

International Journal of Birth and Parent Education



Supporting you to support parents in the first 1000 days



FOCUS ON:

Parent education
in the digital age

IN THIS ISSUE:

Virtual resources for
parenting the Late
Preterm Infant

Supporting asylum
seeking and refugee
mothers

Information seeking
during the pandemic

Self-efficacy in
the transition to
parenthood

Creating a safe haven
for new parents

Raisingchildren.net.au
– an evidence-based
parenting website

Families and social
change

Advice for parents
using mobile
technology and
social media

VOL 10 | ISSUE 4 | JULY 2023

AN INDEPENDENT NOT
FOR PROFIT JOURNAL

International, virtual resources and outreach to enhance care of the Late Preterm Infant

Benedetta Costa, PT, International Association of Infant Massage (IAIM) Trainer – Centro Papillon, Genoa Nervi, Italy

Maryam Mozafarinia, MSN, PhD, Montreal Children’s Hospital, Montreal, Canada

Ning Desiyanti Soehartojo, MD, IBCLC, Baby & Beyond Publika and Child Specialist Clinic, Kuala Lumpur, Shah Alam, Malaysia

Jan Tedder, BSN, FNP, IBCLC, HUG Your Baby, Durham, North Carolina, USA

Late Preterm Infants (LPIs), increasing in number worldwide, face significant increased morbidity and mortality and lower breastfeeding rates. Their parents suffer from high rates of anxiety and depression. Furthermore, maternal-child professionals - and the parents they serve - often lack understanding of specific LPI behaviors and needs. Guided by Responsive Parenting literature, HUG Your Baby concepts and parent education research, two new resources were created for LPI parents, and a free virtual workshop was provided to maternal-child professionals (N=164) from twenty countries. The majority (95-100%) of participants completing the postworkshop evaluation (N=112) reported the workshop was evidence-based, had met their continuing education goals, and that they intended to incorporate its concepts and resources into their care of LPI families. Thus, this virtual workshop, its new resources, and recent research about the positive impact of digital parent and professional education appear to offer a promising approach for enhancing international LPI care.

Keywords: Late Preterm Infant, parent education, Responsive Parenting, HUG Your Baby

The worldwide incidence of Late Preterm Infants (LPIs) - babies born between 34 weeks/0 days and 36 weeks/6 days gestation - is increasing. Research confirms that the LPI is at higher risk for infant morbidity and mortality than the full-term baby, is developmentally immature, and lacks the intra-uterine brain growth that typically occurs during the last six to eight weeks of gestation (Sharma et al., 2020). Research and parent education about the premature baby (born less than 34 weeks gestation) is extensive and widely available. However, LPI families are often discharged with parent education designed for full-term babies and do not receive critically important information about the unique behaviors and needs of their baby (Busch & Silbert-Flagg, 2021; Sharma et al., 2021; Zhang et al., 2020).

CHALLENGES FACED BY LPIs, THEIR FAMILY AND COMMUNITY

Challenges the LPI faces

During infancy, LPIs have a two- to three-times greater incidence of significant medical problems (low blood sugar, low temperature, respiratory distress, immature gut motility, brain hemorrhage, jaundice, blood infections [sepsis]) and higher

hospital readmission rates. Mortality rates are three times higher for LPIs (Karnati et al., 2020). Though breast milk is especially important for vulnerable infants, LPIs typically have immature suck-swallow coordination, underdeveloped cheek pads and low muscle tone resulting in shorter feedings, less transfer of milk and lower rates of breastfeeding initiation, duration, and exclusive breastfeeding (Bennett et al., 2018).

Challenges LPI parents face

Unique behaviors of the LPI impact the developing parent-child relationship and infant care (Premji et al., 2017). LPIs typically vocalize less, establish less eye contact, and fatigue more quickly than do term infants. Their disorganized sleep-awake cycles, reduced periods of alertness, and tendency to become over-stimulated likely contribute to reduced parent-child interactions in LPI families (Mughal et al., 2017). Not surprisingly, parents of LPIs experience increased stress and financial burdens, and higher rates of postpartum depression, anxiety, and post-traumatic stress disorder (Gondwe et al., 2020; Premji et al., 2017). Greater parental stress is associated with reduced confidence, less feelings of closeness to baby, and difficulty recognizing infant social cues (Mughal et al., 2017).

Challenges the LPI's community faces

Because LPI families are often discharged into the community without parenting information that addresses their babies' unique behaviors and needs, enhanced continuing education for maternal-child professionals who serve LPI families is indicated (Bennett et al., 2018). Virtual education resources for parents and caregivers of LPI infants may offer an important innovation to enhance education and support, and reduce parental stress, during the newborn period.

AN APPROACH FOR CARE OF LPI FAMILIES

Though LPIs and their families face significant challenges, a growing body of research indicates that appropriate parent education, provided by professionals familiar with the behavior and care of the LPI, may reduce negative outcomes for this population (Busch & Silbert-Flagg, 2021; Mughal et al., 2017; Premji et al., 2017). Guided by Responsive Parenting literature (Korum & Dozier, 2021), HUG Your Baby concepts (Tedder, 2008), and recent parent education research (Jaynes, Brathwaite & Tully, 2022; Schnitman et al., 2022), two new LPI parent resources were created: the 'Read the Signals' handout and the 'Bring the Womb to the Room' parent video. In addition, a 90-minute virtual workshop on the LPI was developed, presented to an international audience, and evaluated by participating maternal-child professionals.

Responsive Parenting

Literature on Responsive Parenting highlights the educational needs of parents, including LPI families. Responsive Parenting is described by the World Health Organization as a parent's ability to notice a baby's behavior, to understand that behavior, and to take appropriate action based on what that baby's behavior communicates. This approach to parenting has been shown to improve neuro-developmental outcomes, promote breastfeeding duration, enhance parent confidence, and decrease postpartum depression - benefits especially important for LPIs and their families (Korum & Dozier, 2021).

HUG Your Baby

HUG Your Baby provides evidence-based 'Help, Understanding and Guidance' pertinent to parents of all infants and young children and to the professionals who serve them. The organization's purpose is to promote better understanding of a child's behavior and development, to enhance breastfeeding duration, and to foster the practice of Responsive Parenting. Since HUG Your Baby's inception in the United States in 2007, professionals and parents from fifty-four countries and four tribal nations have attended HUG workshops, enrolled in its online courses, and/or used its educational resources.

International, peer-reviewed research confirms that HUG Your Baby parent education promotes understanding of infant behavior (Kadivar &

Mozafarina, 2013), decreases stress for parents of hospitalized preterm infants (Hunter et al., 2019), increases maternal confidence and lowers the incidence of postpartum depression (Shimpuku et al., 2021). All these benefits are important for LPI families. Research also confirms that birth, lactation and parenting students and professionals who completed online HUG Your Baby learning modules demonstrated increased knowledge of infant behavior and greater confidence to share this information with families (Teague and Trotter, 2022; Wagner et al., 2022; Alden, 2018; Tedder & Quintana, 2018; Tedder, 2012).

Because communication literature suggests that learning is optimized when new ideas are associated with ideas already known and understood, HUG Your Baby uses familiar, family-friendly words to help parents read their baby's body language. For example, instead of describing an infant's physiologic stress response, HUG Your Baby explains that an infant may 'send out an SOS - Sign of Over-Stimulation' with changes in her body and behavior (Tedder, 2008). Body SOSs, typically seen in the LPI, include changes in baby's color (getting more red or pale), changes in movement (having more tremors or going limp), and changes in breathing (increasing respiration or pausing in breathing). Behavioral SOSs include 'Spacing Out' (moving from an alert state to a drowsy, uninvolved one), 'Switching Off' (gaze aversion), and 'Shutting Down' (moving from an alert state to a sleep state) (HUG Your Baby, 2023a).

To help parents more easily notice their baby's state changes, HUG Your Baby describes three 'Zones' (Tedder, 2008), rather than the six newborn states described by Dr. T. B. Brazelton (Brazelton & Nugent, 2011). The three Zones are the 'Resting Zone' (both active and deep sleep), the 'Ready Zone' (when baby is ready to eat or interact, even briefly), and the 'Rebooting Zone' (when baby is agitated or crying).

Because how we teach can be as important as what we teach, HUG Your Baby developed three engaging teaching strategies to enhance parent learning and promote parent confidence: 'Start Here, not There', 'Gaze, then Engage,' and 'See, then Share' (Tedder & Register, 2007). 'See, then Share' advocates use of the sports journalism techniques of 'Broadcasting' and 'Commentating' a baby's observed behaviors. 'Broadcasting' in this context means describing exactly what baby or parent is doing, while 'Commentating' means sharing the importance of that behavior (HUG Your Baby, 2023b). The HUG Strategies, and all other HUG Your Baby content, is available as online courses.

PARENT EDUCATION

Research confirms that parents of preterm infants benefit from education that offers information about infant development, skills to care for their baby, and knowledge about effective parent-child interaction (Zhang et al., 2021). Recent

studies clarify that using technology in parent education positively impacts the physical and mental health outcomes of women during the first year after birth and that digital education is well received by new mothers (Jaynes, Brathwaite & Tully, 2022; Schnitman et al., 2022).

New HUG Your Baby resources for LPI families and the professionals caring for them

Interest from professionals wanting to adapt HUG Your Baby concepts and resources for use with LPIs and their families triggered the creation of the following two parent education resources and the development of an international virtual workshop

(i) Read the Signals

The ‘Read the Signals’ handout utilizes a traffic light analogy to enhance ability to notice LPI body and behavioral SOSs and to respond appropriately to these Signs of Over-Stimulation (see Figure 1).

(ii) Bring the Womb to the Room™: How to understand and care for your early baby

This is a twelve-minute parent education video that underscores the value of helping parents and professionals see (rather than just hear or read about) LPI needs and behavior (HUG Your Baby, 2023c; Schnitman et al., 2022). Components of this video include: the importance of gestational vs. chronological age; infant Zones and emerging Zone regulation; body and behavioral SOSs; benefits of skin-

to-skin care; importance of providing a low-stimulation, womb-like home environment; and an overview of the ‘Read the Signals’ handout.

THE VIRTUAL WORKSHOP FOR PROFESSIONALS

Research on virtual professional education during the COVID-19 pandemic demonstrated that this approach is cost-effective, accessible, and acceptable to professionals - especially when interactive teaching strategies and video clips are utilized.

In October and November of 2021, invitations to a free virtual workshop (approved for 1.5 hours of continuing education lactation and nursing credit) were sent to professionals around the world who had previously requested HUG Your Baby training or resources. On 10 November 2021, 164 birth, lactation and parenting professionals (nurses, midwives, lactation consultants, breastfeeding peer counselors, parent/infant massage/childbirth educators, social workers, physicians, physical/occupational therapists, psychologists/counselors, and doulas) from twenty countries attended the 90-minute, live Zoom workshop. Since no patient data was collected, an Institutional Review Board approval for this workshop and its feedback was not sought.

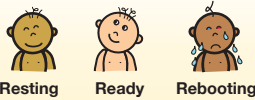
The LPI virtual workshop employed a variety of engaging, interactive activities and teaching techniques known to address multiple learning styles, to hold learners’ interest, and to stimulate emotional connections to a subject matter. These

FIGURE 1: READ THE SIGNALS HANDOUT

Caring for the Early Baby: Read the Signals

Watch for sudden Zone changes and SOSs (Signs of Over-Stimulation)

Zones




Resting Ready Rebooting

Notice when and how often baby moves from one Zone to another

[Click here to see video](#)

SOSs




Body SOSs Behavioral SOSs

Body SOSs: Breathing faster or irregular; skin color blotchy; muscle tone more tense or unusually limp; tremors more frequent

Behavioral SOSs: Looking away from you; becoming drowsier; falling suddenly asleep when stimulated

Baby’s behavior (When you see . . .)




STOP (Red light): Pauses in breathing; skin color pales; movement jerky and tremors increase; muscles go limp; drowsiness or crying increases; baby unresponsive


CAUTION (Yellow light): Baby sends out an SOS: breathing faster or irregular; skin color blotchy; muscle tone more tense; tremors more frequent; drowsiness or crying increases; Zones change quickly

GO (Green light): Breathing regular; skin color and muscle tone normal; tremors infrequent

Parent’s response (Take these actions . . .)

STOP: Stop feeding and interacting for a moment; continue parent’s response described in yellow light; put baby skin-to-skin; discuss behaviors with your pediatric provider 

CAUTION: Pause in feeding or interacting; try: glancing away from baby; using a soothing voice; holding baby’s hands to chest; triggering baby’s grasp reflex; bracing baby’s feet with your hand; offering pacifier or baby’s own hand to suck; swaddling baby; swaying baby gently; decreasing sound and light in the room

GO: Begin feeding and/or interacting; watch for SOSs; notice if looking at, touching, or speaking to baby causes more SOSs 

© HUG Your Baby 2022

activities included: an unfolding case study story; use of the Mentimeter App (to create a word cloud from words and phrases used by participants to describe the LPI and to identify specific behaviors the mother in the case study exhibited, which contributed to her breastfeeding success), and ‘Zoom chat’ to consider an illustration of a six-month-old fetus (24 weeks gestation) and identify emerging behaviors and details of the womb environment that support the baby’s growth and development (HUG Your Baby, 2023d).

Evaluation tools

Zoom polls, the Mentimeter app, and a post-workshop evaluation were used to gather feedback about, and assess the effectiveness of, the virtual workshop and its resources.

Three factors reduced the number of participants who evaluated the workshop. First, some participants reported difficulty accessing and using Zoom polls and the Mentimeter app due to unstable international internet connections. Second, following the workshop, HUG Your Baby leadership reported that some attendees with English as a second or third language struggled to participate in the evaluation process. Finally, only those who desired continuing education credit and attended the full workshop (as documented by the Zoom participant data) received and completed the postworkshop evaluation.

Despite limitations posed by technology and language of instruction, feedback about the workshop was encouraging.

Feedback about information learned

Using Zoom’s poll feature, participants (N=97/164) completed a four-question, multiple-choice postworkshop quiz at the end of the

workshop; 78% scored 70% or more on the post-workshop knowledge questions.

Feedback about confidence level

A Mentimeter poll used a 5-point scale to evaluate participants’ confidence. Seventy-seven participants (N=77/164) completed the poll at the beginning of the workshop; fifty-three participants (N=53/164) completed the poll at the end of the workshop. After attending the workshop, responding participants reported they had gained a more confident understanding of the challenges LPIs face, of LPI behavior, and of ways to support breastfeeding the LPI (See Figure 2: Confidence).

Workshop Evaluation

Eighty-nine per cent of participants (N=112/164) completed the online postworkshop evaluation using a 5-point scale (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree).

- (i) 100% (N=112) agreed or strongly agreed that the workshop met their expectations, that they were satisfied with the workshop content, and that the instructors did a good job.
- (ii) 97% (N=109) agreed or strongly agreed that the material was well-suited for a virtual workshop, that the workshop was evidence-based, and that they will incorporate concepts reviewed in the workshop into their care of LPI families.
- (iii) 95% (N=106) agreed or strongly agreed that after attending this workshop they were better prepared to support breastfeeding in their LPI families.

Teaching strategies

Using a ten-point Likert scale from ‘Not at all Helpful’ to ‘Very Helpful’, the online postworkshop

FIGURE 2: CONFIDENCE

Confidence BEFORE and AFTER Workshop				
Please rate YOUR confidence in supporting families in each of the following as:				
Not at all confident				Very confident
	1	2	3	4
				5
			Before Workshop N=77	After Workshop N=53
Understanding challenges LPIs face			2.9	4.4
Understanding LPI behavior			2.8	4.4
Breastfeeding support for LPI			3.1	4.5

evaluation captured feedback about the teaching strategies from responding participants (N=112). A score of 8/10 or higher was considered 'highly rated'; 90% (N=101) highly rated the case study, 93% (N=104) highly rated the lectures, and 87% (N=97) highly rated the Mentimeter App.

IMPLICATIONS

Because LPIs are at increased risk for mortality and morbidity, discharging these infants and their families with information more pertinent for full-term babies has the potential to increase risks for readmission, to lower breastfeeding rates, and to increase parental anxiety and depression. Since a wide range of hospital and community workers encounter LPI families, it is important that evidence-based, family-friendly information about LPI behavior and care be readily available to birth, lactation and parenting professionals.

Research on the positive benefits of virtual learning, along with feedback received from this Zoom training, suggests that virtual teaching like this may well enhance professionals' care of the LPIs and their families. Because parent education research confirms the positive impact of using technology to teach today's parents, and the twelve-minute HUG Your Baby LPI video and handout were well received, use of these parent education resources may be an effective way to prepare LPI families for life with their new babies. The impact of sharing such information and resources more broadly, both in community and inpatient settings, with professionals and parents is promising and merits replication, refinement, wider dissemination, and further evaluation.

ACKNOWLEDGEMENT

The authors wish to acknowledge Clare Fisher, BSN, MSN, who contributed to this project as part of her Master's degree program at the University of North Carolina-Wilmington, USA.

REFERENCES

- Alden, K. (2018) A web-based module to enhance BSN students' knowledge and confidence in teaching parents about newborn behavior. *Journal of Perinatal Education*, 27(2),104-114.
- Bennett, C., Galloway, C. & Grassley, J. (2018) Education for WIC Peer Counselors about breastfeeding the Late Preterm Infant. *Journal of Nutrition Education and Behavior*, 50(2),198-202.
- Brazelton, T. B. & Nugent, K. (2011) *The Neonatal Behavioral Assessment Scale*. London: Mac Keith Press.
- Busch, D. & Silbert-Flagg, J. (2021) Breastfeeding plan of care for the Late Preterm Infant from birth through discharge. *Journal of Perinatal & Neonatal Nursing*, 5 (2),169-176.
- Gondwe, K.W., Brandon, D., Yang, Q., Malcom, W., Small, M. et al. (2020) Emotional distress in mothers of early-preterm infants, late-preterm infants, and full-term infants in Malawi. *Nursing Outlook*, (68)1,94-103.
- HUG Your Baby (2023a) Video SOS. Available at: <https://vimeo.com/686275030/f3ac3bca28> <accessed 5 January, 2023>
- HUG Your Baby (2023b) Video Broadcast and Commentate. Available at: <https://vimeo.com/754671165> <accessed: 5 January, 2023>
- HUG Your Baby (2023c) LPI resources. Available at: <https://www.hugyourbaby.org/preterminfantcare> <accessed: 5 January, 2023>
- HUG Your Baby (2023d) Video Fetal Behavior. Available at: <https://vimeo.com/728401223> <accessed: 5 January, 2023>
- Hunter, L., Blake, S., Simmons, C., Thompson, J. & Derouin, A. (2019) Implementing a parent education program in the Special Care Nursery. *Journal of Pediatric Health Care*, 33(2),131-137.
- Jaynes, S., Brathwaite, D. & Tully, K. (2022) Systematic review of the effect of technology-mediated education intervention on maternal outcomes in the first year after birth. *Journal of Obstetric, Gynecological and Neonatal Nursing*, 51(3),278-289.
- Kadivar, M. & Mozafarinia, S.M. (2013) Supporting fathers in a NICU: Effects of the HUG Your Baby program on fathers' understanding of preterm infant behavior. *Journal of Perinatal Education*, 22(2),113-119.
- Karnati, S., Kollikonda, S. & Abu-Shaweesh, J. (2020) Late preterm infants – Changing trends and continuing challenges. *International Journal of Pediatrics and Adolescent Medicine*, 7(1),38-46.
- Korum, M. & Dozier, M. (2021) The importance of responsive parenting in vulnerable infants. *Advances in Child Development and Behavior*, 61, 43-71.
- Mughal, M., Ginn, C., Magill-Evans, J. & Benzies, K. (2017) Parenting stress and the development of the Late Preterm Infant at 4 months corrected age. *Research in Nursing & Health*, 40(5),414-423.
- Premji, S., Pana, G., Currie, G., Dosani, A., Reilly, S. et al. (2017) Mother's level of confidence in caring for her late preterm infant: A mixed methods study. *Journal of Clinical Nursing*, 5(6),1120-1133.
- Schnitman, G., Wang, T., Kundu, S., Turkdogan, S., Gotlieb, R. et al. (2022) The role of digital patient education in maternal health: A systematic review. *Patient Education and Counseling*, 105(3),586-593.
- Sharma, D., Padmavathi, I., Tabatabaai, S. & Farahbakhsh, N. (2021) Late preterm: A new high risk group in neonatology. *Journal of Maternal-Fetal and Neonatal Medicine*, 34(16),2717-2730.
- Shimpuku, Y., Lida, M., Hirose, N., Tada, K., Tsuji, T. et al. (2021) Prenatal education program decreases postpartum depression and increases maternal confidence: A longitudinal quasi-experimental study in urban Japan. *Women and Birth*, 35(5),e456-e463.
- Teague, M. & Trotter, K. (2022) HUG Your Baby: Preparing nurse practitioner students to support breastfeeding. *JNP: The Journal for Nurse Practitioners* 19(2),104468.
- Tedder, J. (2008) Give The HUG: An innovative approach to helping parents understand the language of their newborn. *Journal of Perinatal Education*, 17(2),14-20.
- Tedder, J. & Register, N. (2007) The HUG: An innovative approach to pediatric nursing care. *MCN: The American Journal of Maternal/Child Nursing*, 43(4),210-214.
- Tedder, J. (2012) Teaching for birth and beyond: Online program incorporated into a birthing and parenting certification. *International Journal of Childbirth Education*, 27(3),65-68.
- Tedder, J. & Quintana, E. (2018) Online education for WIC professionals: Teaching child development to extend breastfeeding duration. *Clinical Lactation*, 9(3),108-116.
- Wagner, G., Stevenson, E., Derouin, A. & Tedder, J. (2022) Evaluating the implementation of the online HUG Your Baby course 'Roadmap to Breastfeeding Success' for Nevada WIC Professionals. *Journal of Perinatal Education*, 31(3),1-11.
- Zhang, Q., Wu, J., Sheng, X. & Ni, Z. (2020) Empowerment programs for parental mental health of preterm infants: A meta-analysis. *Parent Education and Counseling*, 104(7),1636-1643.