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Examining Provider Perceptions and Roles Associated to Breastfeeding Support and Medical Management in Primary Care

Meghan Ganio Molinari

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To the Dean of the Graduate School:

We are submitting a thesis written by Meghan Ganio Molinari entitled Examining Provider Perceptions and Roles Associated to Breastfeeding Support and Medical Management in Primary Care. We recommend acceptance in partial fulfillment of the requirements for the degree of Master of Science in Human Nutrition.

Hope Lima, Thesis Adviser

Ashley Licata, Committee Member

Katherine Knop, Committee Member

Karin Evans, Committee Member

Takita Sumter, Dean, College of Arts and Sciences

Jack E. DeRochi, Dean, Graduate School

EXAMINING PROVIDER PERCEPTIONS AND ROLES ASSOCIATED TO BREASTFEEDING SUPPORT AND MEDICAL MANAGEMENT IN PRIMARY CARE

A Thesis Presented to the Faculty

Of the

College of Arts & Sciences In Partial Fulfillment

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Of Master of Science

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By

Meghan Ganio Molinari

Abstract

Background: Human milk is recommended as the exclusive source of nutrition for all infants in the first six months of life. Current rates of exclusive breastfeeding at six months are well below the public health recommendations (24.9% as of 2015). New mothers may experience many challenges which impact both breastfeeding initiation and duration rates in the postpartum period. Studies indicate that breastfeeding rates improve when women receive a combination of prenatal education coupled with postnatal support. Primary care practitioners in outpatient settings have a unique opportunity to provide lactation education, support, and medical management for their patients to improve outcomes.

Research aim/question(s): To develop and validate a survey questionnaire used to assess healthcare provider perceptions and roles related to lactation practices in a primary care setting. Subsequently, to describe the perceptions and roles of practitioners involved in primary care for pregnant, postpartum, and infant populations.

Materials and Methods: This research created a cross-sectional survey questionnaire targeting primary care and ancillary providers in outpatient settings. The pilot instrument was both content and face validated through an electronic method using a panel of 18 experts known to work with pregnant and

lactating populations. The final 58-item instrument was distributed to primary care providers in the Southeastern United States. A total of 38 questions have been reported on in this analysis. The final results for the sample (n = 40) are described utilizing descriptive statistics and frequencies.

Results: The pilot instrument consisted of 49 questions while the final instrument expanded to include 58 questions. Results of the survey highlight the majority of primary care providers (76%) believe it is the role of the physician to deliver lactation education, support, and medical management. However, 40% of the respondents reported referring patients to lactation professionals most of the time. Additional analysis of survey variables focused on reasons for referral and clinical barriers to lactation care suggest that integrated care models may be necessary to properly support pregnant, postpartum, and infant populations.

Conclusion: Healthcare providers in outpatient settings believe lactation education, support, and medical management is important to provide to their patients. Time is a consistent barrier for point-of-care practices yet the reason for referral are clinically significant for breastfeeding success. Future research is necessary to adequately assess the coordination of care across primary and ancillary providers. Finally, standardized evidence-based practices should be developed for implementation in outpatient care settings.

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Introduction

Maternal, infant, and child health is a long-term predictor of population health outcomes.[1] Two epidemiological indicators used to assess maternal-child health status include infant mortality and maternal mortality. The United States currently has the highest infant and maternal mortality rates among Organisation for Economic Co-operation and Development (OCED) countries which includes similar industrialized economies based on gross domestic product and gross domestic product per capita.[2] Therefore, developing and implementing programs which target susceptible women and children groups is a priority for state, federal, and global organizations alike.[3–5]

One common approach to decrease maternal-infant morbidity and mortality is to increase breastfeeding initiation and exclusivity rates.[6,7] Human milk provides infants with adequate nutrition through the first six months of life while decreasing incidence of gastrointestinal, respiratory, and otitis media infections.[8] Moreover, there is an association between breastfeeding duration and a reduced risk of breast and ovarian cancers for mothers.[9,10] Public health and medical organizations recommend that all infants receive exclusive human milk for the first six months of life with continuation through two years and beyond as desired.[11]

The Centers for Disease Control report that current breastfeeding rates in the United States are far below recommendations - only 24.9% of infants receive

exclusive human milk until the age of six months.[12] The decision to breastfeed is impacted by a myriad of factors including individual, cultural, historical, and socioeconomic.[13] Even considering those complex forces at play, studies indicate that breastfeeding rates improve when women and families receive a combination of prenatal education coupled with postnatal support.[14,15] Primary care providers are in a unique position to promote human milk and provide integrated care for breastfeeding families.

Chapter 1: A Literature Review on the Dynamic Nature of Breastfeeding

Breastfeeding for Future Health

Public Health Impact of Breastfeeding

Nutrition represents a critical component for growth and development throughout the lifespan. Human milk is the most appropriate feeding option during infancy, and is endorsed by all major public health and medical organizations.[16–19] Prior research underscores the dose-dependent nature of lactation with both mother and baby experiencing physical, social, and cognitive benefits.[20] To put it plainly, the role of breastmilk in overall wellness and disease prevention cannot be overstated.

There is strong evidence that the breastfeeding relationship positively impacts maternal and infant health. Infants receive required nutrients for proper growth, critical immunoglobulins for protection from illness, and improved long-term cognitive neurological outcomes.[21] Human milk is linked with reduced rates of upper respiratory infections, otitis media, and gastrointestinal infections for infants.[22] Simultaneously, mothers have a reduced risk for breast and ovarian cancer, and reduced rates of postpartum hemorrhaging, and postpartum depression.[23] Breastfeeding also improves postpartum weight loss and delays

menses leading to birth spacing for mothers and families.[24] Both members of the dyad profit from the physical and psychological bond of breastfeeding.

Outside of the context of human health, breastmilk is generally available on demand and at no monetary cost to the family. The cost to formula feed an infant through the first 12 months of life is approximately $1000 to $1500 depending on the formula brand and infant demand. For families living within lower socioeconomic brackets this may be a considerable additional expense. Formula expenses were estimated from two national retailers in the state of North Carolina in May of 2020. This formula-to-human milk comparison considers only the financial cost when considering exclusive feeding at-breast. No consideration is given to the additional cost of bottles, pumps, or other accessories. Additionally, no consideration is given to the quantifiable time component or intangible emotional expense to a mother that is exclusively breastfeeding.

In light of the extensive body of evidence supporting breastfeeding, there is widespread agreement among public health and medical experts regarding the optimal duration to improve health outcomes. The current recommendations include exclusive breastfeeding for the first six months of life with continuation through two years and beyond in conjunction with complimentary feeding.[16–18] By extension of these recommendations, public policy efforts are focused on improving exclusivity and duration to improve long-term population health.

Breastfeeding Initiatives and Rates

Various domestic and international programs have made effort in the prior three decades to improve breastfeeding initiation. The World Health Organization (WHO) launched the Baby Friendly Hospital Initiative® (BFHI) in 1991. BFHI includes The Ten Steps to Successful Breastfeeding which standardizes and implements lactation best practices in labor and delivery acute care settings globally. The U.S. Healthy People 2020 initiative set exclusive breastfeeding targets for three months and six months at 46.2% and 25.5%, respectively. The WHO Breastfeeding Advocacy Initiative set the global six month exclusive breastfeeding target at 50% by 2025.

The Centers for Disease Control (CDC) reports the rate of infants ever breastfed increased from 75.0 percent in 2007 up to 83.2 percent in 2015.[12] However, the same report indicated that only 24.9 percent of infants were exclusively breastfed at six months. Considering the precipitous decline between initiation and exclusive duration at six months, we must acknowledge the experience and perception of mothers to identify gaps in breastfeeding education and support for these vulnerable populations.

Maternal Breastfeeding Considerations

Loss of Breastfeeding Culture

The period of breastfeeding represents a complex confluence of biological, psychological, and sociological forces. Factors influencing a woman's decision to breastfeed are highly varied and individualistic. An argument could be

made, however, that a large majority of mothers have intentions to breastfeed considering that 83.2% of U.S infants were ever breastfed in 2015.[12] Earlier research indicates a positive correlation between breastfeeding intention and being older, white, married, affluent, and highly educated.[25]

Additional analysis on the specific sociodemographic considerations on the decision to breastfeed are outside the scope of this research. Nevertheless, it is important to note that significant disparities exist in breastfeeding practices across racial groups. The CDC reported that non-Hispanic Black women initiated breastfeeding at 69.4% versus 85.9% for white women in 2015.[26] Additionally, rates of exclusive breastfeeding at six months for black women were 17.2% versus 29.5% for white women.[26] Any initiatives to increase breastfeeding duration must seek to support groups across the sociodemographic spectrum.

We do know that, regardless of sociodemographic status, women generally understand that breastfeeding conveys some health benefits for their newborn infants.[27,28] The strength of this perception is positively correlated with both normalized breastfeeding experiences and breastfeeding duration. Prior work looking at cultural complexities of breastfeeding underscores a collective loss of breastfeeding knowledge in developed nations.[29] The intimate physiological process of lactation is no longer passed from the elder generations to the youngest generation.[30] There has been a rapid decline of communal interactions and learned norms leading to a loss of embodied breastfeeding knowledge.[30] As Hoddinott and Pill note, women widely believe that

breastfeeding is rarely seen or heard.[31] Rather, lactation was largely abandoned throughout the twentieth century as women moved into the workforce and infants were separated from their primary caregiver.

Breastfeeding culture may continue to erode as the average family size is decreasing while birth spacing between children continues to increase.[31] Absent a strong culture of breastfeeding, women increasingly rely on medical providers and the media for their breastfeeding information. In the case of media sources women are frequently presented with an idealized representation of breastfeeding.[32] These visuals are generally not consistent with reality. As a result, many women are discouraged by early postpartum lactation challenges and may discontinue breastfeeding before they initially intended.[27]

Early Cessation of Breastfeeding

Research illuminates many barriers, real and perceived, faced by women in the postpartum period. Commonly cited challenges include: 1) perceived low milk supply; 2) latch difficulty; 3) insufficient infant weight gain; 4) confusion regarding milk-drug interactions; and 5) inconsistent or lack of professional support.[33,34] Each woman will encounter distinct challenges throughout her breastfeeding journey, yet many of these concerns are consistent across mothers. Promoting lactation as a continuum of lived experiences may enable providers to develop more effective prenatal education. Specifically, content which manages expectations around the most common immediate postpartum

challenges. With encouragement from their primary care providers women are able to gain confidence and reach their breastfeeding goals.

Maternal Breastfeeding Self-Efficacy

Albert Bandura's seminal work in social cognitive behavioral learning, specifically self-efficacy, lends itself to understanding lactation success. Self-efficacy is defined as the individual expectation that given actions or behaviors will produce specific outcomes.[35] Furthermore, the extent of efficacy is predictive of the relative effort expended and persistence sustained in the face of challenges. Higher rates of self-efficacy indicate increased likelihood of accomplishing a given task for a desired outcome.

Bandura identified four dimensions which are predictive of behavioral learning: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal.[35] Performance accomplishments are derived from actual experience with, the mastery or failure of, a given task. Vicarious experience includes the collection of social interactions which by extension lead to modeled behaviors. Verbal persuasion is the actual spoken support and encouragement from any outside individual. Emotional arousal is the physiological response experienced by the individual which may impact the performance of a given task. Collectively, the presence or absence of these factors may affect an individual executing a specific action.

Cindy-Lee Dennis extended the self-efficacy theoretical framework to include maternal confidence as it relates to breastfeeding.[36] Breastfeeding self-

efficacy (BSE) encapsulates the maternal belief that she is physically able to carry out the process of lactation and will successfully feed her infant. The significance of this concept should not be overlooked. Women that believe they are capable of breastfeeding show higher rates of duration and thereby improved outcomes.[37]

Pulling from the BSE framework we may imagine the following scenarios in which a mother would be encouraged to breastfeed: 1) prior success breastfeeding a child (performance); 2) prior interactions with family or friends breastfeeding their children (vicarious); 3) repeated exposure to breastfeeding education and support from healthcare providers (verbal); 4) postpartum transition into parenthood surrounded by extensive support network (emotional). Working outward from these modifiable domains we may develop education and support programs to increase BSE and improve breastfeeding outcomes.

Maternal Perceptions of Education and Support

The delivery of breastfeeding education and support is as multifaceted as the population it serves. Women receive a range of methods from individualized primary care counseling to group education provided by corporate hospital networks. Mothers may obtain education from labor and delivery unit staff or could have postnatal interactions with International Board Certified Lactation Consultants (IBCLCs) and other lactation professionals. Even beyond this, women receive peer knowledge transferred across social media platforms and within community support groups. With such a wide variety of delivery methods it

is important to highlight which approaches are perceived, by mothers and families, as supportive versus those which undermine breastfeeding.

Several studies analyzed the core components of education and support as perceived by mothers in the postnatal period. Overwhelmingly the evidence suggests that any support method, whether professional or peer, is more successful when provided through facilitative styles which are encouraging, reassuring, and enable women to execute actions themselves.[38] Conversely, women frequently felt unsupported when health care providers communicated using a reductionist style that was interpreted as directive, judgmental, and rushed.[39] At the foundation, these interactions directly impact maternal confidence as it relates to her ability to breastfeed during the early postnatal period.

Multiple studies show an association between improved human milk outcomes when education and counseling is provided to mothers and families in a proactive, rather than reactive, manner.[40] And yet, a significant barrier to improving breastfeeding outcomes is the maternal perception that health care providers lack sufficient time to engage on feeding questions.[39,41] Women and families may fail to ask important questions during the critical postpartum period merely because they are not provided adequate time with their health care practitioner. Any systemic changes to the delivery of breastfeeding support must overcome the barrier of time as perceived by postpartum women. Further,

attempts to reach breastfeeding public health targets must also consider the impact and challenges encountered by outpatient physicians.

Healthcare Provider Practice Considerations

Provider Impact on Breastfeeding Intentions

Primary care providers represent the frontline of professional contact for mothers receiving breastfeeding education and lactation support. The team responsible for providing care throughout the duration of pregnancy and in the postpartum period may include a litany of credentials including MDs, RNs, IBCLCs, CNMs, CPMs, RDs, and still others. Knowledge and practices among this group may vary greatly; however, MDs, specifically those from obstetrics, gynecology, pediatrics, and family medicine, are often viewed as knowledgeable in breastfeeding as an extension of their positions.[42] Thereby opportunities exist for healthcare providers to engage patients and promote breastfeeding as the infant feeding norm.

The decision to breastfeed is not a static endeavor and may vary throughout pregnancy. Studies indicate that while half of women have an infant feeding preference at conception, the other half of women will make a decision early in pregnancy.[43] Moreover, many women consider the opinion of both their significant other and their healthcare provider when making a decision on infant feeding.[42] Research also suggests that when certain provider types are incorporated into the care team – midwives specifically – that breastfeeding rates improve.[44] Radoff and Forman suggest that the improved outcomes of midwifery

care are the direct result of required education competencies.[45] The International Confederation of Midwives requires the promotion and support of breastfeeding while simultaneously assessing, treating, and referring lactation complications when indicated.[46] All of this is to say that structural clinical support of breastfeeding, in the form of education, resources, and access to community partners, may serve as a subliminal reminder to patients that human milk is best.

It is clear, that for some mothers, primary care doctors provide education and encouragement on infant feeding topics which have a direct impact on maternal intentions to breastfeed. Recognizing that practitioners may play a significant role in an individual choice to breastfeed, we must assess the quality of breastfeeding education provided during medical school and subsequent residency programs.

Provider Knowledge of Breastfeeding Management

Provider breastfeeding knowledge and residency inclusion of breastfeeding curriculum have been extensively probed.[47] The research returns consistent results across the three main subspecialties of pediatrics, family medicine, and obstetrics and gynecology. Residents have an adequate understanding that human milk is the preferred food source for infants and subscribe specific health benefits to the same.[45] Simultaneously, however, the residents lack sufficient counseling and clinical skills for the most common breastfeeding issues.[30,45,48,49] Authors of prior work attribute these results to a disconnect between the teaching and learning styles within the programs.[49]

Historically, medical education has been provided through a didactic teaching method in which foundational knowledge and the expansion of knowledge is the goal of the program.[50] Professors take an authoritative approach in which information is provided to the student with little interaction. Contrary to traditional methods, breastfeeding medicine proponents argue for an integrated curriculum which provides clinical interaction with nursing dyads.[47] Effective promotion and management of breastfeeding requires the ability to gather information from the patient on feeding goals, assess the maternal-infant dyad for clinical indications, develop a comprehensive care plan and communicate that plan effectively, and much more. Didactic teaching methods simply fail to meet the minimum requirements for effective breastfeeding support.

Currently the Accreditation Council for Graduate Medical Education does not outline a national standard for breastfeeding education in either hours or content.[48] However, the American Academy of Pediatrics has developed The Breastfeeding Curriculum as a resource for both faculty and providers to build confidence and skills on human milk feeding.[51] The curriculum covers medical knowledge, patient care, system practice, practice-based learning, and communication skills. This resource is available to practitioners outside of their standardized education and may be necessary given the inconsistencies across residency programs.

Breastfeeding education during residency programs is largely insufficient in both didactic hours and clinical experience.[52] Research by Osband et al.

indicates residents receive an average of nine hours of breastfeeding training over three years with a range of 0.5-86 hours within the dataset.[48] To reiterate, the Accreditation Council for Graduate Medical Education does not have a national standard on breastfeeding education requirements. For comparison to the International Board Certified Lactation Consultant credential, the minimum education requirements are 90 hours with an additional 300 hours for clinical experience.[53] Medical residents from the pediatrics, family medicine, and obstetrics and gynecology subspecialties clearly require an advanced working knowledge of breastfeeding assessment and problem-solving skills to appropriately care for their patients.

Residents and program directors alike report the need for additional opportunities to learn breastfeeding basics.[49] If given a sufficient curriculum and appropriate patient interaction to work through clinical scenarios, residents do improve in knowledge, practice, and confidence.[45,52,54,55] Some studies included mixed method teaching styles over all three years of residency while others included more time effective opportunities for residents that were less than three hours. Interestingly, most residents across these trials held the belief that breastfeeding was part of their role but lacked the skills to effectively assess breastfeeding complications prior to the developed intervention.

The body of evidence illuminating gaps in residency education is strong. For practitioners that wish to specialize in maternal-fetal health or breastfeeding medicine, they must personally seek a program that has developed this specialty.

To be clear some residency programs offer as much as 86 hours of breastfeeding training.[48] Conversely, a healthcare provider may choose to seek continuing education or join the Academy of Breastfeeding Medicine once they receive their credentials. That is to say, there is not a baseline breastfeeding standard for our MD subspecialists in the United States and it is incumbent upon the patient to seek out an MD that is competent in lactation care.

A national breastfeeding curriculum standard is an appealing and cost effective path to improve infant feeding public health rates. But for those providers that are effectively trained in lactation education and clinical assessment – what is their view of practice barriers inhibiting the effective delivery of care to their patients? We will examine individual and institutional hurdles for providers.

Provider Barriers to Breastfeeding Management

Early work on provider perceptions of clinical barriers to lactation care was conducted by Szucas et al. within an urban center to explore breastfeeding practices, attitudes, and services.[56] Provider participants in the study frequently cited gaps in breastfeeding knowledge, yet also reported providing education and support. Interestingly, the researchers noted that the guidance provided by these same practitioners was inconsistent with evidence-based practice recommendations from major medical organizations. Szucas et al. also concluded that providers underestimate their impact on breastfeeding rates while ascribing responsibility to other members of the care team such as IBCLCs.

Participants also noted that there was no coordinated breastfeeding mission at the hospital-level leading to disjointed care for the patient population.

Another study of the American College of Obstetricians and Gynecologists (ACOG) members in the District of Columbia sought to describe breastfeeding attitudes and practices through an online survey.[57] The authors noted that 83 percent of participants correctly answered the knowledge-based lactation questions. This result is consistent with research within the resident population – many providers have the didactic knowledge of lactation, but it may not translate to effective assessment and counseling. The respondents were supportive of breastfeeding overall but shed light on common barriers to providing education and counseling at the individual level. Specifically, lack of time (65%) and lack of reimbursement (10%) were reported as structural practice barriers.

Another study examined perceived barriers to breastfeeding support by IBCLCs. Anstey et al. conducted qualitative interviews with participants from various practice settings including hospitals, pediatric offices, WIC agencies, and private practices.[58] Participants reported poor service delivery as a major barrier to supporting breastfeeding mothers. This phenomenon is best described as healthcare providers not utilizing current research, or evidence-based practice, and giving inconsistent information to patients. Another subtheme included pediatric preoccupation with weight gain numbers at the expense of counseling through early breastfeeding challenges. Specifically, pediatricians are quick to

encourage supplementation rather than work through the lactation problem or refer out.

The most commonly cited barrier at the practice level includes inadequacy of time on the part of MDs. This mirrors the experience of mothers and families in that they perceive the lack of time in rushed encounters.[39,41] When creating program plans or point of care practices public health experts, medical providers, and community partners must find a way to give patients the gift of time.

Conclusion

Newborn infants deserve the best start in life. One major component they require is adequate nutrition on demand. Often referred to as liquid gold, human milk has evolved to support budding physiological processes and fuel growth and development. Mothers also benefit from the breastfeeding relationship with decreased rates of common female cancers and improved weight loss. With all of the direct advantages for individual and public health it is striking to consider that only 24.9% of infants are exclusively breastfed at six months. We as a nation must find a way to do better.

We must consider how healthcare providers intersect with pregnant and postpartum women in order to develop effective point-of-care practices and public health education efforts. It is clear that breastfeeding promotion by primary care providers does impact maternal intentions to breastfeed. Simultaneously, however, there are clear clinical barriers to providing proper education and support to nursing mothers. Namely time. Medical doctors may gain competence

in lactation assessment and diagnosis, but if they are unable to spend adequate time with their patients then opportunities to improve outcomes are missed.

As we look forward to the next decade of public health targets it may be necessary to promote breastfeeding through an integrative care model in which ancillary providers, such as lactation consultants and registered dietitians, are utilized in place of physicians. The collective goal should be to improve the lives for as many maternal-infant dyads as possible through compassionate and consistent care.

Chapter 2 – Development and Validation of the Survey

Ganio Molinari M, Culp R, Brown M, Van Scyoc S, Arnold N, Sastre L, Nunnery D, and Lima H. Development and Validation of a Survey on Lactation Practices in Primary Care Settings. 2019.

Abstract

Background: Current public health recommendations support human milk as the most appropriate feeding option during infancy. New mothers may experience many challenges which impact both breastfeeding initiation and duration rates in the postpartum period. Approximately 82.3% of women in the United States initiated breastfeeding in 2015 while only 24.9% of U.S. infants were exclusively breastfed at six months in the same period. Healthcare providers in primary care settings have a unique opportunity to provide education, counseling, and support to this vulnerable population. Currently no valid survey instrument exists to investigate provider perceptions and roles related to lactation practices in primary care settings.

Research aim/question(s): To develop and validate a survey questionnaire used to assess healthcare provider perceptions and roles related to lactation practices in a primary care setting.

Materials and Methods: A cross-sectional survey targeting medical doctors and ancillary providers was developed using Qualtrics. The pilot instrument was both

content and face validated through an electronic method using a panel of 18 experts known to work with pregnant and lactating populations.

Results: The pilot instrument consisted of 49 questions while the final instrument expanded to include 58 questions.

Conclusion: The final survey questionnaire provides a foundation for data collection on outpatient clinical practices related to lactation and infant feeding. This instrument can be used to investigate perceptions and roles of healthcare providers that work with pregnant and postpartum women in primary care settings.

Introduction

It is well established that human milk is the ideal nutrition during infancy due to the physical, social, and cognitive benefits it imparts on maternal-infant health.[17,18,59,60] As of 2015, approximately 83.2% of women in the United States initiate breastfeeding while only 24.9% of U.S. infants are exclusively breastfed at six months.[12] Maternal perceptions of breastfeeding barriers include: actual and perceived low milk supply, latch difficulty, insufficient infant weight gain, confusion regarding milk-drug interactions, and inconsistent/lack of professional support.[27,34,42] These concerns are similar across mothers, yet with targeted education and postpartum support they are temporary challenges.[15]

Primary care practitioners have a unique opportunity to provide education, counseling, and coordinated care for their breastfeeding patients. Current literature reveals that lactation curriculum in medical residency programs is inadequate.[48,49,52,54] Providers simultaneously report they do not feel sufficiently prepared to counsel mothers on breastfeeding.[49] Evidence also suggests that practitioners are more likely to provide inconsistent care which conflicts with evidence-based practice.[56] Research by Antsey et al. indicates this may be a result of structural practice barriers such as lack of time or lack of reimbursement.[58] These determinants of practice are captured in Figure 1.

To maintain and further improve breastfeeding duration and exclusivity rates, it is important to investigate the delivery of lactation education and support in the primary care setting. A valid survey instrument is not currently available to examine provider perceptions of breastfeeding practices in their offices. The objective of this study was to develop and validate a survey questionnaire focused on the practitioner perception and provision of lactation education and coordinated care.

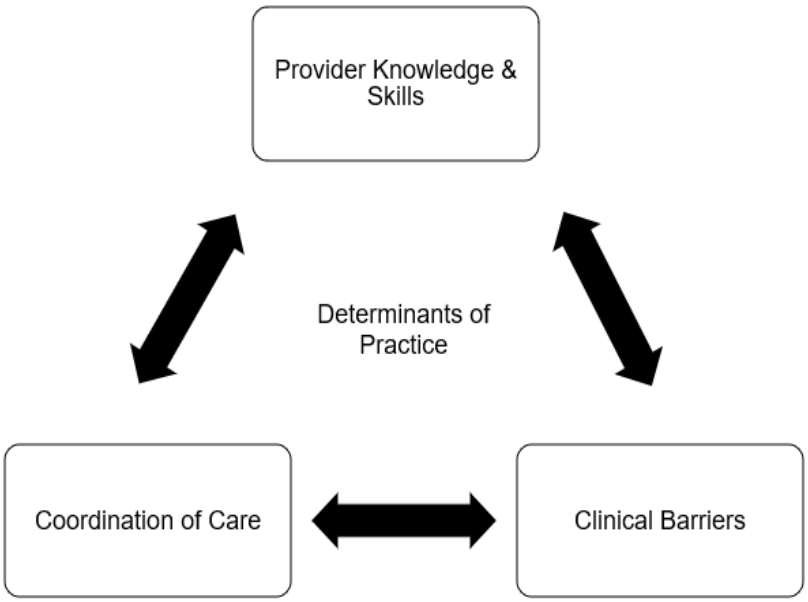

Figure 1. Determinants of Lactation Practice in the Primary Care Settings

Materials and Methods

Study Design and Population

The cross-sectional survey questionnaire, Assessing Healthcare Provider Perceptions and Roles: A Survey on Lactation Practices in Primary Care

Settings, was developed and validated to investigate delivery of lactation education, lactation support, and lactation medical management in the primary care setting. The target population includes medical doctors and ancillary providers in specific areas of obstetrics and gynecology, pediatrics, family medicine, and maternal-fetal health, who work with pregnant, postpartum, and infant populations.

Survey Development

An electronic survey questionnaire was developed using Qualtrics Software - Customer Experience Management Platform (www.qualtrics.com). Survey questions were developed using three domains – patient focus, provider practices, and coordination of care across ancillary providers (Figure 3). The patient focus included provider perceptions of patient interest, willingness, and barriers to lactation education and support. The provider practices looked at actual delivery of education and care in a primary care setting. The coordination of care domain investigated provider perceptions of lactation roles in clinical practice as well referral practices to ancillary providers.

A panel of experts (n = 13) were identified and recruited through personal emails and were known by the researchers to work with pregnant and lactating populations. The survey was sent electronically to the panel for content validation. It was requested that each validator read and rate each question using the provided 4-point scale from 1 (irrelevant) to 4 (extremely relevant) as it pertained to lactation care from the perspective of their practice. A general

comments box was also included which allowed for freehand responses on any proposed revisions.

It was determined that all questions which received a rating of 1 or 2 on the 4-point scale in either relevance or importance were omitted from the survey. Additionally, the researchers developed an inclusion/exclusion demographic question to ensure that all respondents of the survey were practicing in an outpatient setting.

The revised survey was sent out for face validation to a separate panel (n = 5) of practicing physicians and ancillary providers. Similar to the content process, the face validators were identified and recruited through personal emails and were known by the

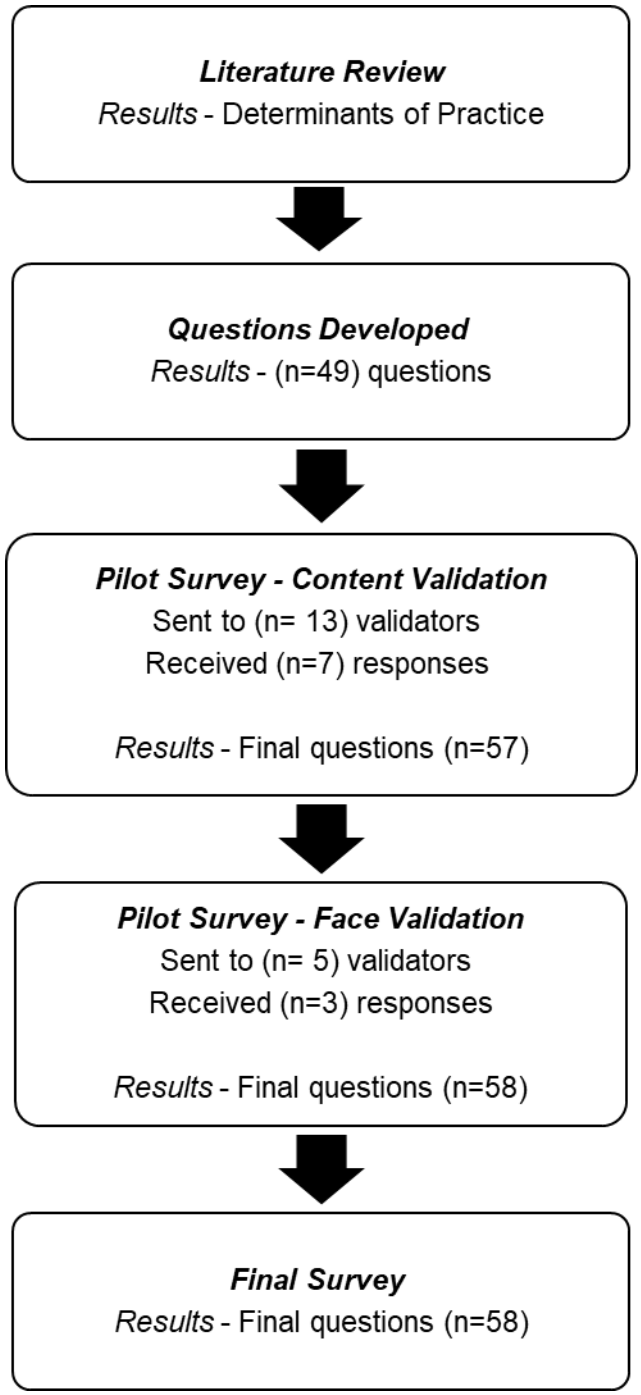

Figure 2. Flowchart of the methodology and results.

researchers to provide care to pregnant and lactating populations. The panel was asked to read and provide feedback on the format, questions, ease of use, and whether the survey appropriately measured lactation concepts in the context of their practice. General comments and proposed revisions were encouraged and compiled via track changes.

Pilot Survey

The pilot survey consisted of 12 demographic and 37 lactation topic questions. It was electronically sent to 13 experts to assess content validity. One expert withdrew consideration due to an inability to meet the study timeline. One expert withdrew consideration as they did not believe their level of interaction with pregnant and lactating populations was sufficient to provide feedback. Four experts were unresponsive. Seven experts returned the pilot survey with feedback resulting in a 53.8% rate of return. The revised survey was electronically sent to five practicing physicians and ancillary providers for face validation. Two experts were unresponsive. Three experts returned the revised survey with feedback resulting in a 60.0% rate of return.

Final instrument

The final survey questionnaire includes 13 demographic and 45 lactation topic questions. Two questions were eliminated during content validation due to receiving a score of 1 or 2 on the 4-point scale in the category of importance and/or relevance. Seven questions were added during content validation to further probe clinician practices and resources. Following face validation three

questions were added to identify specific roles in outpatient settings. One additional demographic qualifier was added to identify practice specialty of respondents. The overall survey changed by a total of 9 questions (18.4% change). A flowchart of the methodology and results are depicted in Figure 2. Additionally, a copy of the survey is provided in Appendix 1.

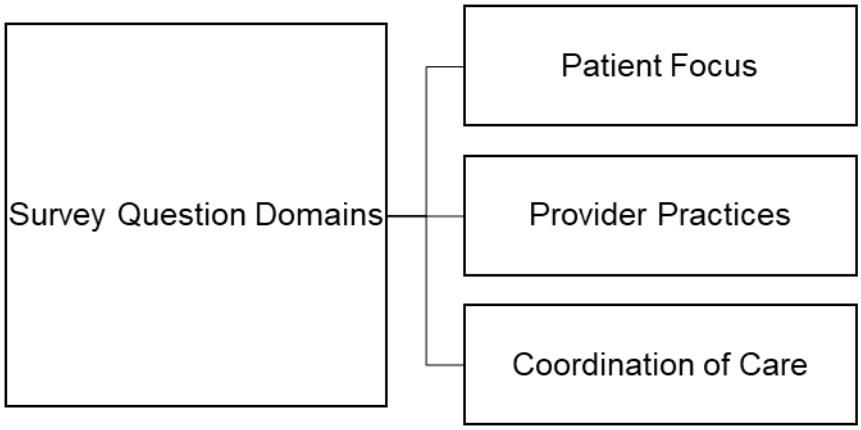

Figure 3. Graphic depiction of the three domains of the validated survey.

Content Validity Index (CVI)

Content validity is generally defined as the degree to which a given tool measures a specific research construct through a set of items.[61] A panel of experts utilize individual judgement by classifying items as relevant or not relevant. It is important to note that the process may be used to assess individual items or the overall instrument. CVI researchers recommend a panel of experts greater than three and less than ten and suggest a four-point rating scale to avoid ambiguity.[61] Although this process does involve individual judgement, the aim is to tease out gaps in the instrument items by selecting a panel of experts intimately familiar with the construct being investigated.

The content validation panel selected for the initial phase of survey development included seven experts across the field of maternal-infant health.

Practicing members from many of the credentials the survey intended to target were on the panel – including RN, IBCLC, MD (Obstetrics, Gynecology, and Pediatric specialties), PhD, and RD. Each expert provided a numeric value for relevance with an additional text box for further clarity of given ratings.

The pilot instrument was content validated on an individual basis for 49 questions. Each question was rated across the entire panel. Moreover, an additional intrarater relevance proportion was reported for all 49 questions. Total expert agreement on any specific item will return a CVI of 1.0. Similarly, an intrarater relevance proportion of 1.0 indicates all items on the instrument were deemed relevant. The resulting mean item CVI for the survey was .945 while the mean expert proportion relevant was 0.95. These rates indicate the questions on the survey were developed appropriately to measure breastfeeding support and medical management within the context of clinical practice.

Readability

The reading level was determined to be 11.3 grade level based on the Flesch Kincaid Grade Level Index. Therefore, the survey should be understood by any individual who has completed the 11th grade. This score was retrieved by using the Microsoft Word Software (Microsoft Word for Mac Version 16.31). Based on the targeted population, healthcare professionals which require advanced education, the grade level at which the survey is written should easily be understood.

Discussion

Both the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics support and encourage the use of human milk during infancy.[17,18] Their evidenced-based practice guidelines underscore the importance of lactation for maternal-infant dyads and public health overall. The initial aim of the project was to develop an easy-to-use survey questionnaire for efficiently assessing primary care practices related to lactation and infant feeding. Based on a review of literature, there is no current survey available to evaluate these areas.

Content validation returned consistent results that medical doctors may not understand the scope of practice differences between an International Board Certified Lactation Consultant (IBCLC) versus a Certified Lactation Consultant (CLC) versus a Certified Lactation Educator (CLE). It was advised to provide definitions where appropriate. Additionally, a secondary gap of significance was identified related to clinical practice definitions. All content validators noted the lack of consensus on definitions surrounding the terms used in the survey, specifically lactation education, lactation support, and lactation medical management. For the purposes of our survey we adopted the following definitions. Lactation education was defined as any intervention aimed at increasing knowledge and skills related to the delivery of human milk to infants. Lactation support was defined as counseling, encouragement, and management of clinical challenges related to breastfeeding (latch, position, stimulation).

Lactation medical management was defined as any condition requiring clinical diagnosis and treatment by a healthcare provider (mastitis, postpartum depression, low milk supply).

Strengths and Limitations

Strengths of this research include a panel of validators from various disciplines. Feedback was provided from the areas of obstetrics and gynecology, pediatrics, nursing, lactation, food science, and nutrition. The survey instrument returned a content validity index of 0.945 highlighting the strength of agreement across validators. The authors believe content was validated to the point of saturation in which additional feedback yielded no new results. Limitations include a small number of validators from a limited geographic region of the United States creating a potential issue on national deployment of the survey.

Implications for Practice and Research

Data collection and analysis of lactation practice is necessary to drive improvements in maternal-infant care. Statistics obtained from this valid and reliable survey questionnaire will provide future researchers the ability to investigate three practice domains identified as patient-focused needs, provider practices, and coordination of care across ancillary providers. Deployment of the survey should occur at both regional and national levels to illuminate places to improve primary care practices.

Conclusions

Lactation education, support, and medical management needs to be clearly defined to improve coordination of care and public health outcomes. The final survey questionnaire provides a foundation for data collection on outpatient clinical practices related to lactation and infant feeding. This instrument can be used to investigate perceptions and roles of healthcare providers that work with pregnant, postpartum, and infant populations in primary care settings.

Chapter 3 – Provider Perceptions and Roles: A Survey on Lactation Practices in Primary Care Settings

Abstract

Background: Human milk is recommended as the exclusive source of nutrition for all infants in the first six months of life. Current rates of exclusive breastfeeding at six months (24.9% as of 2015) are well below public health recommendations. Studies indicate that breastfeeding rates improve when women and families receive a combination of prenatal education coupled with postnatal support. Primary care practitioners in outpatient settings are positioned to provide lactation education, support, and medical management for their patients.

Research aim/question(s): To describe the perceptions and roles of practitioners involved in primary care for pregnant, postpartum, and infant populations.

Materials and Methods: A 58-item cross-sectional survey questionnaire was distributed to primary care providers in the Southeastern United States. A total of 38 questions have been reported on for the sample (n = 40) utilizing descriptive statistics and frequencies.

Results: Survey participants reported their patient population is interested in prenatal lactation education (88%) and that prenatal education is important to provide during pregnancy (96%). Respondents indicated (76%) it is the role of the physician to deliver lactation education, support, and medical management. Yet time (83%), provider lactation knowledge (58%) and provider lactation counseling skills (58%) were noted as top barriers to providing care. Simultaneously, the majority of respondents (93%) believe it is the role of an IBCLC to provide lactation education and support, and that having an IBCLC would be beneficial (95%) for their patients. Despite this, only 40% of the respondents reported referring patients to lactation professionals most of the time.

Conclusion: Healthcare providers in outpatient settings believe lactation education, support, and medical management is important to provide to their patients. However, significant barriers to providing lactation care in outpatient settings exist and referral rates to lactation professionals remain low. This survey indicates it is the role of the IBCLC to provide education and support, and that primary care providers believe they would be beneficial to their patients. Future research is necessary to adequately assess the coordination of care across primary and ancillary providers. Finally, standardized evidence-based practices should be developed for implementation in outpatient care settings.

Introduction

Exclusive human milk is recommended for the first six months of life by all major public health and medical organizations.[17,18,62] Prior research underscores the dose-dependent nature of lactation with both mother and baby experiencing physical, social, and cognitive benefits.[20] Efforts such as the Baby Friendly Hospital Initiative® (BFHI) have increased initiation rates from 73.8% in 2004 up to 83.2% in 2015.[12,63] Despite these gains, however, current exclusivity rates remain well below recommendations at 24.9% by six months.[12]

Studies support the finding that breastfeeding outcomes improve when women and families receive a combination of prenatal education coupled with postnatal support.[14,15] Breastfeeding self-efficacy, the maternal belief that she is physically able to carry out the process of lactation and will successfully feed her infant, is directly impacted by interactions with practitioners.[36] Primary care providers in outpatient settings have a unique opportunity to promote and encourage human milk as an extension of their positions. Unfortunately, prior research suggests several determinants exist which may impact breastfeeding support in primary care settings. These include provider knowledge and skills, coordination of care, and clinical barriers.[64]

To our knowledge, no prior research has examined the relationship between provider knowledge and skills, coordination of care, clinical barriers, and

level of lactation support and management provided in a primary care setting. Thus, our research aim was to describe the perceptions and roles of practitioners involved in primary care for pregnant, postpartum, and infant populations related to breastfeeding support and medical management.

Materials and Methods

Research Design and Sample

A 58-item cross-sectional survey questionnaire was developed using Qualtrics Software - Customer Experience Management Platform (www.qualtrics.com). Inclusion criteria was defined as any provider with a primary care credential that was operating in an outpatient setting. A unique hyperlink to the survey was distributed to potential respondents via electronic mail. All potential respondents were identified through publicly available information via websites and social media platforms. Medical provider associations working in maternal-infant health within the Southeastern United States were targeted. For the purposes of this survey the Southeastern United States was defined as eight states including, North Carolina, South Carolina, Tennessee, Kentucky, Alabama, Georgia, and Florida.

Data was collected from February 2020 through June 2020. All data were analyzed with SPSS v 23.0. Descriptive statistics and frequencies are reported for 38 questions from the survey. These specific questions focus on provider practices and perceptions related to their outpatient settings. For the purposes of this survey we adopted the following definitions related to point-of-care practices.

Lactation education was defined as any intervention aimed at increasing knowledge and skills related to the delivery of human milk to infants. Lactation support was defined as counseling, encouragement, and management of clinical challenges related to breastfeeding (latch, position, stimulation). Lactation medical management was defined as any condition requiring clinical diagnosis and treatment by a healthcare provider (mastitis, postpartum depression, low milk supply).

Informed consent was provided at the initiation of the survey. Information obtained during the survey procedure was recorded in a manner such that respondents were not identifiable. The Winthrop University Institutional Review Board deemed the research exempt from IRB Review.

Results

Survey Deployment

The survey was distributed to approximately 632 members across seven organizations. A total of n = 132 respondents completed the survey for a 21% response rate. Final data analysis was completed for n = 40 participants (Figure 4).

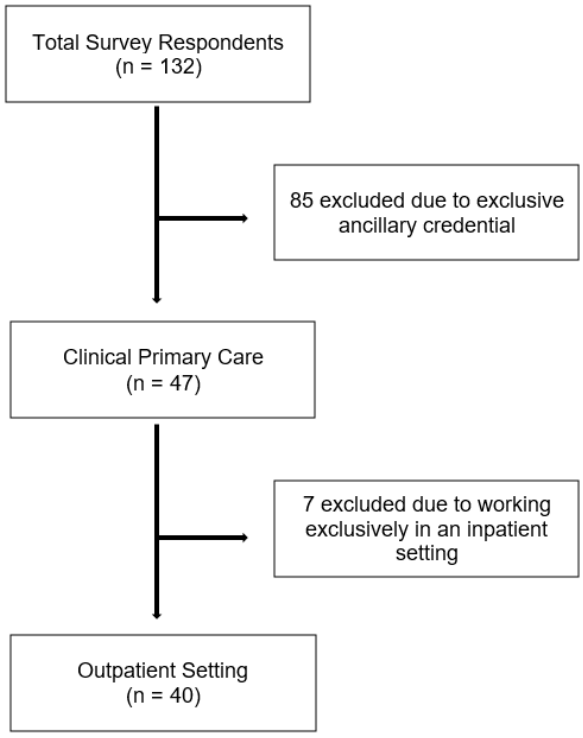

Figure 4. Study Inclusion and Exclusion Flow Diagram

Characteristics of Respondents

The sample (n = 40) was largely composed of providers with Medical Doctor (MD) and Registered Nurse (RN) credentials (90%). Additionally, 25% of respondents reported concurrently holding the International Board Certified Lactation Consultant (IBCLC) credential. Reported history of practice in maternal-child health was 15 years (SD = 13.2, range: 1-50). Further demographic and clinical characteristics are reported in Table 1.

Table 1. Characteristics of Healthcare Providers	
Characteristics	**Values**
Number of Subjects	40
Age (mean±SD) (years)	42±12.6
Gender [n (%)]	
Male	8 (20)
Female	32 (80)
Credentials [n (%)][a]	
MD	28 (70)
DO	2 (5)
NP	1 (3)
CNM	1 (3)
RN	8 (20)
IBCLC Certification	
Yes	10 (25)
No	30 (75)
Practice Specialty [n (%)][b]	
Obstetrics & Gynecology	8 (20)
Pediatrics	21 (53)
Family Medicine	1 (3)
Maternal-child Health	6 (15)
Other	1 (3)
Years in MCH Practice (mean ±SD) (years)	15±13.2
Practice Setting [n (%)]	
Outpatient	12 (30)
Both	28 (70)
Practice Affiliation [n (%)]	
Private Healthcare System	8 (20)
Public/Academic Healthcare System	19 (48)
Public Health Clinic	1 (2)
Private Practice	10 (25)
Other	2 (5)
Population Served [n (%)]	
Pregnant	17 (43)
Postpartum	21 (53)
Infants	29 (73)
Geographic Setting [n (%)][b]	
Urban	21 (53)
Suburban	9 (23)
Small City	9 (23)

[a] Percentages greater than 100 due to rounding

[b] Characteristics do not sum to total due to missing data

MCH, Maternal-Child Health

Table 1. Characteristics of Healthcare Providers

Provider Practices

Providers reported initiating an infant feeding conversation always (35%) or most of the time (38%) during pregnancy (73% of total responses). Patients most frequently requested information on breastfeeding (78%), formula feeding,

(45%), mixed feeding (45%), and nutrition during lactation (45%). Additional topics covered included milk-drug interactions (30%), alcohol intake during lactation (30%), complementary feeding (28%), and caffeine intake during lactation (25%).

Concerning time spent discussing infant feeding during pregnancy, the majority of providers (69%) indicated spending 10 minutes or less per encounter with their patients. When prompted on the amount of time spent discussing infant feeding during the postnatal period – either related to mothers or infants depending upon specialty – the sample was nearly split between greater than 15 minutes (47%) and less than 15 minutes (53%).

The sample was evenly distributed when asked to estimate the percentage of patients referred to lactation professionals. Frequencies of referral and clinical indications for referral are reported in Table 2.

Table 2. Healthcare Providers Referral Practices	
Variable	**Values**
Referral to Lactation Professionals [n (%)][a]	
0-20%	11 (28)
21-40%	6 (15)
41-60%	6 (15)
61-80%	5 (13)
81-100%	11 (28)
Reasons for Referral [n (%)]	
Insufficient weight gain	28 (70)
Difficulty latching	33 (83)
Maternal anxiety about breastfeeding	33 (83)
Low milk supply	30 (75)
Prenatal breastfeeding education	16 (40)
Chronic plugged ducts	13 (33)

a Characteristics do not sum to total (n = 40) due to missing data

Table 2. Healthcare Provider Referral Practices

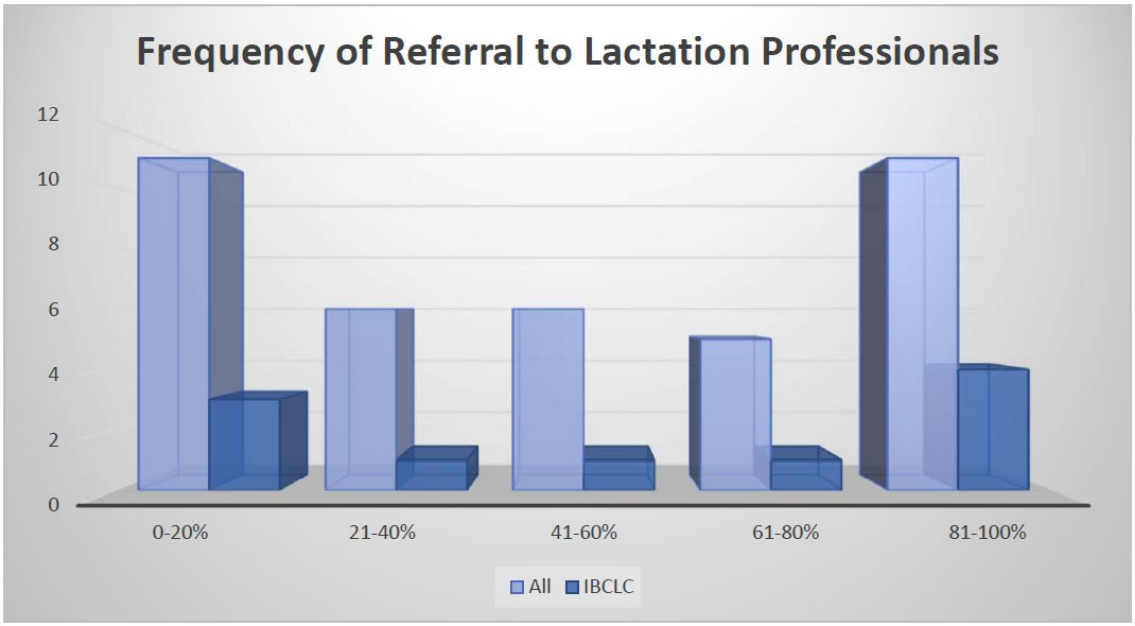

Figure 5. Frequency of Referral All vs. IBCLC

Provider Perceptions

Participants strongly agreed (48%) and agreed (40%) that their patient population is interested in prenatal lactation education. Simultaneously, the entire reporting sample strongly agreed (73%) and agreed (23%) that lactation education during pregnancy is important. Although the respondents are able to provide lactation education directly, they strongly agree (80%) and agree (15%) that education and support provided by an IBCLC would be beneficial for their patients. Providers reported they strongly agreed (80%) and agreed (15%) that lactation support is important. Interestingly, a smaller portion strongly agreed (75%) and agreed (20%) that lactation medical management is important.

When prompted to describe lactation roles in a primary care setting, providers strongly agreed (38%) and agreed (38%) that education, support, and medical management is the role of the physician. However, when prompted with a similar question on the role of the IBCLC in education and support, more participants strongly agreed (73%) and agreed (20%) it is their role.

Providers noted the top barriers to providing lactation education and counseling as time (83%), patient interest or motivation (68%), provider knowledge of lactation (58%), and provider lactation counseling skills (58%). When examining the perception of preparedness and comfort in providing care, the participants responded more positively to lactation education (76%) than lactation support and medical management (71%). Further details on frequencies are outlined in Table 3.

Table 3. Healthcare Provider Perceptions	
Variable	**Values**
"I feel prepared to educate" [n (%)][a]	
Strongly disagree	-
Disagree	3 (8)
Neutral	5 (13)
Agree	11 (28)
Strongly agree	19 (48)
"I feel comfortable educating patients" [n (%)][a]	
Strongly disagree	-
Disagree	3 (8)
Neutral	5 (13)
Agree	9 (23)
Strongly agree	21 (53)
"I feel prepared to provide support and medical management" [n (%)][a]	
Strongly disagree	-
Disagree	5 (13)
Neutral	5 (13)
Agree	11 (28)
Strongly agree	17 (43)
"I feel comfortable providing support and medical management" [n (%)][a]	
Strongly disagree	-
Disagree	5 (13)
Neutral	5 (13)
Agree	11 (28)
Strongly agree	17 (43)

a Characteristics do not sum to total (n = 40) due to missing data

Table 3. Healthcare Provider Perceptions

Discussion

This survey highlights the significance of breastfeeding during prenatal infant feeding conversations among providers and patients. These discussions, throughout the duration of pregnancy, represent an opportunity to reinforce the benefits of human milk while providing women with resources. Promoting an integrated care team which includes a pediatrician and lactation consultant early in pregnancy will improve outcomes.

The length and quality of breastfeeding conversations during prenatal care has been investigated in prior research.[43] Similar to those findings, one third of our participants reported spending less than five minutes per encounter on infant feeding. Mothers that feel rushed during encounters are less likely to ask questions or receive the education they need. As a result, maternal breastfeeding self-efficacy is challenged before the baby even arrives. One potential way to avoid this is by referring out for extended prenatal breastfeeding classes. These provide foundational education and set expectations around the most common postpartum lactation issues such as latch, nipple trauma, and effective milk transfer.

Most survey respondents strongly agreed and agreed that lactation education, support, and medical management is the role of a physician. These results are consistent with data from surveyed medical students and residents in earlier work.[49] However, the current findings indicate that providers lack either knowledge or skills to effectively manage their patient concerns. This data also supports the notion of implicit bias among providers. Nearly all of the respondents indicated their patients were interested in lactation education, while over two thirds went on to cite patient interest as a barrier to providing lactation education and support.

Referral practices were evenly distributed across the sample in an inverted bell curve. This is significant because if providers lack knowledge and skills necessary to assess lactation challenges then referral rates should be

much higher. A novel finding of this survey is that providers with an IBCLC credential are referring to outside lactation professionals in a similar distribution as providers without the IBCLC (Figure 5.). This is noteworthy since IBCLCs have a stronger knowledge of lactation assessment and diagnosis. Yet, they refer at similar rates as providers without the credential. This suggests the barrier of time may trump any knowledge or skills the provider has to support their patients.

Prior research confirms the survey findings that latch, low milk supply, and infant weight gain are top concerns in the postpartum period.[33,34] This data is new, however, because it indicates maternal anxiety about breastfeeding is more frequently cited a reason to refer than low milk supply. Caution must be exercised when interpreting those frequencies as clinical protocols exist for management of low milk supply while maternal anxiety likely requires a care team.

Looking beyond primary care, participants in the present study cited lactation education and support as the role of an IBCLC at a higher frequency than physicians. Moreover, primary care practitioners agree or strongly agree that having an IBCLC to provide education and support would be beneficial for their patients.

Strengths, Limitations, and Future Directions

The cross-sectional survey design has limitations such as self-reported data from a small convenience sample with the potential for selection bias.

Results represent perspectives from a limited geographic region in the Southeastern United States and the sample did not include any rural providers. Nevertheless, the findings offer potential topics for future investigation.

A substantial amount of data exists on the lack of time for primary care providers in outpatient settings for lactation care. This pilot survey research supports that body of evidence because IBCLC providers are referring at similar rates as non-IBCLC providers. Considering this reality, additional high quality evidence is necessary to adequately assess the coordination of care across primary and ancillary providers in outpatient settings. A new wave of research is focused on the integration of lactation care across primary care and ancillary providers.[65,66] These and future studies are required to develop evidence-based practice recommendations to support both providers and patients.

Conclusion

The present study concludes that healthcare providers working in primary care practice recognize the importance of lactation education, support, and medical management for their patients. Current data suggests that although participants perceive lactation care as part of their role, they are referring out to lactation professionals for nearly half of their breastfeeding encounters. Thus, it is important to develop integrated care models to appropriately support breastfeeding families and improve outcomes.

Appendix 1: Final Survey Questionnaire

Assessing Healthcare Provider Perceptions and Roles: A Survey on Lactation Practices in Primary Care

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You are invited to take part in a research study whose purpose is to examine healthcare provider perceptions and roles related to lactation practices in primary care settings.

This study is open to adults over the age of 18. Your decision to take part in this study is voluntary. You are free to choose whether or not you will take part in the study. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer an individual question, or you may skip any section of the survey. Simply click “Next” at the bottom of the survey page to move to the next question.

Your participation will last about 15 minutes and you will be completing an anonymous online survey.

This project is deemed as no more than minimal risk. The research team does not foresee or anticipate any risk greater than that encountered in your routine daily activities.

While you may not receive any direct benefit for participating, we hope that this study will help us identify needs regarding lactation education and support among pregnant, postpartum, and infant patient populations. We will further use this data to develop lactation education and support programs for clinics like yours. If you are interested in learning the results of the study, you may contact the researchers after 5/1/2020.

Your cost to participate in the study is the time that you will dedicate to this activity. Researchers will make no attempt to link your survey responses to you.

We may publish the results of this study, but will not include any information that would identify you.

If you have questions about this research study, you may contact me, Meghan Ganio Molinari, via email or phone (ganiomolinarim2@mailbox.winthrop.edu, 302 Dalton Hall, 803-323-4553). You may also contact me through my faculty advisor Dr. Hope Lima at (limah@winthrop.edu, 302 Dalton Hall, 803-323-4553).

You may also contact:
Grants and Sponsored Research Development
Winthrop University
Rock Hill, SC 29733
Do you consent to participate in this survey?

- ○ I consent
- ○ I do not consent

Do you provide care for pregnant, postpartum, or infant patients (in any capacity)?

- ○ Yes
- ○ No

For which population(s) do you provide care? Please mark all that apply.

- [ ] Pregnant
- [ ] Postpartum
- [ ] Infants

In what state do you currently work? Please mark all that apply.

- [ ] Alabama
- [ ] Florida
- [ ] Georgia
- [ ] Kentucky
- [ ] Mississippi
- [ ] North Carolina
- [ ] South Carolina
- [ ] Tennessee
- [ ] Other _____

Which of the following best describes the practice where you work?

- ○ Private Healthcare System
- ○ Public/Academic Healthcare System
- ○ Public Health Clinic (non-profit, Federally Qualified Health Center, etc.)
- ○ Private Practice
- ○ Other (please specify)

_____

What types of insurance does your practice accept? Please mark all that apply.

- ☐ Private
- ☐ Medicare
- ☐ Medicaid
- ☐ Tricare (military)
- ☐ Self-pay
- ☐ Other (please specify)

_____

Which of the following best describes the geographic location of your practice?

- ○ Urban (>50,000)
- ○ Suburban
- ○ Small City
- ○ Rural (

Which of the following best describes the practice setting where you work?

- ○ Inpatient
- ○ Outpatient
- ○ Both

How many pregnant patients do you see in an average week? Please estimate as closely as possible.

- ○ 1-20
- ○ 21-50
- ○ 51-75
- ○ 76-100
- ○ 100+ (please specify)

_____

What is your age?

_____

What is your gender?

- ○ Male
- ○ Female
- ○ Non-binary/third gender
- ○ Prefer to self-describe _____
- ○ Prefer not to say

How many years have you been in practice working with pregnant, postpartum, or infant
populations?

_____

What are your credentials? Please mark all that apply.

- ☐ Medical Doctor (MD)
- ☐ Nurse Practitioner (NP)
- ☐ Physician's Assistant (PA)
- ☐ Doctor of Osteopathic Medicine (DO)
- ☐ Certified Nurse Midwife (CNM)
- ☐ Certified Professional Midwife (CPM)
- ☐ Certified Midwife (CM)
- ☐ Doula
- ☐ Registered Dietitian (RD)
- ☐ International Board Certified Lactation Consultant (IBCLC)
- ☐ Certified Lactation Consultant (CLC)
- ☐ Certified Lactation Educator (CLE)
- ☐ Peer Counselor
- ☐ Other (please list all)

_____

Please list your specialty (ex. OB/GYN, Pediatrician, Family Medicine)

_____

Do you currently have any of the following on site (part time or full time)? Please mark all that apply.

- [ ] IBCLC
- [ ] CLC
- [ ] CLE
- [ ] RD/RDN
- [ ] CNM
- [ ] CPM
- [ ] CM
- [ ] None of the above

Please consider your pregnant clients exclusively when answering the remainder of the questions.

Please indicate the extent to which you agree or disagree with the following statements.

	Never	Sometimes	About half the time	Most of the time	Always
How often do your patients initiate a conversation about infant feeding during pregnancy?	○	○	○	○	○
How often do you as the provider initiate a conversation about infant feeding during pregnancy?	○	○	○	○	○

What infant feeding topics do your pregnant clients request information about? Please mark all that apply.

- ☐ Nutrition for lactation
- ☐ Breastfeeding
- ☐ Formula feeding
- ☐ Mixed feeding
- ☐ Complementary feeding
- ☐ Milk-drug interactions
- ☐ Alcohol consumption
- ☐ Caffeine intake during lactation
- ☐ Other (please specify)

_____

How long do you typically spend, per encounter, discussing breastfeeding with your patients during pregnancy?

- ○ < 5 minutes
- ○ 5-10 minutes
- ○ 11-15 minutes
- ○ 16-30 minutes
- ○ 30+ minutes
- ○ Not applicable

Please consider the infant feeding education that occurs where you are employed. Please estimate the following as closely as possible.

	0 10 20 30 40 50 60 70 80 90 100
Percentage receiving lactation education (increasing knowledge and skills related to the delivery of human milk to infants)	
Percentage receiving formula feeding education (increasing knowledge and skills related to the delivery of formula to infants)	
Percentage receiving information about mixed feeding (human milk and formula)	
Percentage receiving complementary feeding (introduction of solids) education	

How long do you typically spend, per encounter, discussing lactation support or medical management topics with your **lactating patient populations** (postpartum or infants)?

- ○ < 5 minutes
- ○ 5-10 minutes
- ○ 11-15 minutes
- ○ 16-30 minutes
- ○ 30+ minutes
- ○ Not applicable

Please consider the breastfeeding support that occurs for postpartum or infant patients where you work. Please estimate the following as closely as possible.

	0 10 20 30 40 50 60 70 80 90 100
Percentage receiving lactation support (counseling and management of challenges such as latch, position, stimulation)	
Percentage receiving lactation medical management (conditions requiring diagnosis such as mastitis, low milk supply)	
Percentage receiving infant feeding support (bottle, mixed, formula feeding)	

How many of your patients do you refer to lactation professionals (IBCLC, CLC, CLE, Peer Counselor, etc.)?

- ○ 0-20%
- ○ 21-40%
- ○ 41-60%
- ○ 61-80%
- ○ 81-100%

In what cases do you refer your patients to a lactation professional (IBCLC, CLC, CLE, Peer Counselor, etc.)? Please mark all that apply.

- [ ] Insufficient infant weight gain
- [ ] Difficulty latching
- [ ] Maternal anxiety about breastfeeding
- [ ] Low milk supply
- [ ] Prenatal breastfeeding education
- [ ] Chronic plugged ducts
- [ ] Other (please specify)

_____

- [ ] I do not refer my clients to lactation professionals

If you do not currently refer to lactation professionals (IBCLC, CLC, CLE, Peer Counselor, etc.), which of the following reasons describes why? Please mark all that apply.

- ☐ Level of client interest
- ☐ Potential cost for client
- ☐ Uncertainty of benefit of services of a lactation professional
- ☐ Uncertainty of how or who to contact for lactation services
- ☐ Other (please specify)

_____

What lactation safety topics do you provide information to your postpartum patients about? Please mark all that apply.

- ☐ Human milk handling and storage
- ☐ Formula handling and storage
- ☐ Breast pump handling
- ☐ Sharing of human milk
- ☐ Lactation and toxicity (i.e. mercury levels) related to fish consumption
- ☐ Cronobacter spp. associated with powdered milk formula
- ☐ Infant botulism associated with honey
- ☐ Infant botulism associated with dust inhalation
- ☐ Other _____

Please indicate the extent to which you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My patients are interested in receiving lactation education.	○	○	○	○	○
My patients are interested in receiving formula feeding education.	○	○	○	○	○
My patients are interested in receiving mixed feeding (human milk and formula feeding) education.	○	○	○	○	○
Patients served at this clinic are able to access lactation education.	○	○	○	○	○
Patients served at this clinic are able to	○	○	○	○	○

access lactation support.	

Please indicate the extent to which you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Lactation education (increasing knowledge and skills related to the delivery of human milk to infants) is important to provide for patients during pregnancy.	○	○	○	○	○
Lactation support (counseling and management of challenges such as latch, position, stimulation) is important to provide to postpartum or infant patients.	○	○	○	○	○
Lactation medical management (conditions requiring diagnosis such as mastitis, low	○	○	○	○	○

milk supply) is important to provide to postpartum or infant patients.					
Lactation education (increasing knowledge and skills related to the delivery of human milk to infants) by an IBCLC would be beneficial for my patients.	○	○	○	○	○
Lactation support (counseling and management of challenges such as latch, position, stimulation) by an IBCLC would be beneficial for my patients.	○	○	○	○	○

Please indicate the extent to which you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Lactation education, support, and medical management is a role of the physician.	○	○	○	○	○
Lactation education and support is a role of the IBCLC	○	○	○	○	○

How much do these barriers affect your practice's ability to provide lactation education and counseling?

	Does not affect	Neutral	Does affect	Unsure
Length of appointment/Time	○	○	○	○
Compensation or limited reimbursement	○	○	○	○
Patient compliance	○	○	○	○
Patient interest or motivation	○	○	○	○
Staffing for billing	○	○	○	○
Provider knowledge of lactation	○	○	○	○
Provider lactation counseling skills	○	○	○	○

Please indicate the extent to which you agree to the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel well prepared to provide lactation education to patients.	○	○	○	○	○
I feel comfortable educating patients on lactation.	○	○	○	○	○
I feel well prepared to provide lactation support and medical management.	○	○	○	○	○
I feel comfortable providing lactation support and medical management.	○	○	○	○	○

To what extent did these periods of training provide you with knowledge of lactation?

	Not well	Neutral	Adequately	Very well
Undergraduate medical curriculum	○	○	○	○
Residency program	○	○	○	○
Clinical practice	○	○	○	○
Conferences or continuing medical education	○	○	○	○
Reading and self-directed learning	○	○	○	○

Which sources do you use to stay up to date with infant feeding topics? Please mark all that apply.

- ☐ IBCLC, CLC, CLE, Peer Counselor
- ☐ Online sources
- ☐ Emails or publications from the Academy of Breastfeeding Medicine
- ☐ Peer reviewed nutrition journals
- ☐ Continuing education
- ☐ Conferences or seminars
- ☐ Pamphlets or handouts
- ☐ Books/Magazines
- ☐ Other (please specify

_____

Is there anything we did not ask that you believe would be valuable for us to know or consider?

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References

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