of respondents, and 82.5% of mothers had been offered formula milk for the newborn at the hospital. Vaginal delivery, absence of complication during pregnancy or labour, presence of a house maid and family income of more than 10000 Saudi Riyals were significantly associated with better infant care practices. It was concluded that study have good practices for certain infant care aspects such as immunization; but improvement is needed for other practices like weaning at proper age, infant sleep position and the use of pacifiers and a need of health education to enhance their knowledge.<sup>8</sup>

### Infection prevention (eye care, cord care and skin care)

An observational study to assess hand hygiene during neonatal period among health care facilities and households conducted in rural Cambodia. Predominant risk factors for facility born newborns are poor hygiene practices that span both facility and home environments. Direct observations of hygiene practices of all individuals providing care to 46 newborns across eight facilities and the associated communities were completed and hand hygiene compliances were assessed. Semi structured interactive interviews were subsequently conducted with 35 midwives and household members. Hand hygiene opportunities during newborn care were frequent in birth settings ( $n=1319$ ) and predominantly performed by mothers, fathers and non - parental caregivers. Compliance with hand hygiene protocol across all caregivers, including midwives was inadequate (0%). practices were influenced by the lack of accessible physical structure, time, increased workload, low infection risk perception, nurture related motives, norms and inadequate knowledge<sup>10</sup>.

A cross sectional study conducted at a tertiary care center in Bangalore to assess knowledge, attitude and practice of mothers in infantile skin care. In a period of 6 months, postnatal mothers with infants attending well baby clinic through a semi structure performa.400 mothers interviewed. Mean age was 25.44 years, 37.6% belonging to urban and 62.35% to rural area.96.7% were educated. Only 36.33% practiced correct hand washing practice before

handling. 52.4% reported I bath to babies on day 3 of life, 64.4% reported 5- 10 minutes bathing and 78.6% reported daily bathing. 78.30% unaware that perfumed soaps cause skin irritation. 84.60% practiced daily oil massage and 86.40% used coconut oil. Reason stated were better development (59.30%), soft skin (24.70%) 76.2% used talcum powder to absorb moisture. 88% believed Kajal use is safe and must use of ward off evil eyes. 57% used diapers while going outside, 65% changed < 3 per days, 62% used cloth to wipe the area, 45% used talcum powder while changing diaper. This study helped to identify knowledge gaps, cultural beliefs and behavioral patterns of mothers in infantile skin care.<sup>13</sup>

A mixed method observational study to assess hand hygiene during neonatal period among health care facilities and households in rural Cambodia. Predominant risk factors for facility born newborns are poor hygiene practices that span both facility and home environments. Direct observations of hygiene practices of all individuals providing care to 46 newborns across eight facilities and the associated communities were completed and hand hygiene compliances were assessed. Semistructured interactive interviews were subsequently conducted with 35 midwives and household members. Hand hygiene opportunities during newborn care were frequent in birth settings (n=1319) and predominantly performed by mothers, fathers and non - parental caregivers. Compliance with hand hygiene protocol across all caregivers, including midwives was inadequate (0%). Practices were influenced by the lack of accessible physical structure, time, increased workload, low infection risk perception, nurture related motives, norms and inadequate knowledge.<sup>14</sup>

### Rooming in / Co bedding

A survey to understand mothers' perspective on rooming in and most frequently identified barriers and possible facilitators of adherence to practice according to experience were carried out. Three hundred and twenty - eight mothers and three hundred and thirty - three neonates were enrolled population. The majority of mothers knew of rooming in and 48.2% practiced it continuously. The 86.3% were aware of beneficial effect of rooming in; promotion of mother infant bonding, increased confidence in taking care of baby and ability to recognize baby's feeding cues were more frequently cited. The main reported obstacles were fatigue (40.5%) and Caesarian related difficulties (15.5%); night was the most critical time in rooming in. The mother who adhered to rooming in practice continuously during hospital stay had a higher exclusive breast - feeding rates at discharge compared mothers to others who did not.<sup>15</sup>

A cross sectional survey was conducted in Queensland, Australia on infant care practices and parent uptake of sleep messages. Three thousand and forty - one Queensland primary caregivers with infants approximately 3 months of age were included in the study. Prevalence of infant care practices and awareness of safe sleep recommendations explored using questionnaire. Results shown that only 13% of families routinely practiced all six safe sleeping program messages. 34% of infants slept in a non - supine sleep position at some time. 38% of infants sleeping with soft items or bulky bedding, or in soft surfaces. Nearly, half for

either day or night time sleeps, were routinely placed in an unsafe sleep environment such as bouncers, pram, bean bag. Sleeping in the same room as their care givers for night time sleeps was usual practice for 75% of babies. 50% of babies shared a sleep surface in the last 2 weeks. At 8 weeks, 17% of infants were no longer received any breast milk. Study concluded that to plan for future public health campaigns and government policies can be required to promote safe sleep practices.<sup>16</sup>

### Stimulus and tender loving care

A study to assess prevalence and perception of infant massage in India. One thousand four hundred and ninety - seven care takers of children under 18 months of age were interviewed from Madhya Pradesh and Maharashtra. Massage was a prevalent practice 93.8% in both study states. Prevalence did not vary between male (94.5%) and female (93.5%) infants (p=0.44). 82% initiated massage in the first week of life. It is widely viewed as traditional practice. 77% massage daily before baby bath, 57% after feeding. In Maharashtra, sesame oil was preferred (36%), coconut oil (18%) while olive oil (29%) and mustard oil (20%) was common in Madhya Pradesh. 30% gave gentle massage pressing (30%) and 60% manually stretching joints. 95% reported massage is helpful to increase bone strength, better sleep and growth, while no harm was perceived.<sup>17</sup>

A qualitative study to gain an understanding of experiences of first - time mothers in the early weeks of motherhood in order to explore the support needs on their journey towards intuitive parenting. Setting of the study was an area in South of England with maternity services. A grounded theory approach was used and data collected through individual in depth interviews. Eight primiparous mothers aged 20 - 39 years, who had given birth normally at term to a healthy baby. Five categories were identified 'expect to novice', 'losing touch', 'perceiving expertise', 'restoring balance', and 'falling into place' revealed journey women travelled to face unknown world of motherhood. Eventually practice, support and knowledge shared with peer facilitated proficiency and intuitive mothering. Throughout this transition, the mothers developed confidence and skill to give optimal care to their baby. 'Doing it right' emerged as core category.<sup>18</sup>

### Cultural practices:

A mixed method study was carried out to identify traditional newborn care practices in tribal community of Tamil Nadu, India. Qualitative data were collected by a community based cross sectional study among 59 mothers of infants. Qualitative component included 2 focus group discussions. 38.9% of newborns received colostrum and 61.1% had prelacteal feeds. Majority of newborns (84.7%) had received appropriate thermal care. More than two thirds (71.2%) of newborn were given bath before umbilical cord dropped off. During bathing, 83.1% were massaged and 67.8% had their vernix removed. Practice of blowing into nostrils (45.7%), substance application on cord (94.9%), tepid sponge during fever (28.8%), sweet flag application over umbilicus for colic (8.5%), herbal medication during diarrhea (40.6%) and cold (25.4%), exposure to sunlight (67.8%) during jaundice, oil instillation in nostrils (76.3%)



and ears (32, 2%) to protect against infections were reported.<sup>19</sup>

A study to assess the effect of a hospital - based intervention on a newborn care practice at home conducted at Sri Lanka. A 4 - day training program was given to increase knowledge and skill of ENC among health care providers in maternity units of two hospitals. 144 mother – newborn pairs were followed up and interviewed at their house hold within 28 - 35 days of delivery. Results revealed that there was a significant improvement in umbilical cord care practices at home following the intervention. Application of ‘surgical spirit’ on umbilical cord has declined from 71.5% in the preintervention to 45.3% in post intervention ( $p \leq 0.001$ ). Pre intervention breast feeding rates were high. There was 35% reduction in proportion of newborns who developed any undesirable health events at home ( $p \leq 0.05$ ). The ENC program created significant improvement in mothers’ practices on care of umbilical cord and clinical outcomes of newborns.<sup>20</sup>

A qualitative exploratory study was conducted among Shenzhen mothers China, to explore the postpartum experiences, need for home visit service and the problems that they encountered during the first 6 weeks after giving birth. An in - depth, semi structured, face to face interview was conducted. The data was analysed using content analysis. Twenty - two mothers were interviewed. Six themes were identified: ‘the self - care needs of women’, ‘proficiency in infant care’, ‘involvement of family in postpartum infant care’, ‘family conflicts over postpartum and infant care’, preparing for transition to parenthood / grand parenthood and the need for comprehensive postpartum home visit services. The study concluded that the concerns expressed by women during the postpartum period was related to their needs to recover physically and to their desire to be perceived as proficient in infant care. Support from husbands and grandmothers could facilitate a women’s transition to motherhood. There were disagreements arising from intergenerational beliefs about postpartum and child care. Health professionals should consider family while providing postpartum care services.<sup>22</sup>

A study was conducted at South Australia to assess the effectiveness of a 4 - month online group - based nurse led intervention delivered when infants were aged 4 to 6 months as compared with standard outcomes. A block randomized control trial was used. Those who agreed to participate were randomly assigned to the intervention or standard care. Overall, 63.3% responded to the study. Primary outcomes were the level of depressive symptoms with Edinburg Postnatal Depression Scale and quality of maternal care giving assessed using Parenting Stress Index, Parenting Sense of Competency Scale and Nursing Child Assessment Training Satellite Scale. There were no significant differences in the intervention and standard care groups in scores on the PSI competence subscale ( $P = .69$ ) nor in the PSCS ( $P = .11$ ). Mothers engaged well with the intervention with at least 60% (43/72) of mothers logging - in once per week during the first 11 weeks of the intervention. Results shown that there were significant differences in the intervention and standard care group in parenting stress index. Mothers reported that the intervention was helpful,

and the app was described as easy to use. As such, it appears that support for mothers during the postnatal period, provided using mobile phone technology, has the potential to be an important addition to existing services.<sup>23</sup>

According to WHO, 45% of under five deaths occur during the I month of life. Several factors contribute to neonatal mortality in India and reason behind in harmful practices such as applying different unsterile material on the umbilical cord and instilling liquids and oil in the ears and nose. The objective of this focused ethnography study was to bring forth a description of cultural aspects of newborn care in South India. Three focus group discussion were conducted in the postnatal units of a tertiary hospital in South India using semi structured interview guide. Themes such as rituals beliefs, resistance and adaptation and solutions evolved from the study. This study created an insight for nurses on how to deliver educational messages considering the cultural values and beliefs of mothers.<sup>24</sup>

A descriptive study was conducted to determine mother’s baby care traditional practices reason in a town of Western Turkey. 176 mothers with 0 - 2 years old babies were included in the study and data collected using questionnaire. Results shown that 16.5% of mothers wanted three or five religious rituals to breast feed their babies. 61.4% salted their babies. 84.7% of them made their sleep by shaking; 9.7% of them used a holluk. 36.9% of them did not cut their baby’s nail until their forties. 55% of them swaddled their babies and applied to many traditional practices to protect them from flushing.<sup>25</sup>

A cross sectional study was conducted on parturient mothers to assess their knowledge about post discharge newborn care in Iran. 200 mothers were included in the study. A questionnaire was used, which consists of 27 multiple choice questions regarding mothers’ knowledge of basic neonatal care, breast feeding and proper nutrition, neonatal jaundice monitoring and care and umbilical cord care. Results shown that mean knowledge score of mothers was  $16.96 \pm 3.47$  (range 4 - 23) a direct correlation was found between mothers age and knowledge score ( $r = 0.19$ ,  $p = 0.02$ ). the mean overall score of employed mothers was higher than house wives ( $18.39 \pm 3.27$  vs  $16.77 \pm 3.46$ ,  $p = 0.036$ ). In covariance analysis, the mother’s education level ( $p \leq 0.001$ ), age ( $p = 0.027$ ) and the place of residence ( $p \leq 0.049$ ) could predict their knowledge of neonatal care. But parity, route of deliver, and the spouse job had no significant effect on mothers’ overall knowledge.<sup>26</sup>

#### Importance of parenthood preparation programs

A pre - experimental study conducted in Odissa to assess effectiveness of comprehensive newborn care package program on knowledge and practice among primipostnatal mothers. A non - probability purposive sampling technique was used and 41 mothers were selected as study participants. Study revealed that the primimothers 19 (46.3%) were from the age group of 27 - 30 years. In pretest majority of mothers 28 (68.29%) had inadequate knowledge, whereas in posttest 18 (43.90%) mothers had adequate knowledge. Practice aspects like mummification, breastfeeding and hand washing had 33 (80.48%), 35 (85.36%) and 39 (95.12%) respectively. In the correlation co efficient, the calculated r value (0.52)

showed a positive correlation between knowledge and practice at  $p < 0.001$  level. This shows that neonatal care package program helps in improving the knowledge and practice of primimothers.<sup>28</sup>

A qualitative study was conducted to assess importance of child birth and parenting preparation in antenatal classes. Two Swedish antenatal units were selected, 34 participants and 3 midwives were included in the study. Three - pronged content analysis approach used (conventional, summative, directive analysis). Study findings revealed that class contents focused on child birth preparation (67%) and parenting preparation (33%). Child birth preparation enabled knowledge regarding child birth process, pain relief management and partner's role, unexpected events during delivery whereas in parenting preparation helped parents to plan for first moment with newborn, care for handling an infant, managing breast feeding, home care after delivery and postnatal care and maintaining their relationship. Male and female participants actively listened to the midwives and were satisfied with the information and expect more classes regarding post - child birth situations.<sup>29</sup>

A prospective study was conducted to identify the influence of educational and social factors in decision to attend prenatal lectures among pregnant women in Romania. 205 pregnant women answered online questionnaire over a period of 2 months. Age of mothers were between 25 - 35 years (40.98%). Among them 74.5% had higher education, 85.37% of them were from urban areas, 82.44 % were primimothers, 63.41% intended to have natural birth. 68.05% showed a growing interest for natural birth and 68.05% also for participating in pre and postnatal education courses. Majority of participants were aware of the importance to get accurate information about prenatal period, birth, and the postnatal period as well as care of the newborn from specialized courses.<sup>30</sup>

## 2. Conclusion

Reviews have shown that beliefs and practices are inter linked. The cultures have great influence on postnatal care and infant care. Nurses must respect the culture of mother and her family. They should gain sound knowledge on trans cultural aspects which will help them to attain an easy acceptance from the society. More research is needed in the field of infant care especially regarding co bedding, importance of stimulus, tender loving care, sudden infant death syndrome and sleep hygiene practices for an infant.

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