NUTRISEARCH

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Message from the Editor-in-Chief

Dear Friends,

Greetings from the Editorial Team NUTRISEARCH!

It gives us immense pleasure in bringing the third issue of "NUTRISEARCH" official e-Journal of Pediatric and Adolescent Nutrition Society. We hope you will find this issue useful.

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. Breast milk is the natural first food for babies, it provides all the energy and nutrients that infant needs for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life. Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhea or pneumonia, and helps for a quicker recovery during illness. However, in spite of all these well established evidences, only 41.6% of mothers initiated breastfeeding within one hour of birth and only 54.9% of mothers could sustain exclusive breastfeeding for first six months (NFHS-4).

While breastfeeding is a natural act, it is also a learned behaviour. Mothers and other caregivers require active support for establishing and sustaining appropriate breastfeeding practices. Mothers are especially frustrated by inconsistent advice about breastfeeding techniques. Maternal breastfeeding problems may be identified in any of the clinical settings in which pediatricians practice- outpatient office practice, admitted patients, maternity centers and infants admitted in SNCU and Nurseries. To address some of these issues, we have a dedicated article on "Role of Pediatricians in Helping Mothers to Sustain Exclusive Breastfeeding Practices" by Dr Rupal Dalal who has dedicated work in this area.

We are also happy to share with you that we had a very well attended national conference on micronutrients "MICRONUTRICON 2019" organized on 8th Sept 2019 at IHC, New Delhi which was inaugurated by Dr Vinod Paul , Member, Niti Aayog (See brief report on page 11) .

PAN Society is organizing its 3rd Annual Conference on 23rd & 24th November 2019 at Gwalior, MP. Organizers have meticulously planned topics which is important for day to day practice of both doctors and nutritionists. We cordially invite our members and their colleagues to register for PEDNUTRICON 2019. (Details & Registration form attached on Page 12-14)

Praveen Kumar

Secretary, Pediatric & Adolescent Nutrition Society

& Director Professor of Pediatrics,

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Review Article

Role of Pediatrician in Helping Mothers to Sustain Exclusive Breast Feeding for Six Months

Rupal Dalal

Introduction

A pediatrician is an advocate of a child's health. There is no other branch of medicine, which can come as close to pediatrics when it comes to giving a lifelong health and prosperity to an individual by ensuring healthy start to a life. All parents share a common goal for their children- to grow up to be happy and healthy adults who achieve their full potential. To that end, parents want to give their children the very best start. At no other time in life is there a greater opportunity to influence so many aspects of a child's development than during the "first 1,000 days" from pregnancy through 2 years of age. Good nutrition during this period provides the essential building blocks for brain development, healthy growth and a strong, immune system. In addition, a growing body of scientific research indicates that the foundations for lifelong health – including predispositions to obesity and certain chronic diseases – are largely set during this 1,000 day period.[1] A pediatrician plays a major role in promoting and protecting their little clients to give a perfect head start.

Why exclusive breastfeeding during first six months is important?

Breastfeeding is child's first inoculation against death, disease, and poverty but also their most enduring investment in physical, cognitive, and social capacity. As outlined in the Lancet series 2016, 823 000 child deaths and 20 000 maternal deaths each year could be prevented by scaling up breastfeeding.[2] In addition to decreasing maternal and child mortality, breastfeeding can prevent host of diseases thereby reducing the burden on already overworked health facilities. Because of the unsurpassed benefits of breastfeeding, the world's leading health organizations including the World Health Organization (WHO) and the Indian Academy of Pediatrics recommend that babies are only fed breastmilk for their first 6 months, and continue feeding breast milk till at least 2 years of age with nutrient dense complementary foods after 6 months but many mothers lack the support they need to meet this recommendation.

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In India, 1.2 million children aged 0–59 months die yearly. An estimated 58% of these deaths occur during the neonatal period (the first 28 days of life).[2] An analysis on a large cohort of almost 100 000 newborns from three large trials in Ghana, India and Tanzania has shown that, compared with infants who initiated breast feeding within the first hour of life, the risk of neonatal death among children who initiated breast feeding between 2 and 23 hours after birth was 41% higher and 79% higher among those who initiated breast feeding at 24–96 hours of birth.[3]

Status of Breastfeeding indicators:

According to NFHS 4 data, initiation of breastfeeding within one hour of birth is only 41.6% although institutional delivery was 78.9% and health personnel assisted 81.4% deliveries at birth. Only 54.9% mothers exclusively breastfed for first 6 months in India. With abysmal minimal adequate diet of only 8.7% in 6-23 months of age group, stunting rate is 38.4% and wasting rate is 21%.[4]

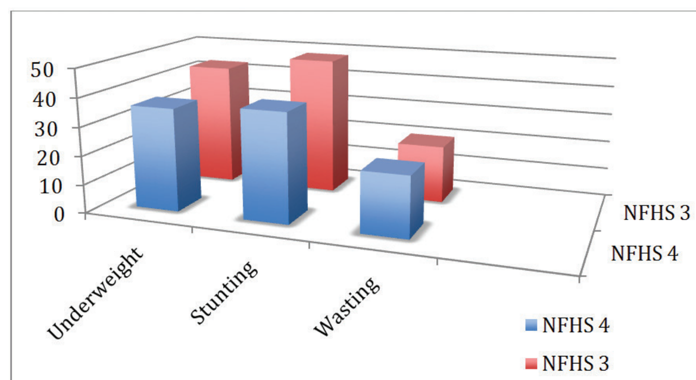


Figure-1: Comparison of Malnutrition Status between NFHS 3 and NFHS 4

Caesarean section delivery is one of important contributor to delayed initiation. India's National Family Health Survey 2015 shows that, in states such as Andhra Pradesh and Telangana, where 92% of deliveries are attended by skilled health providers, high prevalence of births by caesarean section (40% in Andhra Pradesh and 58% in Telangana) are associated with low rates of early initiation of breast feeding (37% in Telangana and 40% in Andhra Pradesh).[5]

Furthermore, prospective cohort studies in India have shown that infants born by caesarean section were almost four times less likely to initiate breast feeding within 1 hour of birth than infants born by vaginal delivery.[6] However, global evidence suggests that, in the presence of adequate support, a caesarean section is not necessarily a barrier to timely initiation of breastfeeding.

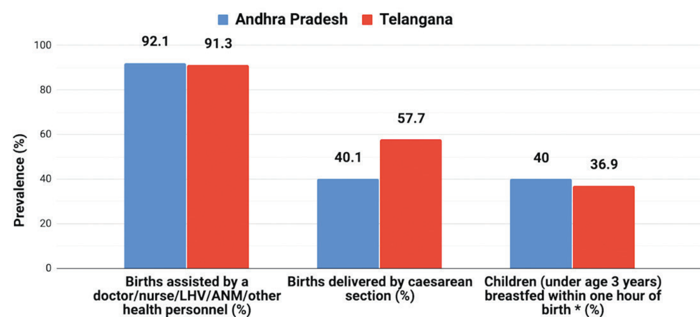
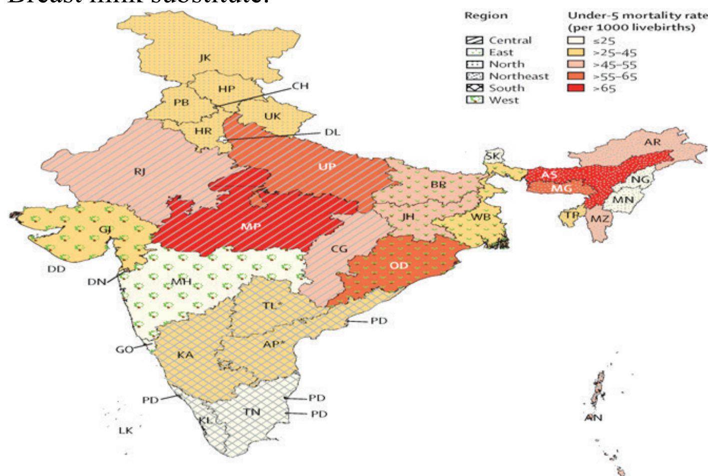


Figure-2: Mode of delivery & Initiation of BF in Andhra Pradesh & Telangna

Role of Pediatricians in improving early initiation & sustaining breastfeeding:

It is important that each pediatrician is updated with not only the latest science of breast milk but also, an art of breastfeeding skills, which would ensure successful journey of a mother in initiating and sustaining breastfeeding for as long as she wants. Besides, helping mothers with skills, Pediatrician will have to create an environment essential to successful breastfeeding for the women. It would start from talking to their gynecologists' colleagues on helping ANC mothers in making their desired choices to feed their babies, ensuring safe deliveries, avoiding unnecessary caesarean deliveries and equipping mothers with the right knowledge and skills, ensuring 10 steps of Baby Friendly Hospital Initiative at the time of the delivery till the discharge and protecting mothers and babies from strong market force of Breast milk substitute.[7]



Milk production and adequacy at 6 weeks after birth, for mothers of both healthy breastfeeding term infants and non-nursing preterm infants; have been shown to have a significant relationship with milk production 4–6 days after birth. Hill *et al*. therefore suggest that interventions that promote an adequate milk supply by the first week postpartum are critical.[8] Early initiation of lactation, particularly breastfeeding or expressing within an hour of birth, has been shown to lead to a higher rate of breastfeeding beyond 6 weeks for term infants.[9] Skin-to-skin contact between mother and infant for the first hour after birth results in earlier effective breastfeeding[10] and an increased likelihood of breastfeeding 1–4 months after birth than when the infant was swaddled in blankets.[11]There is also a positive effect of the number of breastfeeds in the first 24 h on milk production on days 3 and 5 after birth.[12]

It is important for a pediatrician to understand the newborn physiology in order to guide the mother for the initiation and in sustaining breastfeeding while mother is in the hospital. Small quantities of colostrum are appropriate for the size of a newborn's stomach,[13, 14] prevent hypoglycemia in a healthy, term, appropriate for gestational age infant,[15] and are easy for an infant to manage as he/she learns to coordinate sucking, swallowing, and breathing. Healthy term infants also have sufficient body water to meet their metabolic needs, even in hot climates.[16,17] Fluid necessary to replace insensible fluid loss is adequately provided by breast milk alone.[18] Newborns lose weight because of physiologic diuresis of extracellular fluid following transition from intra- uterine to extra uterine life and the passage of meconium. In a prospective cohort of mothers in a U.S. Baby-Friendly designated hospital with optimal support of infant feeding, the mean weight loss of exclusively breastfed infants was 5.5%; notably, greater than 20% of healthy breastfed infants lost more than 7% of their birth weight.[19]Breastfed infants regain birth weight at an average of 8.3 days (95% confidence interval: 7.7–8.9 days).[20] Infants should be followed closely to identify those who lie outside the predicted pattern, but the majority of those breastfed infants will not require supplementation. It should also be noted that excess newborn weight loss is correlated with positive maternal intrapartum fluid balance (received through intravenous fluids) and may not be directly indicative of breastfeeding success or failure.[21, 22]

Numerous health services, personal, socio-economic and cultural factors influence the decision to supplement human milk.[23] These factors which a pediatrician should know and tackle it in culturally sensitive manner, include:

1. Pre-lacteal feeds may be given in the belief that colostrum is harmful, or to clean the infant's gut
2. Early additional fluids are more likely following caesarean, if the hospital practices separate mother and infant at birth or if the hospital does not follow practices in accordance with the WHO/UNICEF BFHI

3. Additional fluids or foods may be given in the belief that they will reduce maternal fatigue, by health care workers and family members
4. Lack of health care worker time to assist breastfeeding
5. Additional fluids or foods as the solution to the perception that baby is unsettled due to low milk supply or to make baby sleep longer
6. Maternal unrealistic expectations of newborn behavior, difficulty in caring for a newborn or other maternal concerns and fluids other than mother's milk is seen as the solution to difficulties
7. Additional fluids are given in a belief that they will prevent dehydration, hypoglycemia and neonatal jaundice
8. Early introduction of allergenic foods in the belief this may reduce the incidence of later food allergy
9. Early maternal return to employment and lack of facilities in the workplace to breastfeed and mothers perceive disapproval from society of breastfeeding outside her home
10. Marketing of formula that suggests mother's milk is insufficient
11. Translation of research into practice, even with the provision of information and development of professional guideline is sometimes met with barriers and delays

One of the most important roles of pediatrician during initial days of newborn care is to learn the indications of supplementation and avoid inadvertent use of breastmilk substitute. Possible indication for supplementation is described below:

Academy of Breast Medicine Protocol on possible indication for supplementation in Healthy, Term Infants (37-41 6/7 weeks gestational age)[24-26]

1. Infant Indications

- Asymptomatic hypoglycemia documented by blood glucose measurement that is unresponsive to appropriate frequent breastfeeding. Symptomatic infants or infants with glucose <25 mg/dL in the first 4 hours or <35 mg/dL after 4 hours should be treated with intravenous glucose. Breastfeeding should continue during intravenous glucose therapy
- Signs or symptoms that may indicate inadequate milk intake:
  - o Clinical or laboratory evidence of significant dehydration (e.g., high sodium, poor feeding, lethargy, etc.) that is not improved after skilled assessment and proper management of breastfeeding
  - o Assess and assist breastfeeding if weight loss of 8-10% (day 5), weight loss in excess of this may be an indication of inadequate milk transfer or low milk production, but a thorough evaluation is required before automatically ordering supplementation
  - o Delayed bowel movements, fewer than four stools on day 4 of life, or continued meconium stools on day 5
- Hyperbilirubinemia
  - o Suboptimal intake - jaundice of the newborn associated with poor breastmilk intake despite appropriate intervention. Breastmilk jaundice is extremely rare when levels reach 20-25 mg/dl in an otherwise thriving infants. First line of management should include laboratory evaluation, instead of interruption of breastfeeding
- Macronutrient supplementation is indicated, such as for the rare infant with inborn error of metabolism

2. Maternal Indications:

- Delayed secretory activation (day 3-5 or later and inadequate intake by the infant)
- Primary glandular insufficiency (less than 5% of women-primary lactation failure), as evidenced by abnormal breast shape, poor breast growth during pregnancy, or minimal indications of secretory activation
- Breast pathology or prior breast surgery resulting in poor milk production
- Temporary cessation of breastfeeding due to certain medications (eg. Chemotherapy) or temporary separation of mother and baby without expressed breast milk available
- Intolerable pain during feedings unrelieved by interventions

Protection of Breastfeeding from BMS Market Force & IMS Act:

The link of inappropriate feeding practices and malnutrition has been long recognized and is a matter of serious concern. Chantry Caroline J *et al* showed that among women intending to exclusively breastfeed, in-hospital formula supplementation was associated with a nearly 2-fold greater risk of not fully breastfeeding days 30-60 and a nearly 3-fold risk of breastfeeding cessation by day 60, even after adjusting for strength of breastfeeding intentions.[25]

The International Code of Marketing of Breast milk Substitutes and its subsequent resolutions (the Code) are intended to protect the public and health-care providers from inappropriate marketing strategies used by BMS companies.[26] In some countries, including Bangladesh, Brazil, and UK, BMS companies were reported to seek to influence health professionals through inappropriate sponsorship of health conferences,[27] promotion of their products (example, by offering incentives to health professionals who sell or promote their products),[28] and forming links with national health professional associations. On moral and ethical ground, as an advocate of child's health, pediatrician's role is to fight the market force, which entices mothers and allied medical staff to sell their products (breastmilk substitutes) undermining mother's confidence to breastfeed her baby, by understanding and enforcing the IMS Act. In order to control the marketing practices of baby food manufacturers, the Government of India enacted a law in 1992 that was further strengthened in June 2003. This is known as the Infant Milk Substitutes, Feeding Bottles, and Infant Foods (Regulation

of Production, Supply and Distribution) Amendment Act, 2003.

The law controls marketing and promotion of following products
• Infant Milk Substitutes which means any food for consumption of children up to the age of six months which totally or partially replaces mother's milk
• Feeding Bottles
• Infant Foods which means any food for consumption of children after the age of six months and up to the age of two years
Following are the major provisions of this law to ban improper practices of baby food manufactures for products mentioned above
• The promotion including advertisements of all type of foods for consumption of children under the age of two years is prohibited
• Distributing free samples is prohibited
• Creating impression that these products and any information or educational material related to them is prohibited
• Contacting any pregnant women and offering benefits of any kind are prohibited
• Pictures of mother and/or baby on the labels, or other graphic material on the label are prohibited
• The Labels should bear statements and warnings and other information in Hindi and other local languages as mandatory under the Act
• Use of Educational Material and Advertisements for promotion is prohibited
• Use of Healthcare system like hospital, clinic, private practitioners, association of health workers, pharmacy or chemist shop for display of posters, distribution of materials and any other promotion is prohibited
• Giving benefits, gifts or contributions to health workers or their associations including funding of seminars, meeting, conferences educational course, contest fellowship, research work or sponsorship by companies manufacturing breastmilk substitutes is prohibited

Lack of Knowledge on the technique of breastfeeding

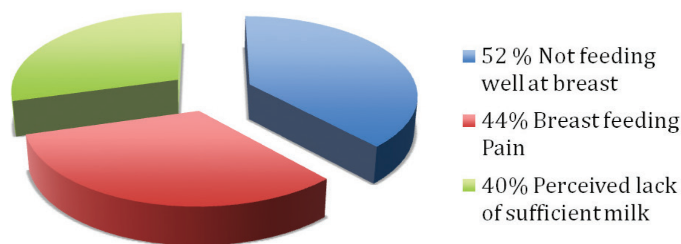


Figure-3: Mothers complaints regarding breastfeeding [29]

Ninety-two percent of the new moms reported at least one breastfeeding concern.

Mothers have very poor knowledge on breastfeeding attachment and positioning techniques. Only 7.5% of the mothers were practicing correct breastfeeding technique as per a study conducted in urban slums of East Delhi.[30] Even though breastfeeding is often described as "natural," it is also an art that has to be learned by both the mother and the newborn. Skills in how to hold and position a baby at the breast, how to achieve an effective latch, and other breastfeeding techniques may need to be taught. Not surprisingly, some women expect breastfeeding to be easy, but then find themselves faced with challenges. The incongruity between expectations about breastfeeding and the reality of the mother's early experiences with breastfeeding her infant has been identified as a key reason that many mothers stop breastfeeding within the first two weeks postpartum.[31] It is important that a pediatrician is aware of all the important counseling points as well as technical skills of breastfeeding in order to help initiate breastfeeding within 1 hour of birth.

Counseling Points for Successful Breastfeeding in a Cross Cradle Hold with U Support[32]
Mother's Preparation
• Wash and dry hands with soap and water
• Drink boiled and cooled water
• Sit on the floor or bed or chair with proper back support
• Keep back straight
• Keep shoulders relaxed (not elevated/curved)
• Uncover the breast
• No pressure of bra/blouse on the breast
• Unwrap the baby from a blanket while feeding
• Hold baby's head by opposite hand from the breast that the baby will be fed
• Baby's legs tucked under an armpit of an opposite hand
• Elevate baby to reach the breast
Position of mother's thumb & fingers
• Mother's thumb behind one ear and rest of the fingers behind another ear of the baby; fingers should not be on the neck or pushing the head
• Wrist should rest between baby's shoulder blades
Baby's Position
• Baby's body should be gently pressed against mother's body
• Head, neck and body should in a straight line
• Nose should be in the line with the nipple
• Baby's full body should be supported
• Chin should be brought forward and close to breast by extending the neck out little bit
Holding Breast while helping baby to latch the baby
• Cup her breast underneath with U shaped hold (using the hand on the side of the breast baby is feeding from)

- Mother's one finger should be at 9'0 clock position and other finger should be at 3'0 clock position on the breast
- Thumb and finger at 3 finger distance from the nipple
- Mother's finders should be parallel to baby's lips
- Lightly compress the breast while latching the baby so that the areola can be contoured and baby can get a big chunk of lower areola in the mouth
- Equal compression of breast using thumb and fingers
- Avoid V-shaped compression which will result into nipple feeding

Latching

- To open the mouth widely, mother should touch her nipple to baby's upper lip
- When baby opens her big mouth, glide the breast in the mouth, sometime it may take few minutes but it is utmost important to wait patiently for the baby to open the big mouth
- Upper lip should be resting just above the nipple and lower lip should be resting at the border of areola and the breast
- Lower lip curved outwards
- In big breasts/well attached baby-press breast upward near the lower lip to check if significant part of lower areola is in the mouth
- Chin should be embedded well in the breast

Other Counseling Points

- Feed from one breast completely before offering the other
- To see if one breast is completely emptied or not, express the milk little bit and see. If milk is watery and thin or if the thick milk is flowing copiously then continue to feed from the same side
- Give both foremilk (thin, watery, made up of protein) and hind milk (thick, yellowish and made up of fats) to the baby
- Burp baby before offering other breast. The best position to burp the baby is in sitting position where baby's jaw is supported by mother's fingers and baby's chest is supported by mother's palm
- Wake up the baby if he/she falls asleep while feeding by – Tickling on the feet, on the back, behind the ears or making baby sit in burping position
- Use clean little finger to release the hold of the baby on the breast just in case baby latches onto nipple or baby falls asleep on the breast
- If baby's nose is pressed on the breast-extend the head slightly
- Signs of proper latching-Baby's cheeks are filled and do not dimple, no fast suckling sound, jaw drops slowly and distinctly
- Breastfeed 10-12 times in 24 hours
- Breastfeed 2-3 times at night
- Feed the baby on early hunger cues-squirming, stretching, opening the mouth; if the baby cries then it's too late
- Growth periods 2 weeks, 6 weeks, and 3 months when baby's demand will increase. Feed frequently during increase demand
- Continue exclusive breastfeeding till 6 months of age and then continue breastfeeding with nutrient dense complementary foods till at least 2 years of age or more

WHO and UNICEF launched the Baby-Friendly Hospital Initiative (BFHI) to help motivate facilities providing maternity and newborn services worldwide to implement the Ten Steps to Successful Breastfeeding.

Ten Steps to Successful Breastfeeding by WHO
Critical Management Procedures
1a. Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly Resolutions
1b. Have a written infant feeding policy that is routinely communicated to staff and parents
1c. Establish ongoing monitoring and data-management systems
2. Ensure that staffs have sufficient knowledge, competence and skills to support breastfeeding
Key Clinical Practices
3. Discuss the importance and management of breastfeeding with pregnant women and their families
4. Facilitate immediate and uninterrupted skin to skin contact and support mothers to initiate breastfeeding as soon as possible after birth
5. Support mothers to initiate and maintain breastfeeding and manage common difficulties
6. Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated
7. Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.
8. Support mothers to recognize and respond to their infants' cues for feeding
9. Counsel mothers on the use and risks of feeding bottles, teats and pacifiers
10. Coordinate discharge so that parents and their infants have timely access to ongoing support and care

Thus, Pediatrician has a very critical role to play when it comes to support mothers for exclusive breastfeeding. Unless he/she is well versed with technical knowledge, scientific knowledge and understanding of various forces undermining mother's capability of breastfeeding, it would be extremely difficult for any mother to breast feed her baby confidently for six months.

References

1. First Thousand days. http://thousanddays.org/wp-content/uploads/1000DAYS-NourishingAmericasFuture-Report-FINAL-WEBVERSION-SINGLES.pdf.
2. United Nations Children's Fund (UNICEF), World Bank Group (WBG), World Health Organization (WHO), United Nations (UN) for the UN Inter-agency Group for Child Mortality Estimation (UN IGME). Levels and trends in child mortality. New York: UNICEF,

2015.

3. NEOVITA Study Group. Timing of initiation, patterns of breastfeeding, and infant survival: prospective analysis of pooled data from three randomized trials. Lancet Global Health 2016;4:e266–75.
4. NFHS 4 Data taken from website http://rchiips.org/nfhs/pdf/NFHS4/India.pdf.
5. Aguayo VM, Gupta G, Singh G, Kumar R. Early initiation of breast feeding on the rise in India. BMJ Glob Health. 2016;1(2):e000043. Published 2016 Sep 21.
6. Patel A, Bucher S, Pusdekar Y *et al*. Rates and determinants of early initiation of breastfeeding and exclusive breast feeding at 42 days postnatal in six low and middle-income countries. A prospective cohort study. Reproductive Health 2015;12(S2):S10.
7 Rollins NC, Bhandari N, Hajeebhoy N *et al*. On behalf of The Lancet Breastfeeding Series Group. Why invest, and what it will take to improve breastfeeding practices? Lancet 2016;387:491–504.
8. Hill PD, Aldag JCJ. Milk volume on day 4 and income predictive of lactation adequacy at 6 weeks of mothers of non-nursing preterm infants.Perinat Neonatal Nurs. 2005 Jul-Sep; 19(3):273-82.
9. DiGirolamo AM, Grummer-Strawn LM, Fein SB, Effect of maternity-care practices on breastfeeding.Pediatrics. 2008 Oct; 122 Suppl 2():S43-9.
10. Moore ER., Anderson G.C. Randomized controlled trial of very early mother-infant skin-to-skin contact and breastfeeding status. J. Midwifery Womens Health. 2007;52:116–125.
11. Moore ER., Anderson G.C., Bergman N. Early skin-to-skin contact for mothers and their healthy newborn infants. Cochrane Database Syst. Rev. 2012.
12. Yamauchi Y, Yamanouchi I. Breastfeeding frequency during the first 24 h after birth in full-term neonates. Pediatrics. 1990;86:171–175.
13. Naveed M, Manjunath CS, Sreenivas V. An autopsy study of relationship between perinatal stomach capacity and birth weight. Indian J Gastroenterol 1992;11:156–158.
14. Zangen S, Di Lorenzo C, Zangen T, *et al*. Rapid maturation of gastric relaxation in newborn infants. Pediatr Res 2001;50:629–632.
15. Wight N, Marinelli KA. ABM clinical protocol #1: Guidelines for blood glucose monitoring and treatment of hypoglycemia in term and late-preterm neonates, Revised 2014. Breastfeed Med 2014;9:173–179.
16. Cohen RJ, Brown KH, Rivera LL, *et al*. Exclusively breastfed, low birthweight term infants do not need supplemental water. Acta Paediatr 2000;89:550–552.
17. Marchini G, Stock S. Thirst and vasopressin secretion counteract dehydration in newborn infants. J Pediatr 1997;130:736–739.
18. Sachdev HP, Krishna J, Puri RK. Do exclusively breastfed infants need fluid supplementation? Indian Pediatr 1992;29:535–540.
19. Grossman X, Chaudhuri JH, Feldman-Winter L, *et al.* Neonatal weight loss at a US Baby-Friendly Hospital. J AcadNutr Diet 2012;112:410–413.
20. Macdonald PD, Ross SR, Grant L, *et al*. Neonatal weight loss in breast and formula fed infants. Arch Dis Child 2003;88:F472–F476.
21. Noel-Weiss J, Woodend A, Peterson W, *et al*. An observational study of associations among maternal fluids during parturition, neonatal output, and breastfed newborn weight loss.Int Breastfeed J 2011;6:9.
22. Chantry C, Nommsen-Rivers L, Peerson J, *et al*. Excess weight loss in first-born breastfed newborns relates to 6 ABM protocol maternal intrapartum fluid balance. Pediatrics 2011;127: 171–179.
23. Smith HA, Becker GE. Early additional food and fluids for healthy breastfed full term infants. Cochrane Database Syst Rev. 2016;(8);CD006462.
24. Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C & The Academy of Breastfeeding Medicine. ABM Clinical Protocol #3: Supplementary feedings in the healthy term breastfed Neonate, Revised 2017. Breastfeed Med. 2017 May;12:188-198.
25. Chantry Caroline J. In-hospital formula use increases early breastfeeding cessation among first-time mothers intending to exclusively breastfeed. The Journal of Pediatrics, Volume 164, 1339-1345 e5.
26. WHO.International Code of Marketing of Breast-milk Substitutes. Geneva: World Health Organization, 1981. http://www.who.int/nutrition/ publications/infantfeeding/9241541601/en/.
27. Save the Children. Breastfeeding: policy matters. Identifying strategies to effectively influence political commitment to breastfeeding: a review of six country case studies. London: Save the Children, 2015.
28. Shetty P. Indonesia's breastfeeding challenge is echoed the world over. Bull World Health Organ 2014; 92: 234
29. Erin A. Wagner, Caroline J. Chantry, Kathryn G. Dewey, Laurie A. Breastfeeding concerns at 3 and 7 days postpartum and feeding status at 2 months. Nommsen-Rivers Pediatrics Oct 2013, 132 (4) e865-e875.
30. Parashar M, Singh S, Kishore J, Patavegar BN. Breastfeeding attachment and positioning technique, practices and knowledge of related issues among mothers in colony of resettlement Delhi. ICAN. 2015;7:317–22.
31. Mozingo JN, Davis MW, Droppleman PG, Meredith A. "It wasn't working." Women's experiences with short term breastfeeding. MCN Am J Matern Child Nurs. 2000;25:120–126.

Innovative Breastfeeding Technique

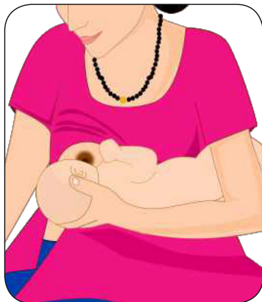
Cross Cradle Hold With Cupping of Breast

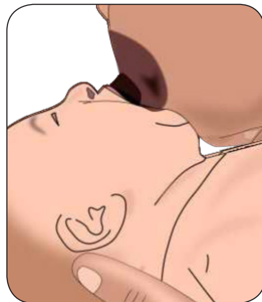
Mother's Preparation:

1. Wash and dry the hands properly.
2. Drink boiled and cooled water.
3. Sit on the floor, bed (in comfortable position) or chair (feet supported).

4. Back straight and supported.
5. Shoulders relaxed (not elevated/curved).
6. Uncover the breast.
7. No pressure of bra/blouse on the breast.
8. Unwrap the baby from a blanket while feeding.

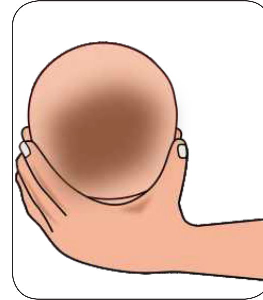
9. Hold the baby's head by opposite hand from the breast that the baby will be fed.
10. Baby's legs tucked under an armpit of the opposite hand.
11. Elevate the baby to reach the breast.





Position of Mother's Thumb & Fingers :

12. Mother's thumb should be behind one ear & the rest of the fingers should be behind another ear of the baby.



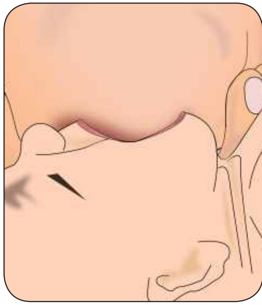
13. Wrist should rest between baby's shoulder blades.

Baby's Body Position:

14. Baby's tummy should be gently pressed against mother's tummy.
15. Head, neck and body should be in a straight line.
16. Nose should be in the line with the nipple.

17. Full body support for the baby.

18. Chin should be brought forward and close to the breast by extending the neck little bit.

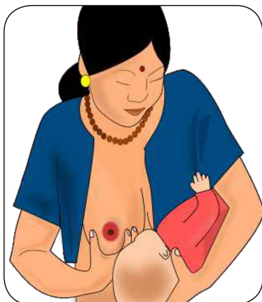


Holding Breast :

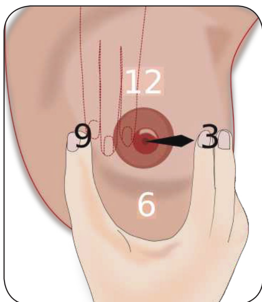
19. Mother should cup her breast underneath with

U-shaped hold, using the hand on the side of the breast that the baby is feeding from.

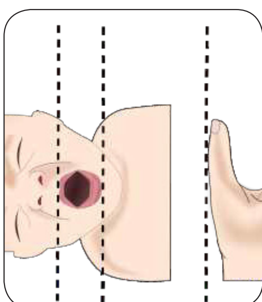
20. Mother's one finger should be at 9'0'clock position, and other finger should be at 3'0'clock position on the breast.



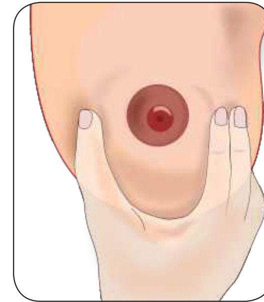
21. Thumb and fingers should be at 3 finger distance from the nipple.



22. Mother's fingers should be parallel to baby's lips.
23. Compress the breast while bringing the baby to latch. This will contour the breast for the easy gliding of lower areola in the mouth.

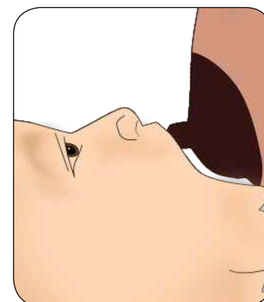


24. Equal compression of the breast should be done using thumb and fingers.
25. Avoid V-shaped compression which will result in nipple feeding.



Latching :

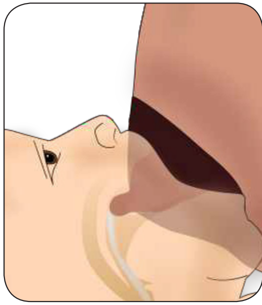
26. To open the mouth widely, touch the nipple to baby's upper lip.
27. When the baby opens her big mouth, glide the breast in the mouth; sometimes it may take few minutes but it is utmost important to wait patiently for the baby to open the big mouth.



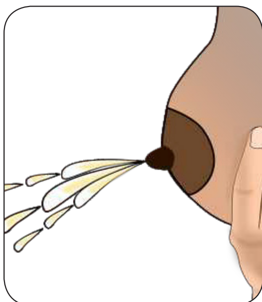
28. Upper lip should be resting just above nipple and lower lip should be resting at the border of areola and the breast in a good attachment.
29. Lower lip curved outwards.

30. In-case of big breasts with deeply latched baby - press the breast upwards near the lower lip to check if significant part of lower areola is in the mouth and if lower lip is curved outwards.
31. Chin should be embedded in the breast.

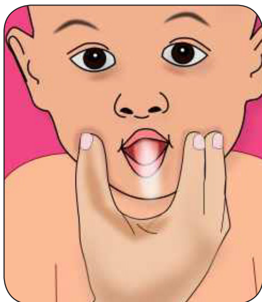
32. Once the lower areola latching is confirmed, remove the hand from the breast and bring it behind the baby.



33. Feed from one breast completely before offering the other.
34. To see if one breast is completely emptied or not, express the milk little bit and see. If milk is watery and thin or if the thick milk is flowing copiously then continue to feed from the same side.



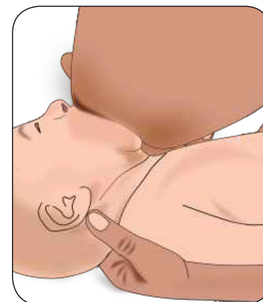
35. Give both foremilk (thin, watery, made up of protein) and hind milk (thick, yellowish and made up of fats) to the baby.
36. Always offer both breasts to the baby.
37. Burp the baby before offering other breast. The comfortable position to burp the baby is to put the baby in sitting position on mother's lap where



the baby's jaw is supported by mother's fingers and the baby's chest is supported by mother's palm.

38. Wake up the baby if he/she falls asleep while feeding by - tickling on feet, back, behind the ears or making the baby sit in burping position.
39. Use clean little finger to release the hold of the baby on the breast just in case if the baby latches onto nipple or baby falls asleep on the breast.
40. Feed the baby on early hunger cues - squirming, stretching, opening the mouth and salivating.

41. If baby's nose is pressed on breast - extend the neck of the baby backwards so that the chin goes deeper in the breast and the forehead is extended away from the breast.



42. Proper latching - Baby's cheeks are filled, do not dimple, no fast suckling sound, jaw drops slowly and distinctly.
43. Breastfeed 10-12 times in 24 hrs.
44. Breastfeed 2-3 times at night.
45. Growth periods -2 weeks, 6 weeks and 3 months where baby's demand will increase. Feed frequently during increase demand.

News & Events

National Conference on Micronutrients
MICRONUTRICON 2019
Summary Report

A National Conference on Micronutrients "MICRONUTRICON 2019" was organised on 8th September, 2019 at Gulmohar, India Habitat Centre, Lodhi Road, by Pediatric and Adolescent Nutrition Society in collaboration with Nutrition International & Alive and Thrive. The conference was attended by 128 participants & faculty.

The Conference was inaugurated by Dr. V.K. Paul (Member, NITI Aayog, GOI) who in his keynote address appreciated all three organizations involved in organizing a dedicated conference on micronutrients. Presentations and discussions during conference were:

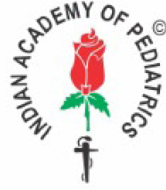
i. Session 1: Micronutrients for good health & survival by Mr. Andrew Martin O'Connell & Dr. Archana Chowdhury. Both the speakers highlighted important of micronutrients for health, immunity and survival. Second presentation was on Vit B12 & Folic acid deficiency: causes & consequences by Dr. Jagdish Chandra who highlighted rising prevalence of Vitamin B12 deficiencies.

ii. Session 2: Panel discussion on National Programmes to combat Micronutrient Deficiency. In this panel discussion, several national experts like Dr. HPS Sachdev, Dr. Satinder Aneja, Dr. Umesh Kapil, Dr. Sebanti Ghosh, Mr. Arjan De Wagt from UNICEF, Dr. Dheeraj Shah, Editor-in-Chief, Indian Pediatrics & Dr. Kapil Yadav from NCoE-A and Ms. Mini Varghese participated. Anemia Mukt Bharat, Poshan Abhiyaan, Vitamin A Supplementation program and Calcium supplementation during pregnancy were discussed during this panel.

iii. Session 3: To presentations made during this session i.e. Iron deficiency and its consequences beyond Anemia & Diets across the life cycle.

iv. Session 4: Vitamin D: Update on treatment guidelines, Zinc deficiency & its consequences and Functional Nutrients were presented by Dr. Anju Seth, Dr. Srikanta Basu and Dr A.K. Rawat respectively.

v. Session 5: Diet Diversity to combat Micronutrients deficiency by Dr. Sebanti Ghosh & Food Fortification by Mr. Suresh Lakshminarayanan were presented during this session..



3rd National Conference of

IAP Subspeciality Chapter of Pediatric and Adolescent Nutrition Society (IAP Nutrition Chapter)

PEDNUTRICON 2019

23rd -24th November, 2019
Gwalior (M.P.)

organised by

Department of Pediatrics, G.R. Medical College, Gwalior

in collaboration with

Gwalior Academy of Pediatrics

and

National Health Mission, Govt. of M.P.

For more information, contact:

Dr. Ajay Gaur	Dr. Suhas Dhonde	Dr. Deepak Agarwal	Dr. Parag Shrivastava
94251 12229	94251 11814	98262 51001	98272 76733

Book Your Dates

Gwalior, 23rd -24th November, 2019

Registration Form

IAP Member ☐ Non Member ☐ Student ☐

IAP / Nutrition Chapter Membership No.: ______________________

Name (in Block Letters): ______________________

Gender : Male ☐ Female ☐ Date of Birth: ____/____/_______ Age: ______

Address: ______________________

____

City & State: ______________________ PIN: ____________

Mobile No. ______________________

E-mail: ______________________

Accommodation Required: Yes ☐ No ☐

Registration Amount: Rs.__________ (Rupees ______________________)

Mode of Payment: NEFT ☐ Card ☐ Cheque/DD ☐ Cash ☐

Transaction/DD No: ______________________ Date: ____________

Bank: ______________________

Kindly register my name for **PEDNUTRICON 2019** to be held on 23rd and 24th November at Gwalior.

Place:

Date: *Signature of the Applicant*

Registration Fee can be deposited online. The Account details are:
Name : Gwalior Academy of Pediatrics Samiti
Account No. : 32939774051 Bank Name : State Bank of India
Branch : Jayendra Ganj, Gwalior (M.P.) IFSC Code : SBIN0003212

Please send the duly filled Registration Form by post or e-mai to Conference Secretariat.
For more details, Please contact
Dr. Roop Sharma: 7999477748 or **Dr. Satvik Bansal: 9425112777**

CONFERENCE SECRETARIAT
Dr. Ajay Gaur, Department of Pediatrics, Kamla Raja Hospital, Gwalior (M.P.)
e-mail: drajaygaur@gmail.com

Registration Fee	For Members		Others	
	Before 15th Oct., 2019	After 15th Oct., 2019	Before 15th Oct., 2019	After 15th Oct., 2019
23rd & 24th Nov., 2019	₹1500/-	₹2000/-	₹1750/-	₹2250/-

**On submission of certificate from the head of department*

Call for Papers

The 3rd National Conference of IAP Subspeciality Chapter of Pediatric and Adolescent Nutrition Society (IAP Nutrition Chapter) – PEDNUTRICON 2019, is going to be held at Gwalior on 23rd and 24th November, 2019.

We invite Original Research work –in the form of Oral Paper and Poster, for the Scientific session during the conference. The "Best Two" Oral Paper presentations and Poster presentations will be awarded to galvanize young talent and researchers. Please adhere to the guidelines detailed below:

Guidelines for Oral Paper presentation –

- The award shall be presented to "Best Two" papers (unpublished/ published), as judged by a panel of experts
- The authors submitting the paper should be involved in overall conceptualisation, conduction and analysis of the research submitted for the presentation.
- The papers will be checked for plagiarism and if detected the paper can be rejected.
- The submitted manuscript should follow Indian Pediatrics guidelines for manuscript preparation including referencing.
- The first page should be the "Title Page" containing the Authors information and acknowledgement.
- Ensure that the Authors name and affiliation is not mentioned anywhere else in the manuscript apart from the title page for fair review.
- The selected candidates will be required to make a presentation of 8 minutes followed by a Q/A session by the judges.
- Last date of submission of papers is 30th October 2019
- Submit 3 hard copies of the manuscript along with a soft copy.

Guidelines for Poster presentation –

- The award shall be presented to "Best Two" Posters as judged by a panel of experts
- The size of the poster should be: 40" x 59" or 1 X1.5 Sq.Mts.
- The information should be spaced proportionally, do not overcrowd. Use large text sizes (text size should be at least 18-24 pt; headings 30-60 pt; title >72pt).
- The color scheme should be chosen carefully with attention to contrast to ensure good readability.
- The Posters should have the following information –
  - o Title (with authors and affiliations),
  - o Introduction (Objectives / Aims),
  - o Methods,
  - o Results
  - o Conclusion
  - o References and Acknowledgements
  - o Contact information
- The Poster should be placed at the allotted places 2 hours prior to the poster session.
- The Poster presentation will be of 10 minutes in front of the judges followed by a Q/A session.
- Last date of submission of soft copy of Posters is 30th October 2019.

Address for Submission:

Prof. Ajay Gaur
Professor and Head of Department
Department of Pediatrics
J A Group of Hospitals, G R Medical College, Gwalior, Pin – 474009
Email – drajaygaur@gmail.com
Mobile No. - +91 9425112229

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drsatvikbansal@gmail.com

PEDIATRIC & ADOLESCENT NUTRITION SOCIETY

(IAP SUBSPECIALITY CHAPTER ON NUTRITION)

Society Reg No: Govt of NCT of Delhi/District East/Society/3085/2019

Affiliated to Indian Academy of Pediatrics

Membership Form

1.	Name **(In block letters)**		
2.	Present designation		
3.	Office/Institutional Address		
4.	Residential Address		
5.	Contact Information	Telephone No. …………………….. **(R)** ……………………… **(M)** E-mail Id:	
6.	Date of Birth:	7. Nationality:	8. Sex:
9.	IAP Membership No.		
10.	**Qualification**	**Name of the University**	**Qualifying Year**
11.	Details of special training (if any) in Pediatric Nutrition		
12.	List of publications in Pediatric Nutrition (including original work, brief reports, chapters in books) (if needed append separate list)		

Place: ………………………………….

Signature of Applicant: ………………………………….

Date: …………………………………..

Life membership fee: 3000/-, /Associate Life Membership fee – 2000/-
For existing members of IAP Subspecialty Chapter: 500/-
Bank Transfer by NEFT - **PAN SOCIETY**, Central Bank of India, LHMC Branch, New Delhi 110 001
A/c No. **3757286770; IFSC: CBIN0283462**

OR

Send (Demand Draft No ....drawn on) in favor of **PAN SOCIETY** and send it to **The Secretary, Dr. Praveen Kumar, Director-Professor of Pediatrics, R.No.118, 1st Floor, Old Building, Kalawati Saran Children's Hospital, Bangla Sahib Marg, New Delhi, 110001.**

PEDIATRIC & ADOLESCENT NUTRITION SOCIETY

(IAP SUBSPECIALITY CHAPTER ON NUTRITION)

Society Reg No: Govt of NCT of Delhi/District East/Society/3085/2019

Affiliated to Indian Academy of Pediatrics

Eligibility Criteria for Membership

1. Eligibility:

A. Any person who is a residential Indian citizen and is housing a diploma/degree in Pediatrics recognized by Medical Council of India (MCI) and who is member of Central IAP may be elected by the Executive Board as Life member of the Chapter.

B. Any person possessing MBBS or equivalent degree recognized by Medical Council of India (MCI) and who is member of Central IAP may be elected by the Executive Board as an Associate Life member of Society. Those who are residential Indian citizen will be eligible to become Associate Life member of the Chapter.

C. The associate Life membership of Chapter shall also include:

i.Eligible residential Indian citizen post graduate student in Pediatric duly certified by the Head of Pediatric Department/Child Health concerned.

ii.Eligible Master's in Food and Nutrition or fellowship in Nutrition.

iii.Eligible non-resident Indian working in the field of nutrition.

iv.Eligible foreign national of Indian/non-Indian origin working in the field of nutrition.

D. Any existing Associate Life member who subsequently satisfies the criteria to be life member may be elected as Life member respectively by the Executive Board at such later date.

E. Any person who is eligible to be member and undertakes to pay the prevalent membership fees as decided by Executive Committee from time to time and to abide by the rules and regulations of the PAN Society may be elected in the manner here in after prescribed.

2. Membership:

The membership of the society is open to those persons who have attained the age of majority & fulfils the term & conditions of the Society without discrimination of the caste, color, creed but subject to the approval of governing body.

Membership Types:

S. No	Membership Type	Fees	Eligibility
1	**Life**	3000	MBBS and Degree or Diploma in Pediatric & Member of Central IAP
2	**Associate Life**	2000	MBBS / Master's in Food and Nutrition