ARTICLE

Clinical Practice Breastfeeding Recommendations for Primary Care: Applying a Tri-Core Breastfeeding Conceptual Model

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ABSTRACT

Promotional practice efforts are needed in primary care to support and foster breastfeeding as the first and natural choice of nutrition for all infants regardless of race, ethnicity, educational, or income demographics in the United States. Societal awareness is increasing with regard to the significant protective qualities that human milk bestows upon public health. An estimated 75% of American mothers attempt to breastfeed, but according to the Centers for Disease Control and Prevention, just 13% are able to exclusively breastfeed by 6 months. Early identification of lactation issues is crucial to establishing and sustaining breastfeeding for the first 6 to 12 months of the child's life and beyond. We propose a set of primary care guidelines, applying a Tri-Core Model approach, to promote and foster breastfeeding efforts in the postpartum period. Breastfeeding promotion is a fundamental public health endeavor, and pediatric nurse practitioners and other advanced practice registered nurses (APRNs) are uniquely qualified to become specialists and experts in lactation care and management. Lactation support, which should be an integral facet of an APRN's practice and education, will aid in improving national breastfeeding rates and patient care outcomes. Application of the Tri-Core Model approach will help APRNs develop and implement evidence-based practice efforts that incorporate the mother-baby dyad and other multiprofessionals who are vested in successful breastfeeding outcomes. The goal of pediatric health care is provide safe and effective health care to all infants, children, and adolescents, and lactation care is an integral and crucial component of this effort. J Pediatr Health Care. (2014) ■, ■-■.

KEY WORDS

Breastfeeding, primary care, Tri-Core Model, self-efficacy, lactation support, lactation education

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BOX 1. NAPNAP's ten recommended guidelines for fostering breastfeeding for PNPs

1. Promote informed choice about infant feeding practice by educating expectant parents, family members, and society about the nutritional, social, and economic advantages of feeding breast milk.
2. Identify support systems necessary to support the nutritional goals of breastfeeding mothers and those who choose to exclusively feed breast milk to their babies.
3. Advocate for breastfeeding within individual practice settings, the community, and at the legislative level.
4. Serve as an educational resource for other health care professionals, employers, and the general public regarding breastfeeding.
5. Participate in the design and implementation of local and national policies that promote and support breastfeeding and remove barriers to breastfeeding, including those in the workplace.
6. Participate in local and regional breastfeeding coalitions to actively promote the continued development and implementation of appropriate breastfeeding care policies in health facilities and communities.
7. Identify breastfeeding experts to participate on organizational committees and governing boards for the purpose of ensuring that breastfeeding promotion, protection, and support concerns are addressed in the development of policies and programs affecting women and children.
8. Promote, protect, and support breastfeeding as a global strategy to reduce infant morbidity and mortality in both developed and underdeveloped countries.
9. Recognize that infants are especially vulnerable during times of disaster, both human-made and natural; breast milk provides protection and is especially important at this time.
10. Conduct research and quality improvement projects related to breastfeeding so that PNPs can provide evidence-based care to the breastfeeding dyad and families.

From National Association of Pediatric Nurse Practitioners. (2013). NAPNAP position statement on breastfeeding. *Journal of Pediatric Health Care*, *27*, e13–e15.

The National Association of Pediatric Nurse Practitioners (NAPNAP) recognizes that optimal nutrition for newborns and infants consists of exclusive breastfeeding for the first 6 months of life, the addition of appropriate solid foods at 6 months, and continued breastfeeding until 12 months of age and/or until mutually desired by mother or child (NAPNAP, 2013). Promoting, supporting, and enhancing sustainable interventions to nurture breastfeeding is an integral component of pediatric health care. Pediatric nurse practitioners (PNPs) are in an ideal position to positively influence a mother's breastfeeding practices to improve breastfeeding initiation and duration, remove breastfeeding barriers, and help mothers be successful in their goals for infant feeding. PNPs are uniquely qualified to be the leaders in developing and implementing primary care breastfeeding support and educational programs.

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BACKGROUND

To provide the breastfeeding support and counseling that mothers need, PNPs should obtain sufficient training and skills in breastfeeding management. The NAPNAP Position Statement on Breastfeeding recommends that "pediatric health care providers participate in continuing education opportunities dedicated to the promotion of breastfeeding to assist mothers in achieving their breastfeeding goals" (NAPNAP, 2013, p. 2). It is the authors' goal to establish an evidence-based practice (EBP) primary care set of recommendations and interventions aimed at increasing breastfeeding rates and improving the health outcomes of women and children. Although rates of breastfeeding are slowly rising, prevalence continues to remain poor in the United States compared with other Westernized nations despite current public awareness and public health programs (Centers for Disease Control and Prevention [CDC], 2012a; Jones, Kogan, Gopal, Dee, & Grummer-Strawn, 2011). The significance of this primary care inequity has resulted in poor breastfeeding rates and outcomes in the United States. This situation has been highlighted by the U.S. Department of Health and Human Services (USDHHS), which has indicated the vital need to continue improving lactation services in primary care to promote breastfeeding in the United States (USDHHS, 2011b).

EBP REVIEW OF LITERATURE AND FINDINGS

Current research demonstrates the significance of supporting breastfeeding within the primary care setting and that multifactorial interventions are safe, effective, and needed. Current evidence indicates that a multifaceted breastfeeding intervention strategy yields the greatest improvement in breastfeeding outcomes and rates. Breastfeeding promotion requires a multi-interventional collaborative approach to succeed.

Within the vast consensus of literature, three specific EBP interventions are frequently identified as being the most highly effective: (a) early and aggressive lactation support, (b) maternal and staff education, and (c) maternal confidence support (Blyth et al., 2002; Ekstrom & Nissen, 2006; Humphries, 2011; Joanna Briggs Institute, 2008).

The literature shows that a majority of mothers surveyed identify the following primary reasons for early breastfeeding cessation: (a) poor lactation support, (b) insufficient knowledge about breastfeeding, (c) low personal confidence (self-efficacy), (d) perceived low milk supply, (e) difficulties with latching, and (f) work/employment barriers (Dyson, McCormick, & Renfrew, 2008; Meedya, Fahy, & Kable, 2010). Ineffective postpartum breastfeeding support and education has historically had an adverse effect, contributing to suboptimal breastfeeding rates and self-efficacy outcomes. As evidenced by current research, mothers often cite lack of breastfeeding support and education as the primary reason for premature cessation (Meedya et al., 2010).

NAPNAP has identified 10 key breastfeeding strategies to effectively initiate, sustain, and manage breastfeeding efforts in primary care for all health care providers (NAPNAP, 2013; Box 1). These strategies include providing parental education and lactation support, overcoming breastfeeding barriers, maintaining EBP lactation care and knowledge, and designing and implementing breastfeeding policies and procedures. NAPNAP supports efforts that promote increasing breastfeeding rates nationally, thus contributing to improving health outcomes, and achieving the benchmark goals of Healthy People 2020 (USDHHS, 2009). NAPNAP affirms that "exclusive feeding of breast milk represents the most optimal feeding strategy for newborns and infants" (NAPNAP, 2013, p. e13). Additionally, NAPNAP has recommended that all pediatric health care providers engage in comprehensive evidence-based and culturally sensitive educational and lactation clinical management practice (NAPNAP, 2013).

BREASTFEEDING OBJECTIVES FOR THE PRIMARY CARE PROVIDER

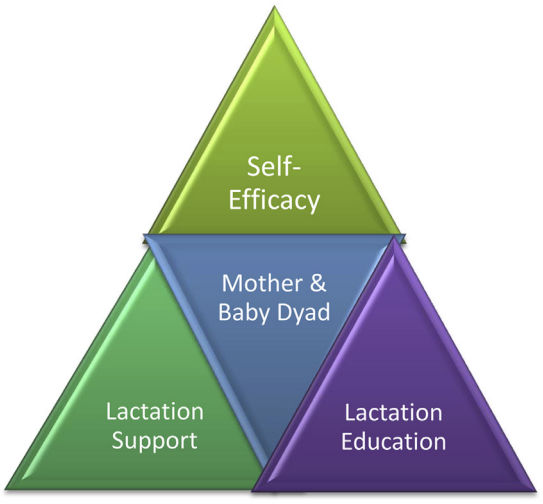
The following breastfeeding objectives have been identified for primary care providers:

- To improve breastfeeding education, initiation, duration, and exclusivity rates among all women within the prenatal, antenatal, and postnatal care settings.
- To inform and educate pediatric providers regarding current breastfeeding EBP that helps mothers meet their breastfeeding goals and assists them in overcoming challenges or barriers they may experience.
- To foster an environment of multiprofessional collaboration among colleagues and professional groups, thereby aligning all efforts to jointly promote and integrate breastfeeding best practices into the health care setting.
- To continue efforts in achieving Healthy People 2020 benchmark goals by incorporating into clinical practice the Tri-Core Model (Busch, 2013), the Baby Friendly Ten Steps (World Health Organization [WHO], 1998), Ten Steps to Support Families (American Academy of Pediatrics [AAP], 2012), the protocols of the Academy of Breastfeeding Medicine (ABM; 2014), and the Call to Action to Support Breastfeeding (USDHHS, 2011b) whenever possible and applicable.
- To educate the public and encourage policy and legislative awareness regarding the benefits of breastfeeding, maternal legal rights, and the associated risks of not supporting breastfeeding within the local, state, and national levels.

THE TRI-CORE CONCEPTUAL BREASTFEEDING MODEL FOR PRIMARY CARE

In support of NAPNAP's Position Statement on Breastfeeding, the Surgeon General's Call to Action (USDHHS, 2011b), and the international Baby Friendly Ten-Steps initiative (WHO, 1998) and to achieve the Healthy People 2020 breastfeeding objectives (USDHHS, 2010), these best practice guidelines have been developed to provide PNPs with a framework to integrate evidence-based breastfeeding knowledge, skills, and attitudes into their clinical practice with use of the Tri-Core Breastfeeding Model (Figure) as a framework (Busch, 2013). The Tri-Core Model provides a

FIGURE. Tri-Core Breastfeeding Model (Busch, 2013). This figure appears in color online at www.jpedhc.org.



conceptual framework emphasizing the three crucial principles of lactation promotion and sustainability for the mother-baby dyad: (a) maternal self-efficacy, (b) maternal and professional lactation support, and (c) maternal and professional lactation education. Multi-intervention and a multidisciplinary approach have the most profound effect on raising breastfeeding rates and improving health outcomes. Every baby born deserves the gift of their mother's milk—such a small present with the most profound results.

The Tri-Core Breastfeeding Conceptual Model Principles

Concept definitions

Maternal self-efficacy. Confidence and self-efficacy interventions and activities (a) foster maternal breastfeeding support and promotion, (b) identify any potential barriers or obstacles that may inhibit a mother's ability to successfully breastfeed, and (c) enhance emotional support by involving the partner, friends, and extended family. These interventions may include assisting mothers with their return to employment/school and connecting them with local community resources/peer support groups. Incorporating self-efficacy support involves the mother-baby dyad and hospital leadership, hospital staff, and providers in the primary care setting, all of whom are vital stakeholders and are necessary for successful outcomes. Maternal self-efficacy strategies must involve the dyad's support and family network, all vested health care providers, and the greater community.

Lactation support. Professional lactation support, counseling, and management interventions that are soundly based on evidence-based practices are provided by nurses, advanced practice registered nurses, physicians, International Board Certified Lactation Consultants, doulas, dietitians, breastfeeding peer counselors, and other vested professionals to foster breastfeeding efforts and duration and improve exclusivity rates. Delivering lactation support involves providing services to the mother-baby dyad and educating providers and adjunct staff members on current EBP lactation practices.

Lactation education. Specific patient-centered breastfeeding educational materials are provided for the dyad and family regarding common, acute, or situational problems and concerns and/or anticipatory guidance. Every effort should be made to utilize culturally sensitive and ethnically appropriate materials at the appropriate literature level. Professional breastfeeding educational materials should be made available for all health care professionals to facilitate the provision of EBP lactation care and management.

Breastfeeding Recommendations for Primary Care

Self-Efficacy strategies

Mothers who have low confidence in themselves (low self-efficacy) have lower rates of breastfeeding initiation and continuation (Dennis, 1999). When a mother has low breastfeeding self-efficacy paired with lack of breastfeeding support and education, breastfeeding outcomes tend to be poor. The literature indicates unmistakable benefits and positive outcomes by enhancing maternal self-efficacy; contrasting conclusions were not found. The conclusive evidence supports the importance of identifying any barriers that may influence maternal self-efficacy that in turn influence successful breastfeeding outcomes (Avery et al., 2009; Bowels, 2011; Dennis, 1999; McCarter-Spalding & Dennis, 2010; Meedya et al., 2010). Cultivating maternal breastfeeding self-efficacy through education and lactation support has been demonstrated to be an effective EBP intervention to improve postpartum breastfeeding rates and outcomes. The initial postpartum period is a critical time to identify, establish, support, and sustain breastfeeding efforts by promoting a breastfeeding-friendly postpartum care approach. A mother's belief in her ability and capability to breastfeed is a concept and theory identified as breastfeeding self-efficacy. Breastfeeding self-efficacy is a mother's perceived confidence in her own ability to successfully breastfeed her infant and manage problems when they arise (Dennis, 1999). Breastfeeding efforts are highly affected by maternal levels of self-efficacy, and PNPs are fully capable of interpreting low levels of breastfeeding self-efficacy and intervening.

Integrating strategies to enhance self-efficacy in primary care will help increase a mother's confidence in her ability to breastfeed and to persevere if she encounters difficulties, thus affecting the success and outcomes of breastfeeding. Many challenges may have a significant affect on whether a mother can successfully breastfeed her baby. Identifying predisposing variables may contribute to the likelihood of success or failure and is essential to improving breastfeeding rates and duration. Predisposing variables that include a lack of social support systems, workplace barriers, partner support, a knowledge deficit, concurring health conditions, and previous unsuccessful attempts at breastfeeding all greatly contribute to outcomes.

One of the most effective strategies for evaluating maternal self-efficacy levels is to ask the specific key questions listed in the next section. These basic questions capture essential areas that can lead to further discussion or evaluation. Strategies should be developed to identify the specific barriers or issues a mother may be experiencing that will affect her success in breastfeeding. Commonly, these barriers or issues include lack of support (family or employer), milk supply, latch,

BOX 2. Breastfeeding resources

Clinical Protocols and Resources

- Web site: Academy of Breastfeeding Medicine: www.bfmed.org
- Handbook for physicians: American Academy of Pediatrics and American College of Obstetricians and Gynecologists. (2013). *Breastfeeding handbook for physicians* (2nd ed.). Elk Grove Village, IL: Authors.
- Useful handbook for office staff: Mohrbacher N. (2010). *Breastfeeding answers made simple—A guide for helping mothers.* Amarillo, TX: Hale Publishing.
- Comprehensive medical reference: Lawrence, R. A., & Lawrence, R. M. (2011). *Breastfeeding: A guide for the medical profession* (7th ed.). Maryland Heights, MO: Elsevier.
- Widely used parent guides: Newman, J., & Pitman, T. (2006). *The ultimate breastfeeding book of answers.* New York, NY: Random House.
- Parent's guide: Spangler, A. (2010). *Breastfeeding—A parent's guide* (9th ed.).
- Book: Wiessinger, D., West, D., & Pitman, T. (2010). *The womanly art of breastfeeding.* New York, NY: Ballantine Books.
- Call to action: *U.S. Surgeon General: Call to action to support breastfeeding.* Retrieved from http://www.surgeongeneral.gov/library/calls/breastfeeding/index.html
- Web site: National Association of Pediatric Nurse Practitioners: www.napnap.org
- Web site: American College of Nurse Midwives: www.acnm.org
- Centers for Disease Control and Prevention (CDC) guide: *The CDC guide to breastfeeding interventions.* Retrieved from http://www.cdc.gov/breastfeeding/resources/guide.htm
- American Academy of Pediatrics guide: *Health professionals resource guide.* Retrieved from http://www2.aap.org/breastfeeding/healthProfessionalsResourceGuide.html
- U.S. Department of Health and Human Services initiative: *Breastfeeding.* Retrieved from http://www.womenshealth.gov/breastfeeding/index.html
- Web site: International Lactation Consultant Association: www.ilca.org
- Web site: La Leche League: http://www.llli.org/resources.html
- Scale: The Maternal Breastfeeding Self-Efficacy Scale (Dennis, 2003)
- Scale: Edinburgh Post-Natal Depression Scale. Retrieved from http://www.fresno.ucsf.edu/pediatrics/downloads/edinburghscale.pdf

Medications and Breastfeeding

- Smartphone app for breast milk and medications: http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT
- Infant Risk Center: 806-352-2519; http://www.InfantRisk.org
- Book: Hale, T. W. (2010). *Medications and mothers' milk* (14th ed.). Amarillo, TX: Hale Publishing.
- Study center: Lactation Study Center at University of Rochester: 585-275-0088; rlaw@neonate/pediatrics.rochester.edu

Learning to Breastfeed

- Guide: Breastfeeding. Retrieved from http://www.womenshealth.gov/breastfeeding/learning-to-breastfeed
- Office on Women's Health Help line: 1-800-994-9662
- Web site: Kelly Mom: http://kellymom.com
- Web site: Massachusetts Breastfeeding Coalition: http://massbreastfeeding.org/2009/02/09/breastfeeding-management/
- Nursing Mothers Council: Specific breastfeeding topics/issues: http://www.nursingmothers.org/html/resources.html
- Web site: Breastfeeding Made Simple: www.breastfeedingmadesimple.com
- The Bump: Breastfeeding: http://pregnant.thebump.com/new-mom-new-dad/breastfeeding.aspx
- Web site: Promotion of Mother's Milk, Inc.: http://www.naturalchildbirth.org/natural/resources/organizations/organizations07.htm
- Web site: Best for Babes: http://www.bestforbabes.org

Breastfeeding in the News and Policy

- Business Case for Breastfeeding Tool Kit: www.ask.hrsa.gov/detail_materials.cfm?ProdID=4135
- Patient Protection and Affordable Care Act: www.dol.gov/whd/regs/compliance/whdfs73.htm
- Workplace support in federal law: http://www.usbreastfeeding.org/Workplace/WorkplaceSupport/WorkplaceSupportinHealthCareReform/tabid/175/Default.aspx
- Break Time for Nursing Mothers Under the Fair Labor Standards Act (FLSA): http://www.dol.gov/whd/regs/compliance/whdfs73.pdf
- AAP guide to billing for lactation services: http://www2.aap.org/breastfeeding/files/pdf/coding.pdf (provides guidance on billing codes and requirements)
- Finding a lactation consultant
  - International Lactation Consultant Association: www.ilca.org/i4a/pages/index.cfm?pageid=3337
  - U.S. Lactation Consultant Association: http://uslca.org/resources/find-a-lactation-consultant

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BOX 2. *Continued.*

Online Continuing Education Credits

- Continuing Medical Education Units: www.breastfeedingtraining.org/
- Continuing Education Units and Continuing Education Recognition Program Units: — www.LERon-line.com/
  - — http://www.northeastern.edu/breastfeedingcme/
  - — http://www2.aap.org/breastfeeding/curriculum/index.html (AAP's Breastfeeding Residency curriculum)
  - — www.wellstart.org/Self-Study-Module.pdf (Lactation Management curriculum prepared by Audrey J. Naylor, MD, DrPH and Ruth A. Wester, BA, RN, PNP)
  - — www.breastfeedingonline.com (articles by Jack Newman, MD, FRCPC)
  - — www.breastfeedingBasics.org/ (Breastfeeding tutorial without continuing education credits)

Breast Pump Customer Service Numbers and Web Sites

- Medela: 800-435-8316; www.medela.us
- Ameda: 866-992-6332; www.ameda.com
- Hygeia: 888-786-7466; www.hygeiababy.com
- Limerick: 877-546-3742; www.limerickinc.com
- Avent: 800-542-8368; www.avent.com
- Bailey: 800-413-3216; www.baileymed.com

Milk Banking

- Human Milk Banking Association of North America: www.hmbana.org (Information about guidelines for storing breast milk and, more specifically, information about donating and requesting donor milk)

National and International Organizations

- Baby-Friendly Hospital Initiative, USA: www.babyfriendlyusa.org
- Centers for Disease Control and Prevention: www.cdc.gov/breastfeeding
- U.S. Department of Health and Human Services: www.womenshealth.gov/breastfeeding
- Healthy People 2020: www.healthypeople.gov/HP2020
- March of Dimes (information about preterm babies): www.marchofdimes.com
- United States Breastfeeding Committee: www.usbreastfeeding.org
- WIC/Food & Nutrition Services: http://www.fns.usda.gov/wic/women-infants-and-children-wic
- National Breastfeeding Center: www.nbfcenter.com
- UNICEF: www.unicef.org
- World Health Organization: www.who.int/topics/breastfeeding/en/

soreness, a basic breastfeeding knowledge deficit, insufficient diet, maternal breast issues, work or employment issues, infant colic, jaundice, hypoglycemia, or other infant- and maternal- related issues.

Key breastfeeding questions for assessment. Ask open-ended questions about how breastfeeding is progressing, such as:

- **Barriers/Obstacles:** Do you have any questions, problems, or concerns today or for the near future about your breastfeeding?
- **Maternal Confidence:** How do you feel your breastfeeding is going? Is this your first time breastfeeding? Are you enjoying breastfeeding your baby?
- **Milk Supply and Latch:** Is breastfeeding pleasant or painful? Are you experiencing any breast pain, nipple soreness, or difficulty latching? Do your breasts feel full before feeding, softer after feeding, or ever leak milk, and do you see milk in your baby's mouth?
- **Baby:** Does your baby seem satisfied, or is he or she still hungry or fussy after feeding? Does your baby struggle to nurse, or do you hear strange sounds? Are your baby's stools yellow and seedy, and does he or she produce many wet diapers (i.e., 8 to 10 per day by the time he or she is 10 days old)?
- **Employment/School and Social Support:** Do you feel supported by your partner, family, and/or friends? Are you returning to work or school? Do you have any questions about pumping or storing milk?

Key self-efficacy strategies.

- Provide or refer the mother to a network of support with role models who empower and influence breastfeeding self-efficacy, such as mother-to-mother support groups and peer counseling.
- Involve partners and family in promoting breastfeeding and in infant feeding decisions. Suggest that family members attend infant well-child visits.
- Provide effective support to increase self-efficacy by listening with empathy, giving detailed information focused on the mother's unique needs, and providing encouragement and affirmation for her breastfeeding efforts.
- Avoid ineffective support and conflicting advice by giving evidence-based information, especially about positioning and latch, supplementation, and length of feedings, which should promote the mother's confidence in breastfeeding.

- Provide guidance and support in breastfeeding, assisting the mother in mastering skills to effectively help her infant latch, recognize infant cues of hunger and satiation, gain confidence in her ability to produce enough milk, and handle common breastfeeding problems.
- Refer the mother to local breastfeeding coalitions for breastfeeding support and information. Inform her of local pump suppliers and insurance coverage of lactation services, which is now mandated by the Affordable Care Act for private insurers.
- Identify high-risk mothers and their needs by using a valid self-efficacy questionnaire survey or postpartum depression screening tools (Box 2).
- Identify any barriers in social support, previous negative breastfeeding experiences, future issues such as those related to employment/school, breast surgeries, or any additional maternal or infant conditions that may affect outcomes.
- Provide a resource list of online Web sites that are useful for breastfeeding families (Box 2).

Lactation support

Office visits with a lactation consultant (U.S. Lactation Consultant Association, 2013), PNP, or pediatrician should be encouraged for all mothers, especially high-risk moms, first-time moms, or anyone with any outstanding issues or concerns not met via a phone call or regular infant visit. The AAP recommends that all newborns be seen within 48 to 72 hours after discharge (AAP, 2012). Close observation of babies who are having difficulty gaining weight or with concurrent medical conditions also justify additional provider/lactation consultation visits. Moreover, all family members should be encouraged to attend infant visits, especially fathers, partners, and/or grandparents for social support and shared goal setting. Knowing regional lactation consultants, peer-support groups, and breastfeeding coalition groups is key to providing beneficial referrals and follow-up.

> Within the primary care setting, breastfeeding status should be assessed at each and every infant visit.

Within the primary care setting, breastfeeding status should be assessed at each and every infant visit. If possible, observe the mother-baby dyad breastfeeding to assess the latch and positioning. Examine the infant for any potential physiologic conditions that may inhibit the breastfeeding process, such as ankyloglossia or oral candidiasis. If problems arise, rapidly intervene with correct and accurate EBP lactation management strategies or refer the mother to an International Board Certified Lactation Consultant so she can continue her breastfeeding efforts and problems do not worsen. Use appropriate infant growth charts to monitor healthy and normal growth patterns in the breastfed infant (CDC, 2012b). Furthermore, utilize up-to-date lactation resources such as the LactMed app (National Library of Medicine, 2013), the book *Medications and Mother's Milk* (Hale, 2012), or the book *Breastfeeding: A Guide for the Medical Profession* (Lawrence & Lawrence, 2013) when presented with maternal medication usage or lactation conditions.

Creating "breastfeeding friendly" office environment aids supports parents in their breastfeeding efforts and reinforces the idea that breastfeeding is a normal means of infant nutrition and should be encouraged (Grawey, Marinelli, & Holmes, 2013). Areas should be designated where mothers can breastfeed more comfortably than in the busy waiting room. It is essential to encourage mothers as they walk in the door, greet them with a smile, and offer positive statements regarding their breastfeeding efforts. Displaying informative and supportive breastfeeding posters in the waiting and examination rooms is an example of an action that can be readily incorporated (Box 3).

Formula supplementation may be medically indicated and necessary for infant health; therefore, infant formula should be accessible, yet kept discreetly out of patient view within the office setting and used judicially. Furthermore, instruction regarding the proper preparation of infant formula should be provided for mothers supplementing with formula. Emphasis should be placed on maximizing the mother's milk supply potential, and formula may be regarded as an adjunct nutritional therapy to achieve this goal.

Key lactation support strategies.

- Facilitate early initiation of breastfeeding within 1 hour of the infant's birth, with the infant rooming-in with the mother and the mother providing frequent cue-based feedings.
- Demonstrate and assist with successful latching and positioning (including but not limited to baby-led breastfeeding, the football hold, the cross-cradle hold, and cradle positioning).
- Restrict use of supplements unless medically indicated. Recommend use of expressed breast milk or human banked milk as the preferred supplement if possible before use of formula.
- Perform a comprehensive breastfeeding assessment of the mother-baby dyad, including in the early newborn period the crucial assessment of the latch, lactogenesis, adequate milk transfer, infant weight, hydration, jaundice, feeding activity, and output.
- Identify mothers at risk for breastfeeding problems and early cessation of breastfeeding by assessing cultural, social, psychosocial, physical, and environmental barriers that may affect breastfeeding outcomes.

BOX 3. Recommendations for setting up a "breastfeeding friendly practice"

- Create a "Breastfeeding Policy Statement" recognizing and valuing the benefits of breastfeeding promotion.
- Recommend exclusive breastfeeding until 6 months if possible and continued breastfeeding until 1 year or beyond with additional solid complementary foods.
- Create a supportive waiting room filled with positive multilanguage breastfeeding posters, pamphlets, and educational materials.
- Provide an open or private area for mothers to breastfeed comfortably if preferred, and/or openly support breastfeeding in the waiting/examination rooms.
- Encourage all mothers as they walk in the door; greet families with a smile and a positive statement regarding their breastfeeding efforts.
- Store infant formula discreetly within the office out of the view of patients.
- Encourage staff to be knowledgeable regarding breastfeeding; online Web sites offer free modules for breastfeeding, such as Wellstart International (2009), which offers staff in-services for clinical updates.
- Create a multi-professional collaborative circle of vested professionals such as fellow advanced practice registered nurses, registered nurses, physicians, doulas, dietitians, and International Board Certified Lactation Consultants within the primary care community. Refer to the International Board Certified Lactation Consultant quickly when lactation difficulties arise.
- Hold "Work Breastfeeding Week" activities each August to support breastfeeding.
- Identify staff breastfeeding champions to be key in monitoring materials, posters, and sustainability and to provide additional phone triage follow-up and support; perhaps allow walk-in weight checks for mother-infant dyads; encourage a multiprofessional environment to foster breastfeeding promotion.
- Have resources on hand in the office, such as the *Medications While Lactating* (2013), *Breastfeeding for Professionals* (2013), *The Ultimate Breastfeeding Book of Answers* (2006), the Academy of Breastfeeding Medicine's Clinical Protocol No. 14: *Breastfeeding-Friendly Physician's Office: Care for Infants and Children* (revised 2013), and the *Womanly Art of Breastfeeding* (2010).

- Identify a mother's individual needs and concerns and provide basic evidence-based breastfeeding management and interventions.
- Develop and appropriately communicate and support an individualized breastfeeding care plan.
- Collaborate with and/or refer the mother to a lactation consultant/educator or other health care professional trained for complex breastfeeding problems as needed.
- Provide follow-up phone calls and lactation visits for breastfeeding support as needed until parents feel confident and the infant has a consistent adequate weight gain in the early newborn period and/or throughout the first year of breastfeeding or longer as determined necessary.
- Preserve breastfeeding under adverse conditions and/or during illnesses of the mother or baby when possible.
- Create an office "Breastfeeding Policy Statement" recognizing and valuing the benefits of breastfeeding for patients, families, and the health care staff.

Lactation education

It is vital to be well versed in current available breastfeeding resources. As with many other specialties, new EBP information is constantly being released to support mothers. Breastfeeding resources are readily available via professional agencies, books, journals, professional organizations, conferences, and governmental agencies. The PNP can access many online resources/patient information materials or attend conferences for personal educational attainment or certification. Having reference books handy, especially in the nurse triage areas, is also crucial for quick and easy access to information.

Breastfeeding education to families can be provided in person, via handouts, through online references, over the phone, as new smartphone applications, and/or via text messages. Be judicial with regard to the use of culturally and ethnically sensitive literature. Target specific literature with the specific issues, conditions, or age-specific anticipatory guidance information. Be sensitive to "information overload" by providing accurate, concise, and appropriate education. Encourage mothers and families to feel comfortable about asking for educational resources and construct a standard library of approved materials to facilitate distribution by staff members.

The PNP should be well versed in the Affordable Care Act, which has enacted new policies governing employers (with greater than 50 employees) to allow pumping breaks for lactating women, lactation services, and counseling, which aid in supporting mothers (USDHHS, 2011a). Lactation counseling and supplies must now be covered by private insurance companies for maternal and pediatric care, and billable International Classification of Diseases (ICD)-9 and ICD-10 coding information is available online (AAP, 2010). However, Medicaid coverage for lactation counseling, education, and supplies is not included in the mandate, and coverage varies widely from state to state. A free

resource and tool kit entitled *Business Case for Breastfeeding* is available for employers and breastfeeding employees (Maternal and Child Health, 2010). An additional free resource for families entitled *It's Only Natural: Mother's Love, Mother's Milk* can be found on the Office of Women's Health Web site (USDHHS, 2013). The site addresses breastfeeding disparities by providing breastfeeding facts and tips on how to make breastfeeding work, specifically for African American women and their families (USDHHS, 2013). Providing families with accurate legislative and EBP care forms the groundwork for the establishment of successful breastfeeding support, and PNPs can be active leaders in this movement.

Key lactation educational strategies. Through graduate education and/or continuing education, the PNP should receive the education and basic training and skills necessary to assist the breastfeeding mother in achieving her goals. The following lactation educational strategies are key:

- Educate about the importance of skin-to-skin contact starting within the first hour of life and cue-based on-demand feedings.
- Educate families about the importance of exclusive breastfeeding and the risks of formula feeding in the early newborn period. Support and encourage exclusive breastfeeding for the first 6 months of life, followed by continued breastfeeding after the first 6 months of life (with the appropriate addition of solid foods) and for the recommended 1 year and beyond as mutually desired by the mother and child.
- Educate families regarding all the benefits of breastfeeding for the infant, mother, and family and the long-term health benefits for both the mother and infant.
- Educate families about breastfeeding basics and patterns and how to determine if their baby is getting enough milk.
- Educate mothers how to breastfeed and maintain lactation when they are separated from their babies.
- Use culturally appropriate materials to educate the mother and all family members involved in the infant's care about the benefits and management of breastfeeding. Emphasize the importance of supporting the mother so she is able to achieve her breastfeeding goals and educate the father and family on alternative ways to enhance their bonding with the new infant (e.g., bathing, changing diapers, and dressing the infant).
- Provide anticipatory guidance and literature about common breastfeeding issues, such as low/high milk supply, engorgement, maternal diet, galactagogues, breastfeeding frequency, latch, infant voiding and stooling patterns, growth patterns/spurts, pumping, nipple or breast pain, medications, and school and employment information.
- Provide additional lactation information and counseling regarding advanced maternal or infant issues. Maternal issues may include hyperlactation condition, problems with letdown, polycystic ovarian syndrome, diabetes, obesity, hypoplasia, and medication usage. Infant issues may include colic, jaundice, possible food-related allergies, hypoglycemia, prematurity, multiples, ankyloglossia (being tongue tied), breastfeeding-related colitis, and being slow to gain weight.
- Be familiar with and educate new parents/families on current legislative information regarding the Affordable Care Act breastfeeding provisions, state Medicaid lactation coverage, and federal and state laws supporting mothers so they can successfully breastfeed and pump.
- Collaborate with interprofessional colleagues in lactation practice and disseminate newfound knowledge and information regarding breastfeeding. Facilitate a sense of shared support, responsibility, and education attainment for achieving improved breastfeeding outcomes among fellow PNPs, nurses, physicians, and other adjunct health care professionals.

SUPPORTING THE MOTHER'S ABILITY TO PROVIDE BREAST MILK

Supporting a mother's ability to provide her own breast milk to her baby must be a collaborative goal for both the family and health care provider. If infants cannot first receive their own mother's breast milk, donor breast milk from an accredited human-milk bank or hospital-based milk bank should be used that upholds the standards of the Human Milk Banking Association of North America (HMBANA, 2013). Efforts to establish, sustain, and increase a mother's milk supply if necessary should be the priority of all health care providers who are a part of the mother-infant dyad. For those mothers who have a surplus of milk, donation to a HMBANA milk bank may be suggested and supported. Utilizing the Tri-Core Breastfeeding Model and being knowledgeable about current legislative rights, medical insurance benefits, and lactation equipment will help working mothers, students, and women with low milk supply to maximize their potential milk volume.

The authors discourage and do not recommend the purchasing of online breast milk from non-HMBANA accredited milk banks, especially from unknown sources and donors. Awareness is increasing regarding possible high levels of microbe contamination of breast milk being sold online for purchase. In a recent study, high levels of viral and bacterial growth were found, likely as a result of unsanitary collection, storage, and transport practices (Keim et al., 2013). These high levels of

bacteria and viruses were found to be significantly elevated when compared with a mother's own fresh breast milk and endangers infants considerably. PNPs need to stress that the first priority must be to maintain and promote a mother's own milk supply, and secondarily to utilize HMBANA-accredited milk banks if/when needed.

CONCLUSION

Human milk is an amazing and powerful all-natural nutritional substance—thus the nickname "liquid gold." The cornerstone of health for an infant begins with being breastfed. The short- and long-term benefits for mother, baby, and society are remarkable. It is our obligation in nursing and in health care in general to assist every mother in her efforts to successfully breastfeed her infant. The goal of these recommendations is to assist pediatric care providers, such as PNPs, with EBP interventions aimed at improving breastfeeding rates and health outcomes. Inadequate primary care lactation support has had a direct effect on poor breastfeeding outcomes and rates. A significant correlation exists between lack of breastfeeding and an increase in associated health risks, and thus it is important to encourage and sustain breastfeeding for all mothers and babies. PNPs are uniquely qualified to be leaders in developing and implementing multiprofessional primary care breastfeeding support and educational programs. Pediatric health care is soundly based on fostering healthy beginnings for all infants, and breastfeeding is the foundation of this effort.

A significant correlation exists between lack of breastfeeding and an increase in associated health risks, and thus it is important to encourage and sustain breastfeeding for all mothers and babies.

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