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Evaluation of Breastfeeding Curricula in Didactic Programs in Dietetics and
Dietetic Internships Across the United States

Maria Diane Swiss

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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December 2015

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ABSTRACT

Evaluation of Breastfeeding Curriculum in Didactic Programs in Dietetics and Dietetic Internships Across the United States

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Master of Science

Background: Breastfeeding is known to have many benefits for both mothers and infants. With the *Surgeon General's Call to Action to Support Breastfeeding*, health professionals have increased their attention on breastfeeding competency.

Objectives: This study aimed to evaluate breastfeeding curricula that are currently being covered in didactic programs in dietetics (DPDs) and dietetic internships (DIs) across the United States.

Methods: Two-part surveys were sent to all directors of DPDs and DIs (n=475) with instructions to forward the second portion of the survey to instructors of classes that taught about breastfeeding. Qualtrics software was used for data collection. Descriptive statistics were used to illustrate what was currently being done to educate students about breastfeeding. Two independent researchers used qualitative analysis to categorize course names that were provided as a free response.

Results: Over 80% of DPDs taught the topics of other components of human milk and breastfeeding and health for infants most thoroughly. The topic of breastfeeding and health for infants was taught most completely in DIs (65%). Course instructors had an International Board Certified Lactation Consultant teach part of the breastfeeding material about a fourth of the time (DPDs=26.8%; DIs=21.9%). Interns participated in breastfeeding counseling the most during WIC rotations (DIs=90%). Course instructors usually taught about breastfeeding themselves (DPDs=91%; DIs=44%) and used lectures in their instruction (DPDs=93%; DIs=75%).

Conclusion: This research provides background in the current status of breastfeeding curricula in DPDs and DIs across the United States. This knowledge could be used to determine standards for breastfeeding curricula, implement improvements to breastfeeding curricula, and set precedence for further evaluations in DPDs and DIs.

Keywords: breastfeeding, didactic programs in dietetics, dietetics students, dietetics education

ACKNOWLEDGMENTS

I would like to say thank you to my supportive committee. Thank you Dr. Richards, for being patient, encouraging, and for providing me invaluable feedback on my work. My writing was improved greatly with your advice. Thank you Dr. Nyland, for providing insights to my survey research in the beginning phase. I have always looked up to your example. Thank you Dr. Magnusson, for broadening my perspective in this research and making it a more well-rounded study. And thank you Dr. Bellini, for stepping in to fill the position on my committee when I needed you.

None of this would have been possible without the strength from my family. Most of all, thank you Dallin, for your love and support, for encouraging me whenever I was feeling overwhelmed, for being by my side through thick and thin, and for loving me and our beautiful children. Thank you Phillip, for your enthusiasm and for being a “good big brother.” Thank you Rachel, for enduring a semester of classes with me and for mostly being a perfect little angel. Thank you mom, for helping with Phillip. And thank you to all of my extended family members for cheering me on. I love you all very much.

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MANUSCRIPT

Evaluation of Breastfeeding Curricula in Didactic Programs in Dietetics
Across the United States

Authors: Swiss MD, Eggett DL, Magnusson B, Richards R

Manuscript will be submitted to the Journal of the Academy of Nutrition and Dietetics

INTRODUCTION

Breastfeeding is recognized as having many benefits for mothers and infants. Human milk uniquely adapts to the needs of the infant and is known to reduce the incidence of many diseases.¹⁻⁹ The beginning of life is the stage when habits are starting to form and intestinal microbiota is established.^{10,11} This stage may be one of the most critical in the development of the growing human.¹² According to Bartick and Reinhold,¹³ the United States could save approximately \$13 billion per year and prevent 911 deaths if 90% of infants were exclusively breastfed for 6 months. In order to prevent these excessive costs and deaths, it is important to recognize resources for breastfeeding support as well as provide training for health care professionals to have a basic knowledge of breastfeeding topics. Pediatricians, nurses, and other health care professionals have recognized a need for additional training in breastfeeding support, which has included assessing health professionals' knowledge, attitudes, training, and activities related to breast-feeding promotion as well as educational interventions in their related fields' didactic coursework.¹⁴⁻²¹ Interventions have shown that breastfeeding education can be effective in increasing the knowledge and confidence in health care workers.¹⁷⁻¹⁹ Registered dietitian nutritionists (RDNs) should give correct breastfeeding advice when counseling patients/clients in health care and community settings,²² however, the extent of educational training received is currently unknown.

The *Practice Paper of the Academy of Nutrition and Dietetics (AND): Promoting and Supporting Breastfeeding* provides insights into the role of RDNs and nutrition and dietetics technicians, registered (NDTRs) in promoting breastfeeding and giving breastfeeding support.²³ The paper suggests that all RDNs/NDTRs need to have a basic knowledge about the breastfeeding process in addition to skills and attitudes to advocate for breastfeeding regardless of practice setting, in answer to the *Surgeon General's Call to Action to Support Breastfeeding*.²⁴

*The Surgeon General's Call to Action to Support Breastfeeding*²⁴ urges health care professionals to “Provide education and training in breastfeeding for all health professionals who care for women and children.” It is important for RDNs/NDTRs to possess a minimum level of breastfeeding competency as breastfeeding mothers, infants, and families can be found in most any health care setting.²³ The 2009 Position Paper of the American Dietetic Association recommended dietetic training programs include lactation physiology, breastfeeding management, and cultural competence in their curricula.²⁵ The updated 2015 practice paper expands those recommendations for all RDNs/NDTRs to be competent in demonstrating an understanding of the anatomy and physiology of the lactating breast and milk production, assessing the normal growth of the infant and maternal nutritional status, providing families with evidence-based information on breastfeeding and human lactation, and more.²³ The practice paper further recommends demonstrating an understanding of the role of breastfeeding and disease prevention and recognizing when to refer to an International Board Certified Lactation Consultant (IBCLC).²³

The current core knowledge and competencies for the RDN are provided by the Accreditation Council for Education in Nutrition and Dietetics (ACEND®),²⁶ which is the accrediting body that provides educational standards that have to be met in order for students to graduate from a dietetics program. These core knowledge and competencies are very broad and nonspecific in regards to breastfeeding. There are three general references to breastfeeding which include 1) incorporating the role of “lifestyle choices in health promotion and disease prevention” into the curriculum, 2) including “nutrition across the lifespan” in the course content, and 3) using “standardized nutrition language for individuals, groups and populations of differing ages and health status, in a variety of settings” in performing the Nutrition Care Process. The practice and position papers on promoting and supporting breastfeeding provides

more insight into what RDNs/NDTRs should be learning in nutritional educational programs, such as didactic programs in dietetics (DPDs). Currently no evaluations of the content and characteristics of breastfeeding curriculum in DPDs have been published in the literature. However, RDNs should be prepared to counsel and promote breastfeeding.²⁵ This study is describes breastfeeding curricula in DPDs across the United States. Knowing this information can provide dietetic educators insights on what is currently being taught in these programs, areas in which breastfeeding education can be strengthened in DPDs, and how dietetics students can be better prepared for future professional endeavors.

METHODS

Study Population and Design

A descriptive study design was used to survey 224 DPDs across the United States. Addresses of DPD directors were gathered from the ACEND[®] website for accredited education programs, which lists current DPDs and contact information. Directors of the DPD were asked to complete an online survey using Qualtrics software (Qualtrics, Provo, UT) to gather demographic information about individual programs. The initial contact letter and reminders followed the Dillman Tailored Design Method.²⁷ Directors were asked to forward a second survey to instructors who taught about breastfeeding in any of their courses. Surveys for instructors collected information about specific breastfeeding topics taught in their course(s), instructor personal characteristics (i.e., age, gender), and other course assignments related to breastfeeding.

An incentive of donating \$1 to the Academy of Nutrition and Dietetics Foundation scholarship fund for every completed survey was used. Coordinated programs in dietetics were excluded from the study population because didactic education and practicum experiences are

not clearly delineated. The Institutional Review Board of Brigham Young University approved this study.

Survey Development

A comprehensive list of breastfeeding-related topics that could be taught in DPD programs was developed. No list of topics to be covered for dietetic programs was available at time of development so multiple papers, books, and one of the researcher's teaching experiences were used as references.^{24,28-30} The main topics were broken down into thirteen major subgroups: general breastfeeding topics; nutrient composition of human milk; other components of human milk; breastfeeding and health for infants; breastfeeding and health for mothers; achieving a proper latch; common concerns seen in breastfeeding infants; common concerns of breastfeeding mothers; assessing breastfeeding abilities; expressed breast milk; medications/supplements and breastfeeding; contraindications to breastfeeding; and resources for breastfeeding support.

The survey for instructors included 2 free response questions for course title and number of hours spent on breastfeeding topics, 96 dichotomous questions assessing which breastfeeding subtopics are covered in course material, 1 dichotomous question and 1 free response question about breastfeeding-related course assignments, 3 mark all that apply questions about who teaches material on breastfeeding, credentials/experience of instructor(s), and teaching methods used, 1 Likert scale with seven points (very satisfied to very dissatisfied) about the instructor's personal satisfaction with current breastfeeding curriculum, 1 dichotomous question about desire to change current course curriculum, 1 mark all that apply question about perceived barriers to making course changes, and 1 Likert scale with seven points (extremely important to not at all important) with a free response about the instructor's attitudes towards breastfeeding. An expert

panel with experience in survey research, breastfeeding, and dietetics programs reviewed the survey for content and face validity.

Cognitive Interviews

To ensure understandability and quality of survey questions, cognitive interviews were conducted with university faculty (n=3) from health related fields (i.e., dietetics, nutritional science, and public health), breastfeeding experts (n=4) in the community (i.e., IBCLCs and WIC nutritionists), and an expert in survey development (n=1). A request to participate in the cognitive interview session was sent to possible participants who were previously identified for their experience with breastfeeding instruction and survey development. Each cognitive interview session took approximately 45-60 minutes to complete. During the cognitive interview participants were asked to read and think out loud, following the guidelines suggested by Dillman.²⁷ Practice questions at the beginning of the session were also used make sure that participants understood the process of the cognitive interview.²⁷ Participants were compensated for their time with a \$10 Amazon gift card.

Comments were reviewed and surveys were adapted in response to subjects' suggestions and comments. The revised surveys were then reviewed a second time by the panel of expert reviewers to create a final version to be distributed to DPD directors and instructors.

Distribution of Survey

The modified Dillman Tailored Design Method²⁷ was used as a guide in the distribution of the surveys with five points of contact. A postal letter was sent first explaining the purpose of the study, rights to decline to participate, and compensation that would be given for their time. A QR code and website address to the online questionnaire was also included in the postal letter.

Completed director and instructor surveys were tracked. Follow-up reminders were sent to DPDs that had not been recorded as completing the surveys. The follow-up reminders included two follow-up emails with links to the surveys (after weeks 1 and 2), a hard copy of the survey (after week 4), and a final contact email (week 7) that were sent to DPD directors. A statement of implied consent was read before participants could participate in the survey.

Data Analysis

Qualitative analysis was used to classify 91 course titles into 5 categories: community, general, life cycle nutrition, maternal/infant, MNT/clinical. Two researchers grouped courses individually and compared results. All but two courses were similarly classified; discrepancies in classifications were discussed and differences were reconciled. Descriptive statistics (means, frequencies) were used to describe curriculum and limitations/barriers of DPDs across the United States. All analyses was performed in Statistical Analysis System (SAS) software, version 9.3 (SAS Institute Inc., Cary, NC, USA, 2007).

RESULTS

Responses were returned by 103 of DPD directors for a response rate of 46%. The second survey, which was forwarded to instructors by the DPD director, was returned by 56 instructors, which represents about 25% of DPDs (assuming one instructor per DPD). There was representation from 34 states and the number of students in DPDs ranged from 3 to 223. The majority of DPD instructors were female (96%), Caucasian (91%), 31 years or older (95%), had either a masters (49%) or doctorate (44%) degree, and reported breastfeeding as being extremely important (79%). All of the DPDs had at least one course in which breastfeeding concepts were taught, but only 25% had faculty who conducted breastfeeding-related research ([Table 1](#)). Over

two-thirds of DPDs had at least one faculty member with WIC experience, however, only 8% of programs had a faculty member who was an IBCLC ([Table 1](#)).

The most common course that taught about breastfeeding was a life cycle nutrition course, with a median of 4 lecture hours taught ([Table 2](#)). Most course instructors would teach at least a portion of the breastfeeding course content ([Table 2](#)). Occasionally the course instructor would invite another professional, faculty member, or guest lecturer to teach part of the breastfeeding course content. Breastfeeding material was most commonly taught through lecture, photos and videos about breastfeeding, class discussions, and course assignments, and least commonly through a live observation of a woman breastfeeding ([Table 2](#)).

Most instructors utilized other hands-on activities to teach breastfeeding content, with the most common being course assignments ([Table 2](#)). Instructors also mentioned conducting personal interviews with a breastfeeding mother, comparing prices between formula and human milk, writing reflective journals, listening to podcasts about breastfeeding, diagramming a breast and identifying the parts/hormones/synthetic pathways, identifying myths about breastfeeding, attending a WIC class on breastfeeding, answering questions about breastfeeding on an exam, and creating educational handouts for breastfeeding mothers (data not shown).

The breastfeeding topics that are being covered most thoroughly are other components of human milk (immunoglobulins, flavor), breastfeeding and health for infants, and achieving a proper latch ([Figure 1](#)). On the other hand common concerns for breastfeeding infants, contraindications to breastfeeding, and resources for support are not being taught as completely ([Figure 1](#)).

Only 3 out of 56 instructors reported that they were dissatisfied with current curriculum on breastfeeding; however, 35 instructors indicated a desire to change current curriculum on breastfeeding ([Table 2](#)). The most commonly cited barriers to making desired changes in the

curriculum were: 1) the curriculum for dietetic students was already full (44%) and 2) limited time to revise courses as desired (28%).

DISCUSSION

The results of our study describe current breastfeeding curricula in DPDs. This is a novel study as no other studies, to our knowledge, have looked at describing program characteristics of breastfeeding curriculum in DPDs. Other health professions, particularly nurses and pediatricians, have previously recognized the importance of breastfeeding and the role that health care professionals play in influencing a woman's choice to breastfeed, and have thus included more educational opportunities for breastfeeding in their curricula.^{14,15,17-21,28,31,32} Pediatricians have been cited as being the “go to” source for breastfeeding support, but training may be lacking.^{15,19-21} A small study measuring intervention behaviors of medical residents found that 92% of residents agreed that breastfeeding promotion was an important use of their time, but prior to an educational intervention only 22% demonstrated at least six or more breastfeeding promotion behaviors out of nine measured.¹⁹ That number rose to 65% following an educational intervention.¹⁹ This suggests that the extra education given to pediatricians improved their performance in breastfeeding promotion. A review by Watkins and Dogdson¹⁷ showed that breastfeeding didactic education helps improve knowledge and confidence in health care professionals.

In our study, instructors of life cycle nutrition courses taught breastfeeding content a median of 4.0 lecture hours (interquartile range (IQR): 2.5 hours, 6.0 hours) . In comparison, Howett et al.²⁸ developed a 2-credit hour university-based lactation course that prepared both undergraduate and graduate students in the university's school of public health and school of nursing to meet the breastfeeding needs of mothers and babies; this course provided over 30

hours of classroom experience. They were able to cover a wide variety of topics, such as social, cultural, and psychological issues surrounding breastfeeding, biological specificity of breast milk, and infant oral assessment for breastfeeding.²⁸ The maternal/child specific classes in our study had a median of 4.5 lecture hours (IQR: 1.9 hours, 18.0 hours). Additional knowledge base given in breastfeeding curricula may be beneficial in improving RDNs/NDTRs' competency in breastfeeding counseling and support. The practice paper of the *Academy of Nutrition and Dietetics: Promoting and Supporting Breastfeeding* mentions that RDNs/NDTRs are the experts in areas related to infant feeding practices, suggesting didactic education for dietetics students should include an in-depth study of breastfeeding.²³ However, currently DPDs do not have uniform standards for breastfeeding curricula. The ACEND[®] requirement for life cycle nutrition are quite broad such as incorporating the physical and biological science foundation of nutrition across the lifespan in the course content.¹⁹

In our study the topics being covered most were other components of human milk, and breastfeeding health for infants. Other components of human milk did not have as many subtopics (2 subtopics: immunoglobulins, flavor) as other topics and so this may have contributed to a higher than usual reporting. The benefits of breastfeeding on the health of infants had more subtopics (5 subtopics: immune function, gastroenteritis, otitis media, obesity later in life, early allergenic diseases) and were still taught relatively thoroughly.

As our study shows that some topics are not being as well discussed as others, there may be a potential benefit to devoting more time to cover a wider breadth of topics, such as including assessing breastfeeding abilities in the curriculum. Even in maternal and child specific classes from our study the amount of time spent on breastfeeding material ranged from 0.75 hours to 30 hours, which suggests a lack of homogeneity between programs. The practice paper states that all RDNs/NDTRs should have a basic level of understanding of breastfeeding. Based on our

findings, the competencies suggested in the paper may or may not be covered currently consistently across DPDs.

The instructor of the course is the person most commonly teaching the material on breastfeeding, with guest lecturers being brought to teach about half of the time. However, only one in four of those that teach the material on breastfeeding is an IBCLC, which could be argued to be the most credentialed to teach about breastfeeding because it is the highest level of recognition for expertise in lactation and breastfeeding management.²³ Many instructors invite other health professionals with breastfeeding experience to supplement course content, which may help to strengthen some topics covered. Furthermore, a quarter of programs conducted breastfeeding-related research, which may have also influenced the amount of breastfeeding education students were given in courses. Although most of the surveyed instructors were satisfied with curriculum being taught, 59.6% still wanted to change the curriculum.

Lecture was used as a method of teaching breastfeeding material the majority of the time, which may be related to the most common barrier to making desired changes in courses being the curriculum for dietetic students already being full. Lecture allows for a large amount of information to be presented in a short amount of time.³³ Using lecture as the mode of teaching allows instructors to be concise in conveying material to students, however, information can be lost if lecturing is the only method of teaching. One way to prevent this loss of information is using an active style of lecturing to promote student engagement. Gauci et al.³⁴ encouraged a student-centered active learning style in lectures, which helped improve students' involvement and outcomes from the lecture. Some DPDs in our study reported using active styles of teaching, such as diagramming and labeling the breast, creating handouts, and writing in reflective journals. Increasing student engagement through an active learning approach and incorporating

aforementioned other assignments in more DPDs could enrich dietetics students' learning about breastfeeding.

In a practice paper sent out by the Academy in March 2015,²³ competencies were recommended for RDNs/NDTRs to support and promote breastfeeding. These recommendations were based on *The Surgeon General's Call to Action to Support Breastfeeding* and the *United States Breastfeeding Committee Core Competencies in Breastfeeding Care and Services for All Health Professionals*.²⁴ Our survey was developed prior to the updated position and practice papers from the Academy and yet, there are many similarities in the new recommended competencies and our own survey. For instance, the practice paper had competencies listed, such as demonstrating an understanding of: 1) anatomy and physiology of the lactating breast and milk production, 2) the importance of exclusive breastfeeding for the first 6 months and continued breastfeeding until at least 12 months of age, and 3) the role of breastfeeding and human milk in maintaining health and disease prevention. In our survey we asked if breast anatomy-physiology, recommended practices from professional organizations, and if the health benefits (with 8 diseases listed specifically) were currently being taught in their courses. Our study shows that the health benefits of breastfeeding were being covered thoroughly in over 80% of surveyed DPDs. We also asked about the coverage of growth patterns of infants, identifying infant hunger cues, and common concerns of breastfeeding mothers, which are also mentioned in the practice paper. In our survey many of the topics were questioned more in depth than the practice paper.

A possible limitation to this study is that a convenience sample was used for survey collection. All programs across the United States were sampled, but only surveys returned were included in our analysis. There was still a good variety of programs included in the sample, with number of students in surveyed programs ranging from 3 to 223 students. Responding programs

were from 34 states across the United States. There is a possibility that programs that did not have as much breastfeeding in their curriculum were more unresponsive, or limited time prevented respondents from completing the surveys. Another possible limitation may have been designing our study to have DPD directors forward emails to course instructors, rather than obtaining direct contact information of instructors to follow-up with requests for survey completion. Contacting instructors directly may have helped to improve our response rate.

CONCLUSION

This study provides a baseline for current breastfeeding curricula in DPDs. The results from our study show that there is presently a wide range of didactic education in DPDs across the United States. Time spent on breastfeeding topics as well as the frequency topics are covered varies across programs, which is not a surprise considering the broad and general requirement by the ACEND® to educate about nutrition through the life cycle. The recent AND practice paper addressing breastfeeding clearly shows the relationship between RDNs/NDTRs and the role the nutrition profession has in promoting breastfeeding. The practice paper also gives suggestions of what an RDN/NDTR should know about breastfeeding. It would be beneficial for DPDs to compare their current standing with regards to breastfeeding curricula against the current recommendations, thus preparing future dietitians in their role in promoting and supporting breastfeeding.

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Table 1. Frequency of breastfeeding courses and faculty structure of didactic programs in dietetics (DPD) across the United States, as reported by DPD Directors (n=103).

	Number of courses or faculty			
	0	1	2	3+
	<i>Percentage^a of DPDs</i>			
Total breastfeeding courses	0%	44%	46%	11%
Faculty conducting breastfeeding-related research^b	69%	20%	5%	0%
Faculty with breastfeeding credentials/experience				
Experience working at WIC	31%	36%	22%	11%
Experience working in NICU/Pediatrics	49%	33%	14%	4%
Certified Lactation Counselor (CLC)	84%	11%	4%	0%
Board Certified Specialist in Pediatric Nutrition	88%	11%	2%	0%
Certified Lactation Educator (CLE)	91%	8%	2%	0%
International Board Certified Lactation Consultant (IBCLC)	92%	6%	2%	0%
Other ^c	63%	31%	6%	0%

^aPercentages were rounded to the nearest whole percent and may not add up to 100%.

^bOn the survey, 6% (n=6) of DPD directors reported not knowing how many of their faculty conducted breastfeeding-related research.

^cOther responses included Certified Diabetes Educator (CDE), Early Childhood Intervention (ECI), Maternal and Child Health (MCH), research experience in related field, and personal breastfeeding experience.

Table 2. Characterization of and perceptions about breastfeeding courses in didactic program in dietetics (DPD) across the United States, as reported by DPD Instructors (n=56).

Characteristic	No. (%) of respondents
Courses in which breastfeeding taught^a	
Life Cycle Nutrition	45 (80.4)
Lecture hours taught (median: 4.0 hrs; interquartile range: 2.5 hrs, 6.0 hrs)	
General Nutrition	10 (17.9)
Lecture hours taught (median: 1.0 hrs; interquartile range: 1.0 hrs, 2.0 hrs)	
Community Nutrition	9 (16.1)
Lecture hours taught (median: 2.0 hrs; interquartile range: 1.5 hrs, 3.0 hrs)	
MNT/Clinical	6 (10.7)
Lecture hours taught (median: 3.0 hrs; interquartile range: 1.0 hrs, 4.0 hrs)	
Maternal/Child Specific Classes	4 (7.1)
Lecture hours taught (median: 4.5 hrs; interquartile range: 1.9 hrs, 18.0 hrs)	
Person or persons who teaches the material on breastfeeding^b	
Respondent (DPD Instructor)	52 (92.9)
Other professional who is not a university faculty member	13 (23.2)
Faculty member who is not the course instructor	4 (7.1)
Other ^c	11 (19.6)
Credentials and/or experience of instructor for breastfeeding material^d	
Experience working at WIC	24 (42.9)
International Board Certified Lactation Consultant (IBCLC)	15 (26.8)
Experience working in NICU/Pediatrics	15 (26.8)
Certified Lactation Counselor (CLC)	10 (17.9)

Certified Lactation Educator (CLE)	4 (7.1)
Board Certified Specialist in Pediatric Nutrition	1 (1.8)
Other ^e	26 (46.4)
Teaching methodology	
Lecture	52 (92.9)
Photos/images about breastfeeding	42 (75.0)
Class discussion	40 (71.4)
Assignments	35 (62.5)
Videos (e.g. VHS, DVDs, online) about breastfeeding	34 (60.7)
Demonstrations with props (e.g. baby dolls, breast pumps)	22 (39.3)
Hands-on in-class activities (e.g. case studies, role playing)	22 (39.3)
Live observation of a woman breastfeeding	3 (5.4)
Other ^f	7 (12.5)
Satisfaction with current curriculum on breastfeeding^g	
Very satisfied	11 (19.6)
Satisfied	23 (41.1)
Somewhat satisfied	14 (25.0)
Neutral	5 (8.9)
Somewhat dissatisfied	3 (5.4)
Desire to change current curriculum on breastfeeding	35 (62.5)
Barriers to making desired changes to breastfeeding curriculum^h	
Curriculum for dietetic students already full	25 (44.6)
Limited time to revise courses as desired	16 (28.6)
Lack of qualified lecturers	4 (7.1)
Other ^h	10 (17.9)

^aDPD Instructors were asked to provide course titles in free-text response; the researchers reclassified these listed course titles to the five course groupings listed.

^bRespondents could mark all answers that applied on this survey item, thus the percentages do not total 100%.

^cOther responses included student presentations, panel of breastfeeding women, and guest lecturer.

^dOn the survey, 5.4% (n=3) of DPD instructors reported not being sure of the credentials or experience of the instructor who teaches the breastfeeding curricula.

^eOther responses for credentials or experience of instructor included: RD/RDN, personal experience breastfeeding, research in related field.

^fOther responses for how breastfeeding material was taught included: shadowing of lactation consultants, breastfeeding mothers panel, reflection question/essay assignment, worksheet, guest speakers.

^gNo DPD instructors responded to being dissatisfied or very dissatisfied with current curriculum on breastfeeding.

^hOther responses for barriers to making desired changes included: difficulty finding nursing mother, lack of funding for guest lecturers, large class size make hands on experiences difficult, lack of student interest.

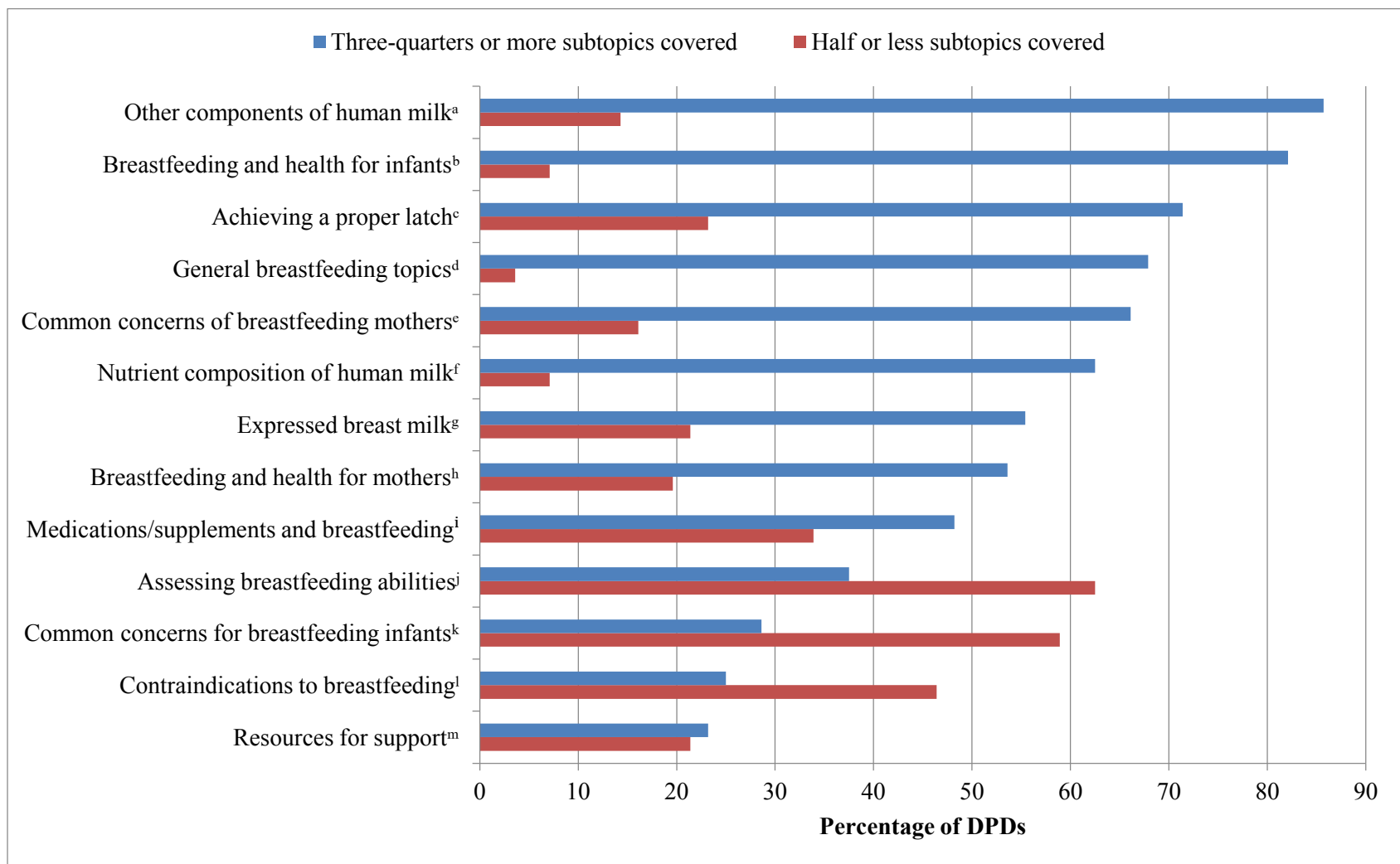


Figure 1. Percent of subtopics covered by didactic program in dietetics (DPD) instructors in DPD breastfeeding courses across the United States, categorized into major topics (n=56).

^aOther components of human milk (2 subtopics): immunoglobulins, flavor.

^bBreastfeeding and health for infants (5 subtopics): immune function, gastroenteritis, otitis media, obesity later in life, early allergenic diseases.

^cAchieving a proper latch (6 subtopics): maternal positioning, infant positioning, identifying infant hunger cues, infant sounds heard to ensure proper latch, connection between bottle or pacifier use and proper latch, hospital practices.

^dGeneral breastfeeding topics (11 subtopics): nutrient requirements, breast anatomy/physiology, stages of lactation, letdown reflex, exercise recommendations, categories of breastfeeding (e.g. exclusive, partial), social support (e.g. family, friends) and initiation/duration, statistics of breastfeeding, recommended practices from professional organizations (e.g. AAP, WHO, AND), economic impact on health care costs in the United States, International Code of Marketing of Breast-milk Substitutes.

^eCommon concerns of breastfeeding mothers (14 subtopics): growth patterns of infants, increased feedings, spitting up of infant, pain while breastfeeding, teething of infant, maternal illness, engorgement, mastitis, perception of low milk production, nipple abnormality (e.g. flat, inverted, large, or bulbous), returning to work or school, overweight/obese, cigarette use, alcohol consumption.

^fNutrient composition of human milk (7 subtopics): colostrum, transitional milk, mature milk, foremilk, hindmilk, milk produced for a preterm infant, milk produced for an older child (over age 1).

^gExpressed breast milk (5 subtopics): milk expression (e.g. pumping), nipple shields/breast cups/breast shells, other feeding methods (e.g. bottle feeding, spoon feeding, etc.), proper storage of breast milk for future use, donor human milk/human milk banks and depots.

^hBreastfeeding and health for mothers (3 subtopics): reproductive cancers, weight loss, diabetes.

ⁱMedications/supplements and breastfeeding (7 subtopics): compatibility with prescriptive drugs, herbal supplements, vitamin and mineral supplements, over-the-counter medications, drug passage into breast milk, contraception, resources to find drug level of risk.

^jAssessing breastfeeding abilities (4 subtopics): identifying proper positioning, mother's ability to recognize proper latch, evaluating mother's knowledge, test weighing infants for measuring breast milk transfer.

^kCommon concerns seen in breastfeeding infants (8 subtopics): breastfeeding failure jaundice, breast milk jaundice, gassiness, ankyloglossia (tongue-tie), noisy or clicking sounds while feeding, thrush, illness, need for vitamin D.

^lContraindications to breastfeeding (5 subtopics): galactosemia, mother with HIV/AIDS, mother with chronic hepatitis B, active tuberculosis, and chemotherapy.

^mResources for support (6 subtopics): WIC clinics, lactation educators/consultants, lay support groups, breast pump rental stations, medical professionals, websites.

LITERATURE REVIEW

Background

The impact of breastfeeding on health, the economy, and cognition has been widely studied. These findings have prompted the United States Department of Health and Human Services to set specific goals of increasing rates of breastfeeding through their Healthy People 2020 Initiative.¹ The Healthy People 2020 Initiative monitors five areas of initiation and duration of breastfeeding: infants who are breastfed, infants breastfed at 6 months, infants breastfed at 1 year, infants exclusively breastfed through 3 months, and infants exclusively breastfed through 6 months.¹ The Healthy People 2020 goals regarding these criteria and a baseline percentage taken from the most recent data from the Center for Disease Control are shown in [Table 3](#). While breastfeeding rates have been improving since 1989,² the percentages in all categories need to increase in order to achieve the Healthy People 2020 goals.

Table 3. Baseline breastfeeding data for each goal and target percentages for the year 2020

Objectives	2011 Statistics % ³	2020 Target % ⁴
Infants ever breastfed	79.2 ± 1.2	81.9
Infants breastfed at 6 months	49.4 ± 1.5	60.6
Infants breastfed at 1 year	26.7 ± 1.3	34.1
Exclusively breastfed through 3 months	40.7 ± 1.5	46.2
Exclusively breastfed through 6 months	18.8 ± 1.2	25.5

Composition of Human Milk

Human milk is a unique form of nutrition as it adapts according to the needs of the infant.⁵ The first milk, colostrum, is saturated with antibodies, protein, and growth factors. The antibodies provide passive immunity to the infant. Growth factors found in human milk have many functions, some include intestinal maturation and repair (epidermal growth factor),^{6,7} and

regulation of metabolism and body composition (adiponectin and other hormones).⁸⁻¹⁰ The protein in breast milk is mainly alpha-lactalbumin, which is an easily digestible whey-protein.¹¹

Benefits of Breastfeeding

Health Benefits for Babies

Breastfeeding has been shown to improve the health of infants by reducing the incidence of certain diseases such as otitis media,¹² gastroenteritis,¹³ necrotizing enterocolitis,¹⁴ sudden infant death syndrome,¹⁵ hospitalization for lower respiratory tract infection,¹⁶ atopic dermatitis,¹⁷ childhood asthma,¹⁸ type 1 diabetes,¹⁹ and obesity.²⁰ A protective role of breastfeeding on childhood leukemia has been suggested, but there is a lack of high-quality studies to confirm the association.²¹

The composition of gut microflora in infants changes according to whether an infant is breastfed, formula fed, and when complementary feedings are introduced. In a cohort study of 330 healthy Danish infants by Bergstrom et al.,²² samples of the gut microbiota were examined at 9, 18, and 36 months in infants who were either breastfed or not. They found that the most significant changes in gut microflora occurred from age 9 to 18 months when cessation of breastfeeding and introduction of new foods was common. Continued breastfeeding at 9 months was associated with higher levels of *Lactobacillus* spp., *Bifidobacterium* spp., and *B. longum* in the gut. These findings were consistent with another study by Roger et al.²³ that measured the *Bifidobacterium* populations in feces. The researchers proposed that the microbiome composition, which seems to be highly influenced by nutrition in the infant stage, may affect atherosclerosis, obesity and other metabolic markers in adults, which supports the findings in a study by LeChatelier et al.²⁴

Health Benefits for Mothers

Breastfeeding may have a protective effect on the mother as well. The relative risk of breast cancer has been found to decrease by 7% for each birth and 4.3% for every 12 months of breastfeeding.²⁵ Ovarian cancer has an increased risk of 27% in mothers who have never breastfed when compared to those who have breastfed.²⁶ Feng et al.²⁶ found there was a dose-dependent effect of breastfeeding on ovarian cancer risk; every one-month increase in breastfeeding duration lessened ovarian cancer risk. The most dramatic decrease was found in those who breastfed for 8 to 10 months.²⁶ Breastfeeding helped control dysglycemia in women who had gestational diabetes mellitus, which may help reduce the risk of future type 2 diabetes mellitus.²⁷

An estimated 480 kcal per day is needed to support lactation, which leads to the hypothesis that breastfeeding will help a woman lose weight.²⁸ In a systematic review by Neville et al.²⁹ there seemed to be little or no association between breastfeeding and weight change. However, when methodological quality was taken into consideration, four out of five well-designed studies showed a positive association between breastfeeding and increased weight loss.²⁹

Depression during pregnancy is a risk-factor for early cessation of breastfeeding and postpartum depression, on the other hand, exclusive breastfeeding reduces the risk of postpartum depression.³⁰ An emerging theory for explaining decreases in postpartum depression is that breastfeeding reduces the amount of retinoids in the body.³¹ Vitamin A has been associated with mood disorders and depression,³² thus a decrease of vitamin A would theoretically lead to less depression.³¹

Bonding with baby has been cited as a reason why mothers breastfeed.³³ Children who are breastfed have been shown to have higher intelligence.^{34,35} In a recent study by Gibbs et al.,³⁶

other factors, such as how early parents introduced reading to the child and sensitivity to emotional cues, had a higher impact on the intelligence of the child than breastfeeding. However, mothers who breastfed tended to exhibit the qualities that enhanced the child's learning.³⁶

Economic Benefits

According to a pediatric cost analysis by Bartick and Reinhold,³⁷ if 90% of infants in the United States were exclusively breastfed for 6 months, the United States could save \$13 billion per year and prevent 911 deaths. This study analyzed all of the diseases where a risk reduction with breastfeeding has been concluded and used both direct and indirect costs in the analyses.

Breastfeeding Training Among Health Professionals

In addition to registered dietitian nutritionists, other health professionals have also recognized the need for training in breastfeeding support. Pediatricians have been cited as being the “go to” source for breastfeeding support, but training may be lacking.³⁸⁻⁴¹ A small study measuring intervention behaviors of medical residents found that 92% of residents agreed that breastfeeding promotion was an important use of their time, but prior to an educational intervention only 22% demonstrated at least six or more breastfeeding promotion behaviors out of nine measure. That number rose to 65% following an educational intervention.³⁹ This suggests that the extra education given to pediatricians improved their performance in breastfeeding promotion.

Nurses are the largest body of health care professionals and are in many positions that can assist in breastfeeding initiation and maintenance.⁴² Studies done to evaluate nurses' breastfeeding knowledge and education have demonstrated the need for an increase in breastfeeding curriculum.⁴³⁻⁴⁵ A review by Watkins and Dogdson⁴⁶ showed that breastfeeding education helps improve knowledge and confidence in health care professionals. The *Surgeon*

*General's Call to Action to Support Breastfeeding*⁴⁷ urges health care professionals to “Provide education and training in breastfeeding for all health professionals who care for women and children.” Dietitians should be prepared to counsel and promote breastfeeding.⁴⁸ Evaluating the education and training in breastfeeding given to future dietitians through DPDs and DIs will help determine the extent of this exposure.

RESEARCH QUESTIONS

Didactic Programs in Dietetics

1. What education on breastfeeding is offered in DPDs?
2. What are the limitations/barriers to offering breastfeeding education?

Dietetic Internships

1. What education on breastfeeding is offered in didactic curricula of DIs?
2. What practicum experience in breastfeeding is offered in DIs?
3. What are the limitations/barriers to delegating more time to breastfeeding during practicum experience?

RESEARCH AIMS AND OBJECTIVES

The aim of this study is to evaluate breastfeeding curricula in DPDs and DIs across the United States.

Didactic Programs in Dietetics

1. To assess curricula content regarding breastfeeding offered in DPDs.

2. To identify barriers/limitations to offering breastfeeding education in DPDs.

Dietetic Internship

1. To assess content/experience offered to students during DIs.
2. To identify barriers/limitations to breastfeeding practicum education/experience in DIs.

EXPANDED METHODS

Study Population and Design

A descriptive study design was used to survey DPD and DI programs across the United States. All directors of these programs (n=475) were asked to complete an online survey using Qualtrics software (Qualtrics, Provo, UT) to gather demographic information about individual programs. Responses were returned by 244 of these directors (DPD n=103, DI n=141) for a response rate of 51% (DPD = 46%, DI = 56%). The initial email and follow-up reminders followed the Dillman Tailored Design Method.⁴⁹ Directors were asked to forward a second survey to instructors who teach about breastfeeding in any of their courses. Of the 244 surveys forwarded by directors to instructors of these programs, 88 (DPD n=56, DI n=32) were returned for a representation of 18.5% of programs. Surveys for instructors collected information about which specific breastfeeding topics were taught in their course(s), personal characteristics, and other course assignments related to breastfeeding.

An incentive of donating \$1 to the Academy of Nutrition and Dietetics Foundation scholarship fund for every completed survey was used. Coordinated programs in dietetics were excluded from the study population because didactic education and practicum experiences are not clearly delineated. The Institutional Review Board of Brigham Young University approved this study.

Survey Development

A list of breastfeeding-related topics that could be taught in DPD programs was developed to be as comprehensive as possible. Because no lists of topics to be covered for dietetic programs were available at time of development, multiple papers, books, and one of the researcher's teaching experiences were used as references.^{47,50-52} The main topics were broken down into thirteen major subgroups: general breastfeeding topics; nutrient composition of human

milk; other components of human milk; breastfeeding and health for infants; breastfeeding and health for mothers; achieving a proper latch; common concerns seen in breastfeeding infants; common concerns of breastfeeding mothers; assessing breastfeeding abilities; expressed breast milk; medications/supplements and breastfeeding; contraindications to breastfeeding; and resources for breastfeeding support.

The survey for both DPD and DI instructors included 2 free response for course title and number of hours spent on breastfeeding topics, 96 dichotomous questions assessing which breastfeeding subtopics are covered in course material, 1 dichotomous question and 1 free response question about breastfeeding-related course assignments, 3 mark all that apply questions on who teaches material on breastfeeding, credentials/experience of instructor(s), and teaching methods used, 1 Likert scale with seven points (very satisfied to very dissatisfied) about the instructor's personal satisfaction with current breastfeeding curriculum, 1 dichotomous question about desire to change current course curriculum, 1 mark all that apply question about perceived barriers to course changes, and 1 Likert scale with seven points (extremely important to not at all important) and free response about the instructor's attitudes towards breastfeeding. An expert panel with experience in survey research, breastfeeding, and dietetics programs reviewed the survey for content and face validity.

Cognitive Interview

To ensure understandability and quality of survey questions, cognitive interviews were conducted with university faculty (n=3) from health related fields (e.g. dietetics, nutritional science, and public health), breastfeeding experts (n=4) in the community (e.g. IBCLCs and WIC nutritionists), and an expert in survey development (n=1). Each cognitive interview session took approximately 45-60 minutes to complete. During the cognitive interview participants were

asked to read and think out loud, which followed the guidelines suggested by Dillman.⁴⁹ Practice questions at the beginning of the session were also used to make sure that participants understood the process of the cognitive interview.⁴⁹ Participants were compensated for their time with a \$10 Amazon gift card.

Comments were reviewed and surveys were adapted in response to subjects' suggestions and comments. The revised surveys were then reviewed a second time by the panel of expert reviewers to create four final surveys to be distributed to DPD and DI directors and instructors.

Distribution of Survey

The modified Dillman Tailored Design Method⁴⁹ was followed in the distribution of the surveys with five points of contact ([Table 4](#)). A postal letter was sent first explaining the purpose of the study, their rights to decline to participate, and compensation that would be given for their time. A QR code and website address to the online questionnaire was also included in the postal letter. Responding schools were tracked; for sites who had not completed the survey after 4 weeks, two follow-up emails with links to the surveys (after weeks 1 and 2) and a hard copy of the survey (after week 4) were sent to DPD and DI directors. A final contact email was sent at week 7. A statement of implied consent was read before participants could participate in the survey.

Table 4. Timing the distribution of surveys to DPD and DI Directors

Type of Contact	DPD Directors	DI Directors
1. First postal letter	April 15 th	April 16 th
2. First email	April 22 nd	April 22 nd
3. Second email request	April 30 th	April 30 th
4. Second postal letter	May 12 th	May 13 th
5. Last email request	June 3 rd	June 3 rd

Data Analysis

Qualitative analysis was used for categorizing names of courses for DPDs (see manuscript), but was not used for DIs. Descriptive statistics (means, frequencies) were used to describe curriculum and limitations/barriers of DPDs across the United States. All analyses were performed in Statistical Analysis System (SAS) software, version 9.3 (SAS Institute Inc., Cary, NC, USA, 2007). Dennis Eggett, PhD, Director of Statistical Consulting Center performed all analyses.

EXPANDED RESULTS

DPDs

Results for DPDs are included in the manuscript section of the thesis, including the presentation of key findings in [Tables 1-2](#) and [Figure 1](#).

DIs

One-quarter of DIs do not offer a course teaching about breastfeeding ([Table 5](#)). Among instructors who taught breastfeeding in courses offered in DIs, the most common breastfeeding experience or credential was experience working at WIC ([Table 5](#)), which finding was similar to DPD programs ([Table 2](#)). Again like DPDs, lecture and class discussion were the most common ways instructors taught breastfeeding material, and the least common method was through live observation of a breastfeeding mother. The topic of breastfeeding and health for infants was taught the most, which included the subtopics of immune function, gastroenteritis, otitis media, obesity later in life, and early allergenic diseases ([Figure 2](#)). The least taught topic was of medications/supplements and breastfeeding, which included compatibility with prescriptive drugs, herbal supplements, vitamin and mineral supplements, over-the-counter medications, drug passage into breast milk, contraception, and resources to find drug level of risk ([Figure 2](#)).

While most instructors were satisfied with current breastfeeding curriculum, about 16% (n=5) of instructors indicated dissatisfaction ([Table 5](#)). The barriers to making a desired change to the breastfeeding curriculum included the curriculum for dietetic interns already being full, not enough time to make the changes, and lack of qualified lecturers ([Table 5](#)). The most common site interns would participate in breastfeeding counseling was in a WIC rotation ([Table 6](#)). About half of the time interns gained breastfeeding counseling experience in a pediatric hospital unit and in a neonatal intensive-care unit. Other areas for internship experiences included milk banks, lactation consultant observations, community clinic, outpatient parent/maternal courses, maternal

child health center, diabetes center, state extension program, Indian health service, pediatric pulmonary, acute care hospital, obstetric unit at hospital, breastfeeding peer counselor class, outpatient failure to thrive clinic, women life center, early childhood intervention, simulated lab with a pediatric concentration, pediatric workshop, well baby clinics, and La Leche League community event/booth ([Table 6](#)). About half of interns were in supervised practice sites for breastfeeding for less than 10 hours ([Table 6](#)).

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Table 5. Characterization of and perceptions about breastfeeding courses in dietetic internship (DI) across the United States, as reported by DI Instructors (n=32).

Characteristic	No. (%) of respondents
Number of courses in which breastfeeding taught	
0 courses	8 (25.0)
1 course	14 (43.8)
2 courses	10 (31.3)
Who teaches the material on breastfeeding^a	
Respondent (DI Instructor)	14 (43.8)
Other professional who is not a university faculty member	8 (25.0)
Faculty member who is not the course instructor	4 (12.5)
Other ^b	10 (31.3)
Credentials and/or experience of instructor for breastfeeding material^b	
Experience working at WIC	12 (37.5)
Experience working in NICU/Pediatrics	11 (34.4)
International Board Certified Lactation Consultant (IBCLC)	7 (21.9)
Board Certified Specialist in Pediatric Nutrition	6 (18.8)
Certified Lactation Counselor (CLC)	6 (18.8)
Certified Lactation Educator (CLE)	5 (15.6)
Other ^c	9 (28.1)
How breastfeeding material is taught	
Lecture	24 (75.0)
Class discussion	14 (43.8)
Hands-on in-class activities (e.g. case studies, role playing)	12 (37.5)

Photos/images about breastfeeding	10 (31.3)
Assignments	9 (28.1)
Videos (e.g. VHS, DVDs, online) about breastfeeding	7 (21.9)
Demonstrations with props (e.g. baby dolls, breast pumps)	6 (18.8)
Live observation of a woman breastfeeding	1 (3.1)
Other ^d	6 (18.8)
Satisfaction with current curriculum on breastfeeding^{ef}	
Very satisfied	4 (15.6)
Satisfied	11 (12.5)
Somewhat satisfied	3 (9.4)
Neutral	4 (12.5)
Somewhat dissatisfied	3 (9.4)
Dissatisfied	2 (6.3)
Desire to change current curriculum on breastfeeding	15 (46.9)
Barriers to making desired changes to breastfeeding curriculum^b	
Curriculum for dietetic interns already full	12 (37.5)
Limited time to revise courses as desired	11 (34.4)
Lack of qualified lecturers	3 (9.4)
Other ^e	2 (6.3)

^aRespondents could mark all answers that applied on this survey item, thus the percentages do not total 100%.

^bOther responses included intern presentations, lactation consultant, rotation preceptor, and guest lecturer.

^cOther responses for credentials or experience of instructor included: RD/RDN, personal experience breastfeeding, research in related field.

^dOther responses for how breastfeeding material was taught included: case studies and research articles.

^eFor this question n=32. Five DI instructors did not respond to this question. DPD instructors responded to being dissatisfied or very dissatisfied with current curriculum on breastfeeding.

^fNo instructors reported being very dissatisfied.

^gOther responses for barriers to making desired changes included: not knowing qualified lecturers and interns being uncomfortable.

Table 6. Characterization of breastfeeding in dietetic internships (DI) across the United States, as reported by DI Directors (n=141).

Characteristic	No. (%) of respondents
Sites interns participate in breastfeeding counseling	
WIC Program	127 (90.1)
Pediatrics Hospital Unit	69 (48.9)
NICU	65 (46.1)
Other ^a	36 (25.5)
Average time interns in supervised practice site for breastfeeding	
<10 hours	70 (51.5)
10 – 25 hours	34 (25.0)
25+ hours	32 (23.5)
Number professional in internship who conduct breastfeeding related research	
0	70 (49.7)
1	22 (15.6)
2	7 (5.0)
3+	2 (1.4)
Not Known	40 (28.4)

^aOther responses include: milk banks, lactation consultant, community clinic, outpatient parent/maternal courses, maternal child health center, diabetes center, state extension program, Indian health service, pediatric pulmonary, acute care hospital, OB unit at hospital, breastfeeding peer counselor class, outpatient FTT clinic, Women Life Center, early childhood intervention, simulated lab with a pediatric concentration, pediatric workshop, well baby clinics, and La Leche League community event/booth.

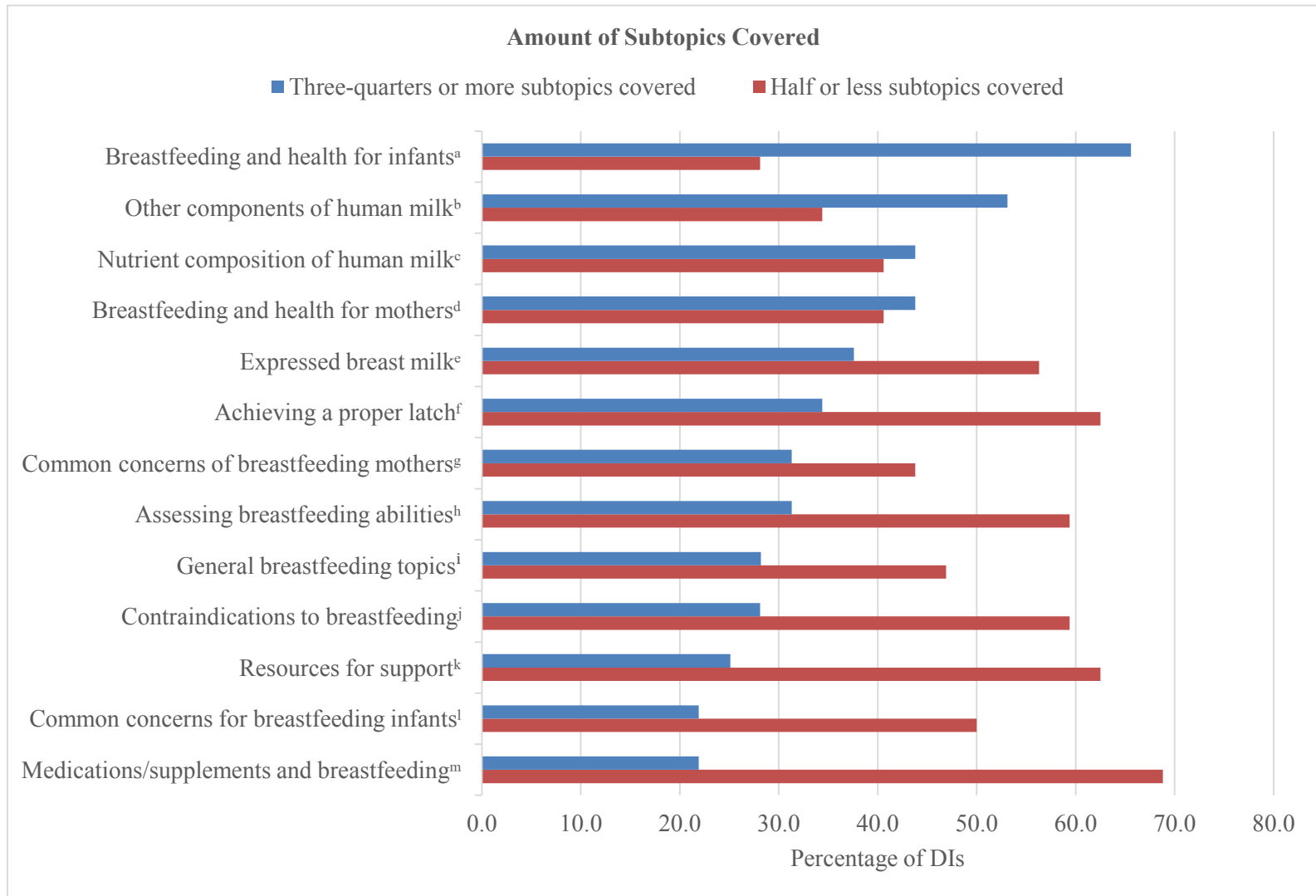


Figure 2. Percent of subtopics covered by dietetic internship (DI) instructors in DI breastfeeding courses across the United States, categorized into major topics (n=32).

^aBreastfeeding and health for infants (5 subtopics): immune function, gastroenteritis, otitis media, obesity later in life, early allergenic diseases.

^bOther components of human milk (2 subtopics): immunoglobulins, flavor.

^cNutrient composition of human milk (7 subtopics): colostrum, transitional milk, mature milk, foremilk, hindmilk, milk produced for a preterm infant, milk produced for an older child (over age 1).

^dBreastfeeding and health for mothers (3 subtopics): reproductive cancers, weight loss, diabetes.

^eExpressed breast milk (5 subtopics): milk expression (e.g. pumping), nipple shields/breast cups/breast shells, other feeding methods (e.g. bottle feeding, spoon feeding, etc.), proper storage of breast milk for future use, donor human milk/human milk banks and depots.

^fAchieving a proper latch (6 subtopics): maternal positioning, infant positioning, identifying infant hunger cues, infant sounds heard to ensure proper latch, connection between bottle or pacifier use and proper latch, hospital practices.

^gCommon concerns of breastfeeding mothers (14 subtopics): growth patterns of infants, increased feedings, spitting up of infant, pain while breastfeeding, teething of infant, maternal illness, engorgement, mastitis, perception of low milk production, nipple abnormality (e.g. flat, inverted, large, or bulbous), returning to work or school, overweight/obese, cigarette use, alcohol consumption.

^hAssessing breastfeeding abilities (4 subtopics): identifying proper positioning, mother's ability to recognize proper latch, evaluating mother's knowledge, test weighing infants for measuring breast milk transfer.

ⁱGeneral breastfeeding topics (11 subtopics): nutrient requirements, breast anatomy/physiology, stages of lactation, letdown reflex, exercise recommendations, categories of breastfeeding (e.g. exclusive, partial), social support (e.g. family, friends) and initiation/duration, statistics of breastfeeding, recommended practices from professional organizations (e.g. AAP, WHO, AND), economic impact on health care costs in the United States, International Code of Marketing of Breast-milk Substitutes.

^jContraindications to breastfeeding (5 subtopics): galactosemia, mother with HIV/AIDS, mother with chronic hepatitis B, active tuberculosis, and chemotherapy.

^kResources for support (6 subtopics): WIC clinics, lactation educators/consultants, lay support groups, breast pump rental stations, medical professionals, websites.

^lCommon concerns seen in breastfeeding infants (8 subtopics): breastfeeding failure jaundice, breast milk jaundice, gassiness, ankyloglossia (tongue-tie), noisy or clicking sounds while feeding, thrush, illness, need for vitamin D.

^mMedications/supplements and breastfeeding (7 subtopics): compatibility with prescriptive drugs, herbal supplements, vitamin and mineral supplements, over-the-counter medications, drug passage into breast milk, contraception, resources to find drug level of risk.

APPENDICES

APPENDIX A: DPD DIRECTOR SURVEY

-Hard Copy

-Online Copy

Program Survey
for
Directors of
Didactic Programs *in*
Dietetics



Implied Consent

My name is Maria Swiss, RDN, CD. I am a graduate student at Brigham Young University conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD, in the Department of Nutrition, Dietetics and Food Science. You are invited to participate in this research study of Breastfeeding Curricula in Didactic Programs. As a director, we would like to ask you a few demographic questions about your program to provide us with some general background information.

Your participation in this study will require the completion of the attached survey. This should take approximately **2-3 minutes** of your time. Your participation will be confidential and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact dietetics education by increasing knowledge about current curricula in dietetics programs. This may lead to further studies and/or recommendations on what is requisite for competency in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD, at rickelle_richards@byu.edu; (801) 422-6855. If you have any questions about your rights as a research participant you may contact the Institutional Review Board (IRB) Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

Q2.1 What university is your Didactic Program in Dietetics (DPD) affiliated with? *(This is only to track which didactic program in dietetics directors have completed the survey. The names of universities will not be associated with survey responses.)*

Q2.2 How many 3rd and 4th year baccalaureate students do you include on your ACEND Annual Report?

 students

Q2.3 How many courses in your DPD teach students about cultural competency as part of the curriculum?

- 0
- 1
- 2
- 3 or more

Q2.4 How many courses in your DPD teach students about breastfeeding as part of the curriculum?

- 0
- 1
- 2
- 3 or more

Q2.5 How many dietetics and nutrition faculty members have the following credentials and/or work experience related to breastfeeding?

	Number of dietetics and nutrition faculty members
Certified Lactation Counselor (CLC)	
Certified Lactation Educator (CLE)	
International Board Certified Lactation Consultant (IBCLC)	
Experience working at WIC	
Experience working in NICU/Pediatrics	
Board Certified Specialist in Pediatric Nutrition	
Other. Please specify: _____	

Q2.6 How many dietetics and nutrition faculty members (including full-time, part-time, or adjunct faculty) at your university currently conduct breastfeeding-related research?

- 0
- 1
- 2
- 3 or more
- I do not know

Thank you for completing this survey!
Please return the completed survey in the postage paid envelope provided to you.



Parts E/F: DPD Director Survey

My name is Maria Swiss, RDN, CD. I am a graduate student at Brigham Young University conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD, in the Department of Nutrition, Dietetics and Food Science. You are invited to participate in this research study of Breastfeeding Curricula in Didactic Programs. As a director, we would like to ask you a few demographic questions about your program to provide us with some general background information.

Your participation in this study will require the completion of the attached survey. This should take approximately **2-3 minutes** of your time. Your participation will be confidential and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact dietetics education by increasing knowledge about current curricula in dietetics programs. This may lead to further studies and/or recommendations on what is requisite for competency in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD, at rickelle_richards@byu.edu; (801) 422-6855. If you have any questions about your rights as a research participant you may contact the Institutional Review Board (IRB) Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

Director Questions

What university is your Didactic Program in Dietetics (DPD) affiliated with? *(This is only to track which didactic program in dietetics directors have completed the survey. The names of universities will not be associated with survey responses.)*

How many 3rd and 4th year baccalaureate students do you include on your ACEND Annual Report?

Total number of 3rd and 4th year students on ACEND Annual Report

How many courses in your DPD teach students about **cultural competency** as part of the curriculum?

- 0
 1
 2
 3 or more

How many courses in your DPD teach students about **breastfeeding** as part of the curriculum?

- 0
 1
 2
 3 or more

How many dietetics and nutrition faculty members have the following credentials and/or work experience related to breastfeeding?

	Number of dietetics and nutrition faculty members
Certified Lactation Counselor (CLC)	<input type="text"/>
Certified Lactation Educator (CLE)	<input type="text"/>
International Board Certified Lactation Consultant (IBCLC)	<input type="text"/>
Experience working at WIC	<input type="text"/>
Experience working in NICU/Pediatrics	<input type="text"/>
Board Certified Specialist in Pediatric Nutrition	<input type="text"/>
Other. Please specify: <input type="text"/>	<input type="text"/>

How many dietetics and nutrition faculty members (including full-time, part-time, or adjunct faculty) at your university currently conduct **breastfeeding-related research**?

- 0
- 1
- 2
- 3 or more
- I do not know.

APPENDIX B: DPD INSTRUCTOR SURVEY

-Hard Copy

-Online Copy

Breastfeeding Curriculum Survey

for

Instructors *of*

Didactic Programs *in*

Dietetics



Implied Consent

My name is Maria Swiss, RDN, CD, I am a graduate student at Brigham Young University and I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD, from the Department of Nutrition Dietetic and Food Science. You are being invited to participate in this research study of Breastfeeding Curricula in Didactic Programs. I am interested in finding out about what is currently being taught about breastfeeding in dietetics programs.

Your participation in this study will require the completion of the attached survey. This should take approximately **10-15 minutes** of your time. Your participation will be anonymous and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact society by helping increase knowledge about current curricula in dietetic programs. This may lead to further studies and/or recommendations on what is requisite for competency in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD at rickelle_richards@byu.edu; (801) 422-6855.

If you have any questions about your rights as a research participant you may contact the IRB Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

Q2.1 What is the name of the university you are affiliated with? *(This is only to track who has completed the survey. The names of the schools will not be associated with survey responses.)*

Q3.1 What is/are the name(s) of the course(s) that you teach to dietetics students in your university's Didactic Program in Dietetics (DPD) that address(es) breastfeeding?

Course #1 Title	<input type="text"/>
Course #2 Title	<input type="text"/>
Course #3 Title	<input type="text"/>
Course #4 Title	<input type="text"/>
Course #5 Title	<input type="text"/>

Q3.2 How many lecture hours are spent teaching the breastfeeding material in your course? *(If you teach more than one course on breastfeeding, please distinguish the number of hours between each course.)*

Course #1	<input type="text"/>	hours
Course #2	<input type="text"/>	hours
Course #3	<input type="text"/>	hours
Course #4	<input type="text"/>	hours
Course #5	<input type="text"/>	hours

Q3.3 Who teaches the material on breastfeeding in your course(s)? Mark all that apply.

- ₁ Myself, as the course instructor
- ₄ Faculty Member who is not the course instructor
- ₂ Other professional who is not a university faculty member
- ₃ Other. Please specify: _____

Q3.4 What are the credentials and/or work experience of the individual(s) who teach the course(s) on breastfeeding? Mark all that apply.

- ₈ Certified Lactation Counselor (CLC)
- ₉ Certified Lactation Educator (CLE)
- ₁₀ International Board Certified Lactation Counselor (IBCLC)
- ₃ Experience working at WIC
- ₄ Experience working in NICU/Pediatrics
- ₆ Board Certified Specialist in Pediatric Nutrition
- ₅ Other. Please specify: _____
- ₂₂ I don't know/not sure

Q3.5 How is breastfeeding material taught in the course(s)? Mark all that apply.

- ₁ Lecture
- ₇ Class Discussion
- ₂ Videos (VHS, DVDs, online) about breastfeeding
- ₈ Photos/images about breastfeeding
- ₅ Hands-on in-class activities (e.g., case studies, role playing)
- ₃ Demonstrations with props (e.g., baby dolls, breastfeeding pumps)
- ₆ Live observation of a woman breastfeeding
- ₄ Other. Please specify: _____

Q3.6 This next section will ask you a series of questions about specific breastfeeding topics that may be covered in your course(s) taught to dietetics students in your university's Didactic Program in Dietetics (DPD). Please check "Yes" if you cover the topic about breastfeeding and check "No" if that topic is currently not being covered.

Q3.7 What **general breastfeeding topics** are covered in your DPD course(s)?

	Yes	No
Nutrient requirements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Breast anatomy/physiology	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Stages of lactation	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Letdown reflex	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Exercise recommendations	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Categories of breastfeeding (e.g. exclusive, partial)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Social support (e.g. family, friends) and initiation/duration	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Statistics of breastfeeding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Recommended practices from professional organizations (e.g. AAP, WHO, AND)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Economic impact on health care costs in the United States	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
International Code of Marketing of Breast-milk Substitutes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.8 What topics regarding nutrient composition of human milk are covered in your DPD course(s)?

	Yes	No
Colostrum	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Transitional milk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mature milk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Foremilk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Hindmilk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Milk produced for a preterm infant	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Milk produced for an older child (over age 1)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.9 What topics regarding other components of human milk are covered in your DPD course(s)?

	Yes	No
Immunoglobulins	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Flavor	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.10 What topics regarding breastfeeding and health for infants are covered in your DPD course(s)?

	Yes	No
Immune function	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Gastroenteritis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Otitis media	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Obesity later in life	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Early allergenic diseases	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.11 What topics regarding breastfeeding and health for mothers are covered in your DPD course(s)?

	Yes	No
Reproductive cancers	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Weight loss	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Diabetes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.12 What topics regarding achieving a proper latch are covered in your DPD course(s)?

	Yes (1)	No (2)
Maternal positioning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Infant positioning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Identifying infant hunger cues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Infant sounds heard to ensure proper latch	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Connection between bottle or pacifier use and proper latch	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Hospital practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.13 What topics regarding common concerns seen in breastfeeding infants are covered in your DPD course(s)

	Yes	No
Breastfeeding failure jaundice	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Breast milk jaundice	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Gassiness	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Ankyloglossia (tongue-tie)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Noisy or clicking sounds while feeding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Thrush	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Illness	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Need for vitamin D	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.14 What topics regarding common concerns of breastfeeding mothers are covered in your DPD course(s)

	Yes	No
Growth patterns of infants	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Increased feedings	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Spitting up of infant	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Pain while breastfeeding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Teething of infant	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Maternal illness	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Engorgement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mastitis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Perception of low milk production	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Nipple abnormality (e.g. flat, inverted, large, or bulbous)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Returning to work or school	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Overweight/obese	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Cigarette use	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Alcohol consumption	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.15 What topics regarding assessing breastfeeding abilities are covered in your DPD course(s)?

	Yes	No
Identifying proper positioning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mother's ability to recognize proper latch	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Evaluating mother's knowledge	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Test weighing infants for measuring breast milk transfer	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.16 What topics regarding expressed breast milk are covered in your DPD course(s)?

	Yes	No
Milk expression (e.g pumping)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Nipple shields/breast cups/breast shells	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other feeding methods (e.g. bottle feeding, spoon feeding, etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Proper storage of breast milk for future use	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Donor human milk/human milk banks and depots	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.17 What topics regarding medications/supplements and breastfeeding are covered in your DPD course(s)?

	Yes	No
Compatibility with prescriptive drugs	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Herbal supplements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Vitamin and mineral supplements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Over-the-counter medications	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Drug passage into breast milk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Contraception	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Resources to find drug level of risk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.18 What topics regarding contraindications to breastfeeding are covered in your DPD course(s)?

	Yes	No
Galactosemia	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mother with HIV/AIDS	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mother with chronic hepatitis B	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Active tuberculosis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Chemotherapy	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.19 What topics regarding resources for support are discussed in your DPD course(s)?

	Yes	No
WIC clinics	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Lactation educators/consultants	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Lay support groups	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Breast pump rental stations	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Medical professionals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Websites	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q3.20 Are your students required to complete any assignments (including case studies, observing, reports, etc.) related to breastfeeding in your DPD course(s)?

₁ Yes —————> Go to Q3.21

₂ No —————> Go to Q3.22

Q3.21 Briefly describe the assignments students complete related to breastfeeding in your DPD course(s).

Q3.22 This next section will ask your opinions about the course offerings related to breastfeeding that you teach in your university's DPD.

Q3.23 How satisfied are you with current curriculum on breastfeeding in your DPD course(s)?

₃₅ Very Satisfied

₃₆ Satisfied

₃₇ Somewhat Satisfied

₃₈ Neutral

₃₉ Somewhat Dissatisfied

₄₁ Dissatisfied

₄₂ Very Dissatisfied

Q3.24 Is there anything you would like to change in the current breastfeeding curriculum in

your didactic program in dietetics course(s)?

₁ Yes —————> Go to Q3.25

₂ No —————> Go to Q3.27

Q3.25 What changes would you make?

Q3.26 What barriers prevent you from making changes in the breastfeeding content in your course(s)? Mark all that apply.

₁ Limited time to make desired changes to course(s)

₂ Curriculum for dietetic students already full so unable to add any more content

₆ Lack of interest about breastfeeding from those teaching course(s)

₃ Lack of qualified lecturers

₄ Not an important topic

₅ Other _____

Q3.27 This next (final) section asks you questions about yourself.

Q3.28 How important is breastfeeding to you personally?

- ₉ Extremely Important
- ₁₀ Very Important
- ₁₁ Somewhat Important
- ₁₂ Neither Important nor Unimportant
- ₁₃ Somewhat Unimportant
- ₁₄ Very Unimportant
- ₁₅ Not at all Important

Q75 If you would like, you may explain why you answered that breastfeeding is however important or unimportant to you personally.

Q3.29 Are you a male or a female?

- ₁ Male
- ₂ Female

Q3.30 What is your current age (in years)?

₁ 21-30

₂ 31-40

₃ 41-50

₄ 51-60

₅ 61+

Q3.31 How would you best describe yourself with respect to race? Mark all that apply.

₁ African American (Black)

₂ Alaska Native

₃ American Indian

₄ Asian

₅ Caucasian (White)

₆ Hispanic/Latino

₈ Native Hawaiian

₉ Pacific Islander

₇ Other. Please specify: _____

Q3.32 What is your highest level of education?

₄ Masters Degree

₅ Doctoral or Professional Degree (PhD, MD, JD, etc.)

₁ Other. Please specify: _____

Thank you for completing this survey!

Please return the completed survey in the postage paid envelope provided to you.



Parts E/F: DPD Instructor Survey

My name is Maria Swiss, RDN, CD, I am a graduate student at Brigham Young University and I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD, from the Department of Nutrition Dietetic and Food Science. You are being invited to participate in this research study of Breastfeeding Curricula in Didactic Programs. I am interested in finding out about what is currently being taught about breastfeeding in dietetics programs.

Your participation in this study will require the completion of the attached survey. This should take approximately **10-15 minutes** of your time. Your participation will be anonymous and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact society by helping increase knowledge about current curricula in dietetic programs. This may lead to further studies and/or recommendations on what is requisite for competency in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD at rickelle_richards@byu.edu; (801) 422-6855.

If you have any questions about your rights as a research participant you may contact the IRB Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

University Name

What is the name of the university you are affiliated with? *(This is only to track who has completed the survey. The names of the schools will not be associated with survey responses.)*

DPD Course Content

What is/are the name(s) of the course(s) that you teach to dietetics students in your university's Didactic Program in Dietetics (DPD) that address(es) breastfeeding?

Course #1 Title	<input type="text"/>
Course #2 Title	<input type="text"/>
Course #3 Title	<input type="text"/>
Course #4 Title	<input type="text"/>
Course #5 Title	<input type="text"/>

How many **lecture hours** are spent teaching the breastfeeding material in your course? *(If you teach more than one course on breastfeeding, please distinguish the number of hours between each course.)*

#{QID68/ChoiceTextEntryValue/1}	<input type="text"/>
#{QID68/ChoiceTextEntryValue/2}	<input type="text"/>
#{QID68/ChoiceTextEntryValue/3}	<input type="text"/>
#{QID68/ChoiceTextEntryValue/4}	<input type="text"/>

Who teaches the material on breastfeeding in your course(s)? Mark all that apply.

- Myself, as the course instructor
- Faculty Member who is not the course instructor
- Other professional who is not a university faculty member
- Other. Please specify:

What are the credentials and/or work experience of the individual(s) who teach the course(s) on breastfeeding? Mark all that apply.

- Certified Lactation Counselor (CLC)
- Certified Lactation Educator (CLE)
- International Board Certified Lactation Counselor (IBCLC)
- Experience working at WIC
- Experience working in NICU/Pediatrics
- Board Certified Specialist in Pediatric Nutrition
- Other. Please specify:

I don't know/not sure.

How is breastfeeding material taught in the course(s)? Mark all that apply.

- Demonstrations with props (e.g., baby dolls, breastfeeding pumps)
- Live observation of a woman breastfeeding
- Lecture
- Hands-on in-class activities (e.g., case studies, role playing)
- Photos/images about breastfeeding
- Class Discussion
- Videos (VHS, DVDs, online) about breastfeeding
- Other. Please specify:

This next section will ask you a series of questions about specific breastfeeding topics that may be covered in your course(s) taught to dietetics students in your university's Didactic Program in Dietetics (DPD). Please check "Yes" if you cover the topic about breastfeeding and check "No" if that topic is currently not being covered.

What general breastfeeding topics are covered in your DPD course(s)?

	Yes	No

Nutrient requirements	<input type="radio"/>	<input type="radio"/>
Breast anatomy/physiology	<input type="radio"/>	<input type="radio"/>
Stages of lactation	<input type="radio"/>	<input type="radio"/>
Letdown reflex	<input type="radio"/>	<input type="radio"/>
Exercise recommendations	<input type="radio"/>	<input type="radio"/>
Categories of breastfeeding (e.g. exclusive, partial)	<input type="radio"/>	<input type="radio"/>
Social support (e.g. family, friends) and initiation/duration	<input type="radio"/>	<input type="radio"/>
Statistics of breastfeeding	<input type="radio"/>	<input type="radio"/>
Recommended practices from professional organizations (e.g. AAP, WHO, AND)	<input type="radio"/>	<input type="radio"/>
Economic impact on health care costs in the United States	<input type="radio"/>	<input type="radio"/>
International Code of Marketing of Breast-milk Substitutes	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **nutrient composition of human milk** are covered in your DPD course(s)?

	Yes	No
Colostrum	<input type="radio"/>	<input type="radio"/>
Transitional milk	<input type="radio"/>	<input type="radio"/>
Mature milk	<input type="radio"/>	<input type="radio"/>
Foremilk	<input type="radio"/>	<input type="radio"/>
Hindmilk	<input type="radio"/>	<input type="radio"/>
Milk produced for a preterm infant	<input type="radio"/>	<input type="radio"/>
Milk produced for an older child (over age 1)	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **other components of human milk** are covered in your DPD course(s)?

	Yes	No
Immunoglobulins	<input type="radio"/>	<input type="radio"/>
Flavor	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **breastfeeding and health for infants** are covered in your DPD course(s)?

	Yes	No
Immune function	<input type="radio"/>	<input type="radio"/>
Gastroenteritis	<input type="radio"/>	<input type="radio"/>
Otitis media	<input type="radio"/>	<input type="radio"/>
Obesity later in life	<input type="radio"/>	<input type="radio"/>
Early allergenic diseases	<input type="radio"/>	<input type="radio"/>

Other. Please specify:

What topics regarding **breastfeeding and health for mothers** are covered in your DPD course(s)?

	Yes	No
Reproductive cancers	<input type="radio"/>	<input type="radio"/>
Weight loss	<input type="radio"/>	<input type="radio"/>
Diabetes	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **achieving a proper latch** are covered in your DPD course(s)?

	Yes	No
Maternal positioning	<input type="radio"/>	<input type="radio"/>
Infant positioning	<input type="radio"/>	<input type="radio"/>
Identifying infant hunger cues	<input type="radio"/>	<input type="radio"/>
Infant sounds heard to ensure proper latch	<input type="radio"/>	<input type="radio"/>
Connection between bottle or pacifier use and proper latch	<input type="radio"/>	<input type="radio"/>
Hospital practices	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **common concerns seen in breastfeeding infants** are covered in your DPD course(s)?

	Yes	No
Breastfeeding failure jaundice	<input type="radio"/>	<input type="radio"/>
Breast milk jaundice	<input type="radio"/>	<input type="radio"/>
Gassiness	<input type="radio"/>	<input type="radio"/>
Ankyloglossia (tongue-tie)	<input type="radio"/>	<input type="radio"/>
Noisy or clicking sounds while feeding	<input type="radio"/>	<input type="radio"/>
Thrush	<input type="radio"/>	<input type="radio"/>
Illness	<input type="radio"/>	<input type="radio"/>
Need for vitamin D	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **common concerns of breastfeeding mothers** are covered in your DPD course(s)?

	Yes	No
Growth patterns of infants	<input type="radio"/>	<input type="radio"/>
Increased feedings	<input type="radio"/>	<input type="radio"/>
Spitting up of infant	<input type="radio"/>	<input type="radio"/>
Pain while breastfeeding	<input type="radio"/>	<input type="radio"/>

Feeding of infant	<input type="radio"/>	<input type="radio"/>
Maternal illness	<input type="radio"/>	<input type="radio"/>
Engorgement	<input type="radio"/>	<input type="radio"/>
Mastitis	<input type="radio"/>	<input type="radio"/>
Perception of low milk production	<input type="radio"/>	<input type="radio"/>
Nipple abnormality (e.g. flat, inverted, large, or bulbous)	<input type="radio"/>	<input type="radio"/>
Returning to work or school	<input type="radio"/>	<input type="radio"/>
Overweight/obese	<input type="radio"/>	<input type="radio"/>
Cigarette use	<input type="radio"/>	<input type="radio"/>
Alcohol consumption	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **assessing breastfeeding abilities** are covered in your DPD course(s)?

	Yes	No
Identifying proper positioning	<input type="radio"/>	<input type="radio"/>
Mother's ability to recognize proper latch	<input type="radio"/>	<input type="radio"/>
Evaluating mother's knowledge	<input type="radio"/>	<input type="radio"/>
Test weighing infants for measuring breast milk transfer	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **expressed breast milk** are covered in your DPD course(s)?

	Yes	No
Milk expression (e.g. pumping)	<input type="radio"/>	<input type="radio"/>
Nipple shields/breast cups/breast shells	<input type="radio"/>	<input type="radio"/>
Other feeding methods (e.g. bottle feeding, spoon feeding, etc.)	<input type="radio"/>	<input type="radio"/>
Proper storage of breast milk for future use	<input type="radio"/>	<input type="radio"/>
Donor human milk/human milk banks and depots	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **medications/supplements and breastfeeding** are covered in your DPD course(s)?

	Yes	No
Compatibility with prescriptive drugs	<input type="radio"/>	<input type="radio"/>
Herbal supplements	<input type="radio"/>	<input type="radio"/>
Vitamin and mineral supplements	<input type="radio"/>	<input type="radio"/>
Over-the-counter medications	<input type="radio"/>	<input type="radio"/>
Drug passage into breast milk	<input type="radio"/>	<input type="radio"/>
Contraception	<input type="radio"/>	<input type="radio"/>
Resources to find drug level of risk	<input type="radio"/>	<input type="radio"/>

Other. Please specify:

What topics regarding **contraindications to breastfeeding** are covered in your DPD course(s)?

	Yes	No
Galactosemia	<input type="radio"/>	<input type="radio"/>
Mother with HIV/AIDS	<input type="radio"/>	<input type="radio"/>
Mother with chronic hepatitis B	<input type="radio"/>	<input type="radio"/>
Active tuberculosis	<input type="radio"/>	<input type="radio"/>
Chemotherapy	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **resources for support** are discussed in your DPD course(s)?

	Yes	No
WIC clinics	<input type="radio"/>	<input type="radio"/>
Lactation educators/consultants	<input type="radio"/>	<input type="radio"/>
Lay support groups	<input type="radio"/>	<input type="radio"/>
Breast pump rental stations	<input type="radio"/>	<input type="radio"/>
Medical professionals	<input type="radio"/>	<input type="radio"/>
Websites	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

Are your students required to complete any assignments (including case studies, observing, reports, etc.) related to breastfeeding in your DPD course(s)?

- Yes
 No

Briefly describe the assignments students complete related to breastfeeding in your DPD course(s).

This next section will ask your opinions about the course offerings related to breastfeeding that you teach in your university's DPD.

How satisfied are you with current curriculum on breastfeeding in your DPD course(s)?

- Very Satisfied

سأشبع

- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Is there anything you would like to change in the current breastfeeding curriculum in your didactic program in dietetics course(s)?

- Yes
- No

What changes would you make?

What barriers prevent you from making changes in the breastfeeding content in your course(s)? Mark all that apply.

- Curriculum for dietetic students already full so unable to add any more content
- Lack of interest about breastfeeding from those teaching course(s)
- Lack of qualified lecturers
- Not an important topic
- Limited time to make desired changes to course(s)
- Other

This next (final) section asks you questions about yourself.

How important is breastfeeding to you personally?

- Extremely Important
- Very Important
- Somewhat Important
- Neither Important nor Unimportant
- Somewhat Unimportant
- Very Unimportant
- Not at all Important

If you would like, you may explain why you answered that breastfeeding is $\{q://QID62/ChoiceGroup/SelectedChoices\}$ to you personally.

Are you a male or a female?

- Male
 Female

What is your current age (in years)?

- 21-30
 31-40
 41-50
 51-60
 61+

How would you best describe yourself with respect to race? Mark all that apply.

- African American (Black)
 Alaska Native
 American Indian
 Asian
 Caucasian (White)
 Hispanic/Latino
 Native Hawaiian
 Pacific Islander
 Other. Please specify:

What is your highest level of education?

- Masters Degree
 Doctoral or Professional Degree (PhD, MD, JD, etc.)
 Other. Please specify:

APPENDIX C: DI DIRECTOR SURVEY

-Hard Copy

-Online Copy

Program Survey
for
Directors of
Dietetic Internships



Implied Consent

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD in the Department of Nutrition, Dietetics and Food Science.

You are being invited to participate in this research study of Breastfeeding Curricula/Rotations in Didactic and Dietetic Internship Programs. I am interested in finding out what is currently being taught about breastfeeding in dietetic internship program courses and about internship rotations related to breastfeeding that are available to dietetic interns in your program.

Your participation in this study will require the completion of the attached survey. This should take approximately **2-3 minutes** of your time. Your participation will be confidential and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact dietetics education by increasing knowledge about current curricula in dietetic programs. This may lead to further studies and/or recommendations on what is requisite for competence in counseling about breastfeeding .

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD at rickelle_richards@byu.edu; (801) 422-6855.

If you have any questions about your rights as a research participant you may contact the Institutional Review Board (IRB) Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

Q2.1 What is the name of your dietetic internship program? *(This is only to track which dietetic internship programs have completed the survey. The names of the dietetic internship programs will not be associated with survey responses.)*

Q2.2 What is the program concentration area for your dietetic internship?

Q2.3 How many dietetic interns do you accept each year?

 interns

Q2.4 Which of these supervised practice sites do the dietetic interns in your program typically observe and/or participate in breastfeeding counseling? Mark all that apply.

- ₁ WIC Program
- ₂ NICU
- ₃ Pediatrics Hospital Unit
- ₄ Other. Please fill in below.

Q2.5 What other sites, besides those listed in the question above, may dietetic interns in your program have experience with breastfeeding counseling?

Q2.6 How much time (in hours), on average, do dietetic interns in your program typically spend in supervised practice experiences for breastfeeding? *(Average total time per internship experience)*

hours

Q2.7 How many of the professionals in your internship (including you, preceptors, or other dietetics professionals interacting with your interns) currently conduct breastfeeding-related research?

- ₂ 0
- ₃ 1
- ₄ 2
- ₅ 3 or more
- ₆ I do not know

Q2.8 How is cultural competency material taught in the didactic course(s) (NOT supervised practice) in your dietetic internship? Mark all that apply.

- ₁ It is not taught in didactic courses
- ₈ Lecture
- ₂ Class Discussion
- ₃ Videos (VHS, DVDs, online) about cultural competency
- ₄ Photos/images
- ₅ Hands on/in class activities (e.g. case studies, role play)
- ₆ Live demonstrations on being culturally competent in a professional situation
- ₇ Other. Please specify: _____

Thank you for completing this survey!

Please return the completed survey in the postage paid envelope provided to you.



Parts E/F: DI Director Survey

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD in the Department of Nutrition, Dietetics and Food Science.

You are being invited to participate in this research study of Breastfeeding Curricula/Rotations in Didactic and Dietetic Internship Programs. I am interested in finding out what is currently being taught about breastfeeding in dietetic internship program courses and about internship rotations related to breastfeeding that are available to dietetic interns in your program.

Your participation in this study will require the completion of the attached survey. This should take approximately **2-3 minutes** of your time. Your participation will be confidential and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact dietetics education by increasing knowledge about current curricula in dietetic programs. This may lead to further studies and/or recommendations on what is requisite for competence in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD at rickelle_richards@byu.edu; (801) 422-6855.

If you have any questions about your rights as a research participant you may contact the Institutional Review Board (IRB) Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

DI Program Questions

What is the name of your dietetic internship program? *(This is only to track which dietetic internship programs have completed the survey. The names of the dietetic internship programs will not be associated with survey responses.)*

What is the program concentration area for your dietetic internship?

How many dietetic interns do you accept each year?

Which of these supervised practice sites do the dietetic interns in your program typically observe and/or participate in breastfeeding counseling? Mark all that apply.

- WIC Program
- NICU
- Pediatrics Hospital Unit
- Other. Please fill in below.

What other sites, besides those listed in the question above, may dietetic interns in your program have experience with breastfeeding counseling?

How much time (in hours), on average, do dietetic interns in your program typically spend in supervised practice experiences for breastfeeding? (Average total time per internship experience)

How many of the professionals in your internship (including you, preceptors, or other dietetics professionals interacting with your interns) currently conduct **breastfeeding-related research**?

- 0
- 1
- 2
- 3 or more
- I do not know.

How is **cultural competency** material taught in the didactic course(s) (NOT supervised practice) in your dietetic internship? Mark all that apply.

- It is not taught in didactic courses
- Lecture
- Class Discussion
- Videos (VHS, DVDs, online) about cultural competency
- Photos/images
- Hands on/in class activities (e.g. case studies, role play)
- Live demonstrations on being culturally competent in a professional situation
- Other. Please specify:

APPENDIX D: DI INSTRUCTOR SURVEY

-Hard Copy

-Online Copy

Breastfeeding Curriculum Survey

for

Instructors *of*

Dietetic Internships



Implied Consent

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD in the Department of Nutrition, Dietetics and Food Science.

You are being invited to participate in this research study of Breastfeeding Curricula/Rotations in Didactic and Dietetic Internship Programs. I am interested in finding out what is currently being taught about breastfeeding in dietetic internship program courses and about internship rotations related to breastfeeding that are available to dietetic interns in your program.

Your participation in this study will require the completion of the attached survey. This should take approximately **10-15 minutes** of your time. Your participation will be confidential and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact dietetics education by increasing knowledge about current curricula in dietetic programs. This may lead to further studies and/or recommendations on what is requisite for competency in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD at rickelle_richards@byu.edu; (801) 422-6855.

If you have any questions about your rights as a research participant you may contact the Institutional Review Board (IRB) Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

Q2.1 What is the name of your dietetic internship program? *(This is only to track which dietetic internship programs have completed the survey. The names of the dietetic internship programs will not be associated with survey responses.)*

Q2.2 *This next section will ask you a series of questions about didactic courses in your dietetic internship in which dietetic interns might learn about breastfeeding. When answering these questions, please do not consider any supervised practice experiences.*

Q2.3 What is/are the name(s) of the didactic course(s) (NOT including supervised practice) that you teach to dietetic interns in your dietetic internship that address(es) breast-feeding?

Title Course #1	<input type="text"/>
Title Course #2	<input type="text"/>
Title Course #3	<input type="text"/>
Title Course #4	<input type="text"/>
Title Course #5	<input type="text"/>

Q2.4 How many lecture hours are spent teaching the breastfeeding material in your dietetic internship didactic course(s) (NOT including supervised practice)? *(If you teach more than one course on breastfeeding, please distinguish the number of hours between each course.)*

Course #1	<input type="text"/>	hours
Course #2	<input type="text"/>	hours
Course #3	<input type="text"/>	hours
Course #4	<input type="text"/>	hours
Course #5	<input type="text"/>	hours
	<input type="text"/>	

Q2.5 Who teaches the material on breastfeeding in the didactic course(s) (NOT including supervised practice)? Mark all that apply.

- ₁ Myself, as the course instructor
- ₄ Faculty Member who is not the course instructor
- ₂ Other professional who is not a university faculty member
- ₇ Dietetic Interns
- ₃ Other. Please specify: _____

Q2.6 Considering all of the individual(s) who teach the course(s) on breastfeeding, which of the following credentials and/or work experiences do they have? Mark all that apply.

- ₁₀ Certified Lactation Counselor (CLC)
- ₈ Certified Lactation Educator (CLE)
- ₉ International Board Certified Lactation Consultant (IBCLC)
- ₃ Experience working at WIC
- ₄ Experience working in NICU/Pediatrics
- ₆ Board Certified Specialist in Pediatric Nutrition
- ₅ Other. Please specify: _____
- ₂₀ I don't know/not sure

Q2.7 How is breastfeeding material taught in the didactic course(s) (NOT including supervised practice)? Mark all that apply.

- ₁ Lecture
- ₇ Class Discussion
- ₂ Videos (VHS, DVDs, online) about breastfeeding
- ₈ Photos/images about breastfeeding
- ₅ Hands-on in-class activities (e.g., case studies, role playing)
- ₃ Demonstrations with props (e.g., baby dolls, breastfeeding pumps)
- ₆ Live observation of a woman breastfeeding
- ₄ Other. Please specify: _____

Q2.8 This next section will ask you a series of questions about specific breastfeeding topics that may be covered in your didactic course(s) taught to interns in your dietetic internship (NOT including supervised practice). Please check "Yes" if you cover the following topics in your class and "No" if they are currently not being covered.

Q2.9 What **general breastfeeding topics** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Nutrient requirements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Breast anatomy/physiology	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Letdown reflex	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Exercise recommendations	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Categories of breastfeeding (e.g. exclusive, partial)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Support (e.g., family, friends) and initiation/duration	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Statistics of breastfeeding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Recommended practices from professional organizations (e.g. AAP, WHO, AND)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Economic impact of on health care costs in the United States	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
International Code of Marketing of Breast-milk Substitutes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.10 What topics regarding nutrient composition of human milk are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Colostrum	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Transitional milk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mature milk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Foremilk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Hindmilk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Milk produced for a preterm infant	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Milk produced for an older child (over age 1)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.11 What topics regarding other components of human milk are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Immunoglobulins	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Flavor	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.12 What topics regarding breastfeeding and health for infants are covered in the course(s) taught in your dietetic internship?

	Yes	No
Immune function	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Gastroenteritis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Otitis media	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Obesity later in life	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Early allergenic diseases	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.13 What topics regarding breastfeeding and health for mothers are covered in the course(s) taught in your dietetic internship?

	Yes	No
Reproductive cancers	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Weight loss	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Diabetes	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.14 Which topics regarding achieving a proper latch are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Maternal positioning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Infant positioning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Identifying infant hunger cues	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Infant sounds heard to ensure proper latch	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Connection between bottle or pacifier use and proper latch	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Hospital practices	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.15 What topics regarding common concerns seen in breastfeeding infants are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Breastfeeding failure jaundice	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Breast milk jaundice	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Gassiness	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Ankyloglossia (tongue-tie)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Noisy or clicking sounds while feeding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Thrush	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Illness	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Need for vitamin D	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.16 What topics regarding common concerns of breastfeeding mothers are covered in your didactic course(s) in your dietetic internship?

	Yes	No
Growth patterns of infants	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Increased feedings	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Spitting up of infant	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Pain while breastfeeding	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Teething of infant	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Maternal illness	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Engorgement	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mastitis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Perception of low milk production	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Nipple abnormality (e.g. flat, inverted, large, or bulbous)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Returning to work or school	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Overweight/obese	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Cigarette use	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Alcohol consumption	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.17 What topics regarding assessing breastfeeding abilities are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Identifying proper positioning	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mother's ability to recognize proper latch	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Evaluating mother's knowledge	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Test weighing infants for measuring breast milk transfer	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.18 What topics regarding expressed breast milk are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Milk expression (e.g. pumping)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Nipple shields/breast cups/breast shells	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other feeding methods (e.g. bottle feeding, spoon feeding, etc.)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Proper storage of breast milk for future use	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Donor human milk/human milkbanks and depots	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.19 What topics regarding medications/supplements and breastfeeding are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Compatibility with prescriptive drugs	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Herbal supplements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Vitamin and mineral supplements	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Over-the-counter medications	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Drug passage into breast milk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Contraception	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Resources to find drug level of risk	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.20 What topics regarding contraindications to breastfeeding are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Galactosemia	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mother with HIV/AIDS	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Mother with chronic hepatitis B	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Active tuberculosis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Chemotherapy	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.21 What resources for support are discussed in the didactic course(s) taught in your dietetic internship?

	Yes	No
WIC clinics	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Lactation educators/consultants	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Lay support groups	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Breast pump rental stations	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Medical professionals	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Websites	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂
Other. Please specify: _____	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂

Q2.22 Do you require your interns to complete any assignments (including case studies, observing, reports, etc.) related to breastfeeding in your dietetic internship didactic course(s) (NOT including supervised practice)?

₁ Yes —————> Go to Q2.23

₂ No —————> Go to Q2.24

Q2.23 Briefly describe the assignments related to breastfeeding in your dietetic internship didactic course(s) (NOT including supervised practice).

Q2.24 *This next section will ask your opinions about the course offerings related to breastfeeding in your dietetic internship.*

Q2.25 How satisfied are you with current curriculum on breastfeeding in your dietetic internship?

- ₃₅ Very Satisfied
- ₃₆ Satisfied
- ₃₇ Somewhat Satisfied
- ₃₈ Neutral
- ₃₉ Somewhat Dissatisfied
- ₄₁ Dissatisfied
- ₄₂ Very Dissatisfied

Q2.26 Is there anything you would like to change in the current breastfeeding curriculum in your dietetic internship program?

- ₁ Yes —————> Go to Q2.27
- ₂ No —————> Go to Q2.29

Q2.27 What changes would you make?

Q2.28 What barriers prevent you from making changes in the breastfeeding content in your course(s)? Mark all that apply.

- ₁ Limited time to make desired changes to course(s)
- ₂ Curriculum for dietetic interns already full so unable to add any more content
- ₆ Lack of interest about breastfeeding from those teaching course(s)
- ₃ Lack of qualified lecturers
- ₄ Not an important topic
- ₅ Other _____

Q2.29 This next (final) section asks you questions about yourself.

Q2.30 How important is breastfeeding to you personally?

- ₉ Extremely Important
- ₁₀ Very Important
- ₁₁ Somewhat Important
- ₁₂ Neither Important nor Unimportant
- ₁₃ Somewhat Unimportant
- ₁₄ Very Unimportant
- ₁₅ Not at all Important

Q2.31 If you would like, you may explain why you answered that breastfeeding is however important or unimportant to you personally.

Q2.32 Are you a male or a female?

- ₁ Male
₂ Female

Q2.33 What is your current age (in years)?

- ₁ 21-30 years
₂ 31-40 years
₃ 41-50 years
₄ 51-60 years
₅ 61+ years

Q2.34 How would you best describe yourself with respect to race? Mark all that apply.

- ₁ African American (Black)
₂ Alaska Native
₃ American Indian
₄ Asian
₅ Caucasian (White)
₆ Hispanic/Latino
₈ Native Hawaiian
₉ Pacific Islander
₇ Other. Please specify: _____

Q2.35 What is your highest level of education?

- ₄ Masters Degree
₅ Doctoral or Professional Degree (PhD, MD, JD, etc.)
₁ Other. Please specify: _____

Thank you for completing this survey!

Please return the completed survey in the postage paid envelope provided to you.



Parts E/F: DI Instructor Survey

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD in the Department of Nutrition, Dietetics and Food Science.

You are being invited to participate in this research study of Breastfeeding Curricula/Rotations in Didactic and Dietetic Internship Programs. I am interested in finding out what is currently being taught about breastfeeding in dietetic internship program courses and about internship rotations related to breastfeeding that are available to dietetic interns in your program.

Your participation in this study will require the completion of the attached survey. This should take approximately **10-15 minutes** of your time. Your participation will be confidential and you will not be contacted again in the future. You will not be paid directly for being in this study. However, for every completed survey \$1 will be donated to the Academy of Nutrition and Dietetics Foundation Scholarship fund. This survey involves minimal risk to you. The benefits, however, may impact dietetics education by increasing knowledge about current curricula in dietetic programs. This may lead to further studies and/or recommendations on what is requisite for competency in counseling about breastfeeding.

Participation is completely voluntary, and you do not have to answer any question that you do not want to answer for any reason. If you have further questions about this project you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or my advisor, Rickelle Richards, PhD, MPH, RDN, CD at rickelle_richards@byu.edu; (801) 422-6855.

If you have any questions about your rights as a research participant you may contact the Institutional Review Board (IRB) Administrator at A-285 ASB, Brigham Young University, Provo, UT 84602; irb@byu.edu; (801) 422-1461. The IRB is a group of people who review research studies to protect the rights and welfare of research participants.

The completion of this survey implies your consent to participate. If you choose to participate, please complete the attached survey. Thank you!

DI Course Questions

What is the name of your dietetic internship program? *(This is only to track which dietetic internship programs have completed the survey. The names of the dietetic internship programs will not be associated with survey responses.)*

This next section will ask you a series of questions about didactic courses in your dietetic internship in which dietetic interns might learn about breastfeeding. When answering these questions, please do not consider any supervised practice experiences.

What is/are the name(s) of the didactic course(s) (NOT including supervised practice) that you teach to dietetic interns in your dietetic internship that address(es) breastfeeding?

Title Course #1	<input type="text"/>
Title Course #2	<input type="text"/>
Title Course #3	<input type="text"/>
Title Course #4	<input type="text"/>
Title Course #5	<input type="text"/>

How many **lecture hours** are spent teaching the breastfeeding material in your dietetic internship didactic course(s) (NOT including supervised practice)? *(If you teach more than one course on breastfeeding, please distinguish the number of hours between each course.)*

#{q://QID34/ChoiceTextEntryValue/1}

Who teaches the material on breastfeeding in the didactic course(s) (NOT including supervised practice)? Mark all that apply.

- Myself, as the course instructor
- Faculty Member who is not the course instructor
- Other professional who is not a university faculty member
- Dietetic Interns
- Other. Please specify:

Considering all of the individual(s) who teach the course(s) on breastfeeding, which of the following credentials and/or work experiences do they have? Mark all that apply.

- Certified Lactation Counselor (CLC)
- Certified Lactation Educator (CLE)
- International Board Certified Lactation Consultant (IBCLC)
- Experience working at WIC
- Experience working in NICU/Pediatrics
- Board Certified Specialist in Pediatric Nutrition
- Other. Please specify:
- I don't know/not sure.

How is breastfeeding material taught in the didactic course(s) (NOT including supervised practice)? Mark all that apply.

- Videos (VHS, DVDs, online) about breastfeeding
- Demonstrations with props (e.g., baby dolls, breastfeeding pumps)
- Lecture
- Class Discussion
- Live observation of a woman breastfeeding
- Hands-on in-class activities (e.g., case studies, role playing)
- Photos/images about breastfeeding
- Other. Please specify:

This next section will ask you a series of questions about specific breastfeeding topics that may be covered in your didactic course(s) taught to interns in your dietetic internship (NOT including supervised practice). Please check "Yes" if you cover the following topics in your class and "No" if

they are currently not being covered.

What **general breastfeeding topics** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Nutrient requirements	<input type="radio"/>	<input type="radio"/>
Breast anatomy/physiology	<input type="radio"/>	<input type="radio"/>
Letdown reflex	<input type="radio"/>	<input type="radio"/>
Exercise recommendations	<input type="radio"/>	<input type="radio"/>
Categories of breastfeeding (e.g. exclusive, partial)	<input type="radio"/>	<input type="radio"/>
Support support (e.g., family, friends) and initiation/duration	<input type="radio"/>	<input type="radio"/>
Statistics of breastfeeding	<input type="radio"/>	<input type="radio"/>
Recommended practices from professional organizations (e.g. AAP, WHO, AND)	<input type="radio"/>	<input type="radio"/>
Economic impact of on health care costs in the United States	<input type="radio"/>	<input type="radio"/>
International Code of Marketing of Breast-milk Substitutes	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **nutrient composition of human milk** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Colostrum	<input type="radio"/>	<input type="radio"/>
Transitional milk	<input type="radio"/>	<input type="radio"/>
Mature milk	<input type="radio"/>	<input type="radio"/>
Foremilk	<input type="radio"/>	<input type="radio"/>
Hindmilk	<input type="radio"/>	<input type="radio"/>
Milk produced for a preterm infant	<input type="radio"/>	<input type="radio"/>
Milk produced for an older child (over age 1)	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **other components of human milk** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Immunoglobulins	<input type="radio"/>	<input type="radio"/>
Flavor	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **breastfeeding and health for infants** are covered in the course(s) taught in your dietetic internship?

	Yes	No
Immune function	<input type="radio"/>	<input type="radio"/>

Gastroenteritis	<input type="radio"/>	<input type="radio"/>
Otitis media	<input type="radio"/>	<input type="radio"/>
Obesity later in life	<input type="radio"/>	<input type="radio"/>
Early allergenic diseases	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **breastfeeding and health for mothers** are covered in the course(s) taught in your dietetic internship?

	Yes	No
Reproductive cancers	<input type="radio"/>	<input type="radio"/>
Weight loss	<input type="radio"/>	<input type="radio"/>
Diabetes	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

Which topics regarding **achieving a proper latch** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Maternal positioning	<input type="radio"/>	<input type="radio"/>
Infant positioning	<input type="radio"/>	<input type="radio"/>
Identifying infant hunger cues	<input type="radio"/>	<input type="radio"/>
Infant sounds heard to ensure proper latch	<input type="radio"/>	<input type="radio"/>
Connection between bottle or pacifier use and proper latch	<input type="radio"/>	<input type="radio"/>
Hospital practices	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **common concerns seen in breastfeeding infants** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Breastfeeding failure jaundice	<input type="radio"/>	<input type="radio"/>
Breast milk jaundice	<input type="radio"/>	<input type="radio"/>
Gassiness	<input type="radio"/>	<input type="radio"/>
Ankyloglossia (tongue-tie)	<input type="radio"/>	<input type="radio"/>
Noisy or clicking sounds while feeding	<input type="radio"/>	<input type="radio"/>
Thrush	<input type="radio"/>	<input type="radio"/>
Illness	<input type="radio"/>	<input type="radio"/>
Need for vitamin D	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **common concerns of breastfeeding mothers** are covered in your didactic course(s) in your dietetic internship?

	Yes	No
Growth patterns of infants	<input type="radio"/>	<input type="radio"/>
Increased feedings	<input type="radio"/>	<input type="radio"/>
Spitting up of infant	<input type="radio"/>	<input type="radio"/>
Pain while breastfeeding	<input type="radio"/>	<input type="radio"/>
Teething of infant	<input type="radio"/>	<input type="radio"/>
Maternal illness	<input type="radio"/>	<input type="radio"/>
Engorgement	<input type="radio"/>	<input type="radio"/>
Mastitis	<input type="radio"/>	<input type="radio"/>
Perception of low milk production	<input type="radio"/>	<input type="radio"/>
Nipple abnormality (e.g. flat, inverted, large, or bulbous)	<input type="radio"/>	<input type="radio"/>
Returning to work or school	<input type="radio"/>	<input type="radio"/>
Overweight/obese	<input type="radio"/>	<input type="radio"/>
Cigarette use	<input type="radio"/>	<input type="radio"/>
Alcohol consumption	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **assessing breastfeeding abilities** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Identifying proper positioning	<input type="radio"/>	<input type="radio"/>
Mother's ability to recognize proper latch	<input type="radio"/>	<input type="radio"/>
Evaluating mother's knowledge	<input type="radio"/>	<input type="radio"/>
Test weighing infants for measuring breast milk transfer	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **expressed breast milk** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Milk expression (e.g. pumping)	<input type="radio"/>	<input type="radio"/>
Nipple shields/breast cups/breast shells	<input type="radio"/>	<input type="radio"/>
Other feeding methods (e.g. bottle feeding, spoon feeding, etc.)	<input type="radio"/>	<input type="radio"/>
Proper storage of breast milk for future use	<input type="radio"/>	<input type="radio"/>
Donor human milk/human milk banks and depots	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **medications/supplements and breastfeeding** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Compatibility with prescriptive drugs	<input type="radio"/>	<input type="radio"/>

Herbal supplements	<input type="radio"/>	<input type="radio"/>
Vitamin and mineral supplements	<input type="radio"/>	<input type="radio"/>
Over-the-counter medications	<input type="radio"/>	<input type="radio"/>
Drug passage into breast milk	<input type="radio"/>	<input type="radio"/>
Contraception	<input type="radio"/>	<input type="radio"/>
Resources to find drug level of risk	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What topics regarding **contraindications to breastfeeding** are covered in the didactic course(s) taught in your dietetic internship?

	Yes	No
Galactosemia	<input type="radio"/>	<input type="radio"/>
Mother with HIV/AIDS	<input type="radio"/>	<input type="radio"/>
Mother with chronic hepatitis B	<input type="radio"/>	<input type="radio"/>
Active tuberculosis	<input type="radio"/>	<input type="radio"/>
Chemotherapy	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

What **resources for support** are discussed in the didactic course(s) taught in your dietetic internship?

	Yes	No
WIC clinics	<input type="radio"/>	<input type="radio"/>
Lactation educators/consultants	<input type="radio"/>	<input type="radio"/>
Lay support groups	<input type="radio"/>	<input type="radio"/>
Breast pump rental stations	<input type="radio"/>	<input type="radio"/>
Medical professionals	<input type="radio"/>	<input type="radio"/>
Websites	<input type="radio"/>	<input type="radio"/>
Other. Please specify: <input type="text"/>	<input type="radio"/>	<input type="radio"/>

Do you require your interns to complete any assignments (including case studies, observing, reports, etc.) related to breastfeeding in your dietetic internship didactic course(s) (NOT including supervised practice)?

- Yes
- No

Briefly describe the assignments related to breastfeeding in your dietetic internship didactic course(s) (NOT including supervised practice).

This next section will ask your opinions about the course offerings related to breastfeeding in your dietetic internship.

How satisfied are you with current curriculum on breastfeeding in your dietetic internship?

- Very Satisfied
- Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Dissatisfied
- Very Dissatisfied

Is there anything you would like to change in the current breastfeeding curriculum in your dietetic internship program?

- Yes
- No

What changes would you make?

What barriers prevent you from making changes in the breastfeeding content in your course(s)? Mark all that apply.

- Curriculum for dietetic interns already full so unable to add any more content
- Not an important topic
- Lack of interest about breastfeeding from those teaching course(s)
- Lack of qualified lecturers
- Limited time to make desired changes to course(s)
- Other

This next (final) section asks you questions about yourself.

How important is breastfeeding to you personally?

- Extremely Important
- Very Important
- Somewhat Important
-

-

- Neither important nor unimportant
- Somewhat Unimportant
- Very Unimportant
- Not at all Important

If you would like, you may explain why you answered that breastfeeding is $\{q://QID109/ChoiceGroup/SelectedChoices\}$ to you personally.

Are you a male or a female?

- Male
- Female

What is your current age (in years)?

- 21-30 years
- 31-40 years
- 41-50 years
- 51-60 years
- 61+ years

How would you best describe yourself with respect to race? Mark all that apply.

- African American (Black)
- Alaska Native
- American Indian
- Asian
- Caucasian (White)
- Hispanic/Latino
- Native Hawaiian
- Pacific Islander
- Other. Please specify:

What is your highest level of education?

- Masters Degree
- Doctoral or Professional Degree (PhD, MD, JD, etc.)
- Other. Please specify:

APPENDIX E: FIRST POSTAL CONTACT

-DPD Director

-DI Director

April, 14, 2015

Dear [Director's name],

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am writing to ask for your help with an important survey we are conducting of breastfeeding curricula in dietetic programs. I understand that you are nearing the end of the school year and are the director of the program.

My advisor, Rickelle Richards, PhD, MPH, RDN, CD, and I have been working on this survey to better understand what is currently being included in programs across the United States. We are hoping as the Dietetics Program Director at your university, you could spend a few minutes answering some questions about the demographics of your school. We would then ask you to forward this email to faculty member(s) who teach anything about breastfeeding in their courses. We would like to ask them about their experiences with breastfeeding curricula and what topics regarding breastfeeding are taught in your program.

In short, we are asking you to do two things:

- 1) Fill out a short survey about your program, which we think should only take **2-3 minutes** to complete.
- 2) Provide a link to faculty member(s) to our survey on breastfeeding curricula, which will take **instructors about 10-15 minutes** to complete.

The survey is confidential. Your individual answers will not be linked with your name or department in any reports of the data. Your participation is voluntary and if you come to any question you prefer not to answer, you are welcomed to skip it and go on to the next. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. Should you have any questions or comments, please contact me (maria_swiss@byu.edu) or Rickelle Richards, PhD, MPH, RDN, CD, my thesis advisor (801) 422-6855 or rickelle_richards@byu.edu.

We very much appreciate your help with this study, and as a small token of appreciation a \$1 donation will be given to the Academy of Nutrition and Dietetics Foundation for every completed survey.

Many thanks,

Maria Swiss

Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition, Dietetics and Food Science
Brigham Young University

These QR codes are links to our surveys. They can be scanned with an electronic device, which will bring you directly to our surveys. A web address that can be typed into your browser will also take you directly to our surveys. These are located under the QR codes.

DPD Director Survey



https://byu.az1.qualtrics.com/SE/?SID=SV_b7ORrSlkrLxWplp

DPD Instructor Survey



https://byu.az1.qualtrics.com/SE/?SID=SV_aXBE2gCQwCtLUiB

April 15, 2015

Dear [Director's name],

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am writing to ask for your help with an important survey we are conducting of breastfeeding curricula in dietetic programs. I understand that you are nearing the end of the school year and are the director of the program.

My advisor, Rickelle Richards, PhD, MPH, RDN, CD, and I have been working on this survey to better understand what is currently being included in programs across the United States. We are hoping as the Dietetic Internship Director at your university, you could spend a few minutes answering some questions about the demographics of your program. We would then ask you to forward a website link to faculty member(s) who teach anything about breastfeeding in their courses. We would like to ask them about their experiences with breastfeeding curricula and what topics regarding breastfeeding are taught in your program.

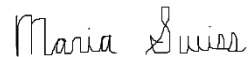
In short, we are asking you to do two things:

- 1) Fill out a short survey about your program, which we think should only take **2-3 minutes** to complete.
- 2) Provide a link to faculty member(s) to our survey on breastfeeding curricula, which will take **instructors about 10-15 minutes** to complete.

The survey is confidential. Your individual answers will not be linked with your name or department in any reports of the data. Your participation is voluntary and if you come to any question you prefer not to answer, you are welcomed to skip it and go on to the next. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. Should you have any questions or comments, please contact me (maria_swiss@byu.edu) or Rickelle Richards, PhD, MPH, RDN, CD, my thesis advisor (801) 422-6855 or rickelle_richards@byu.edu.

We very much appreciate your help with this study, and as a small token of appreciation a \$1 donation will be given to the Academy of Nutrition and Dietetics Foundation for every completed survey.

Many thanks,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition, Dietetics and Food Science
Brigham Young University

These QR codes are links to our surveys. They can be scanned with an electronic device, which will bring you directly to our surveys. A web address that can be typed into your browser will also take you directly to our surveys. These are located under the QR codes.

DI Director Survey



https://byu.az1.qualtrics.com/SE/?SID=SV_0J0I9IMAUej0aPj

DI Instructor Survey



https://byu.az1.qualtrics.com/SE/?SID=SV_eQYmR6SiYBuhx7

APPENDIX F: FIRST EMAIL

-DPD Director/Instructor

-DPD Instructor

-DI Director/Instructor

-DI Instructor

Dear [Director's name]

My name is Maria Swiss, RDN, CD, and I am a graduate students at Brigham Young University. Earlier this week my advisor and I sent you a letter asking for your help with an important survey. We are conducting this study of breastfeeding curricula to learn more about what is presently being taught about this subject. There are currently no recommendations on what is to be included in curricula about breastfeeding, so we would like to describe what is currently being included.

I am following up with this email to provide you with an electronic link to the survey website. I hope this link makes it easier for you to respond. It should only take 2-3 minutes to complete the questionnaire.

Simply click on this link and you will automatically be logged into the survey:

[Qualtrics link here]

We will donate \$1 for every completed survey to the Academy of Nutrition and Dietetics Foundation scholarships. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. The results of this study will help us better understand what is currently being covered in dietetics courses. Your participation is very important, and we appreciate you considering our request.

Sincerely,

Maria Swiss, RDN, CD

Masters Candidate

Department of Nutrition Dietetics and Food Science

Brigham Young University

Dear [Director's name],

We thank you for filling out the first portion of the survey. We would now ask you to please forward this email to instructors in your program who teach breastfeeding in any of their courses. Thank you.

Dear instructor,

My name is Maria Swiss, RDN, CD, and I am a graduate students at Brigham Young University. Your program director forwarded this email to you to because you were identified as an instructor who teaches about breastfeeding in any of your courses. We are conducting this study of breastfeeding curricula to learn more about what is presently being taught about this subject. There are currently no recommendations on what is to be included in curricula about breastfeeding, so we would like to describe what is currently being included.

I am providing you with this email to provide you with an electronic link to the survey website. I hope this link makes it easier for you to respond. It should only take 10-15 minutes to complete the questionnaire.

Simply click on this link and you will automatically be logged into the survey:

https://byu.az1.qualtrics.com/SE/?SID=SV_aXBE2gCQwCtLUIB

We will donate \$1 for every completed survey to the Academy of Nutrition and Dietetics Foundation scholarships. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. The results of this study will help us better understand what is currently being covered in dietetics courses. Your participation is very important, and we appreciate you considering our request.

Sincerely,

Maria Swiss, RDN, CD

Masters Candidate

Department of Nutrition Dietetics and Food Science

Brigham Young University

Dear [Director's name]

My name is Maria Swiss, RDN, CD, and I am a graduate students at Brigham Young University. Earlier this week my advisor and I sent you a letter asking for your help with an important survey. We are conducting this study of breastfeeding curricula to learn more about what is presently being taught about this subject. There are currently no recommendations on what is to be included in curricula about breastfeeding, so we would like to describe what is currently being included.

I am following up with this email to provide you with an electronic link to the survey website. I hope this link makes it easier for you to respond. It should only take 2-3 minutes to complete the questionnaire.

Simply click on this link and you will automatically be logged into the survey:

[Qualtrics link here]

We will donate \$1 for every completed survey to the Academy of Nutrition and Dietetics Foundation scholarships. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. The results of this study will help us better understand what is currently being covered in dietetics courses. Your participation is very important, and we appreciate you considering our request.

Sincerely,

Maria Swiss, RDN, CD

Masters Candidate

Department of Nutrition Dietetics and Food Science

Brigham Young University

Dear [Director's name],

We thank you for filling out the first portion of the survey. We would now ask you to please forward this email to instructors in your program who teach breastfeeding in any of their courses. Thank you.

Dear instructor,

My name is Maria Swiss, RDN, CD, and I am a graduate students at Brigham Young University. Your program director forwarded this email to you to because you were identified as an instructor who teaches about breastfeeding in any of your courses. We are conducting this study of breastfeeding curricula to learn more about what is presently being taught about this subject. There are currently no recommendations on what is to be included in curricula about breastfeeding, so we would like to describe what is currently being included.

I am providing you with this email to provide you with an electronic link to the survey website. I hope this link makes it easier for you to respond. It should only take 10-15 minutes to complete the questionnaire.

Simply click on this link and you will automatically be logged into the survey:

https://byu.az1.qualtrics.com/SE/?SID=SV_eQYmR6SiYBuhyx7

We will donate \$1 for every completed survey to the Academy of Nutrition and Dietetics Foundation scholarships. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. The results of this study will help us better understand what is currently being covered in dietetics courses. Your participation is very important, and we appreciate you considering our request.

Sincerely,

Maria Swiss, RDN, CD

Masters Candidate

Department of Nutrition Dietetics and Food Science

Brigham Young University

APPENDIX G: SECOND EMAIL REQUEST

-DPD Director/Instructor

-DPD Instructor

-DI Director/Instructor

-DI Instructor

Dear [Director's name],

We are pleased with the responses we have received so far for our study of breastfeeding curricula in dietetics programs. We know that breastfeeding curricula will be tailored for every school across the United States. Thus for the results of this study to be useful, it is very important that we hear from programs in all locations across the U.S. This will ensure that we can accurately describe the differences in programs.

For this reason, we would really appreciate you taking a few minutes to complete this survey, which we think is the first one to address this topic in dietetic programs.

In short, we are asking you to do two things:

- 1) Fill out a short survey about your program, which we think should only take **2-3 minutes** to complete. https://byu.az1.qualtrics.com/SE/?SID=SV_b7ORrSIkrLxWplp
- 2) Provide a link to faculty member(s) to our survey on breastfeeding curricula, which will take **instructors about 10-15 minutes** to complete. https://byu.az1.qualtrics.com/SE/?SID=SV_aXBE2gCQwCtLUIB

We believe it should only take about 2-3 minutes to complete the questionnaire. You can access it at.

Thank you so much for considering our request. Also, rest assured that your responses will remain confidential. If you prefer not to answer a particular question, feel free to skip it and go on to the next. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. Should you have any questions about participating in this study, you may contact myself, Maria Swiss RDN, CD at maria_swiss@byu.edu or Rickelle Richards PhD, MPH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Nutrition Dietetics and Food Science Department
Brigham Young University

Subject: Describe your Breastfeeding Curricula, BYU Dietetics Research Study

Dear [Director's name]

We thank you for helping us in our research study. We are hoping to hear from more instructors who teach about breastfeeding in their curriculum. Please forward this email to those instructors in your program. We appreciate you taking a few moments to help us in our research.

Maria Swiss, RDN, CD
Masters Candidate
Nutrition Dietetics and Food Science Department
Brigham Young University

Dear instructor,

We are pleased with the responses we have received so far for our study of breastfeeding curricula in dietetics programs. We know that breastfeeding curricula will be tailored for every school across the United States. Thus for the results of this study to be useful, it is very important that we hear from programs in all locations across the U.S. This will ensure that we can accurately describe the differences in programs.

For this reason, we would really appreciate you taking a few minutes to complete this survey, which we think is the first one to address this topic in dietetic programs.

We believe it should only take about 10-15 minutes to complete the questionnaire. You can access it at https://byu.az1.qualtrics.com/SE/?SID=SV_aXBE2gCQwCtLUIB.

Thank you so much for considering our request. Also, rest assured that your responses will remain confidential. If you prefer not to answer a particular question, feel free to skip it and go on to the next. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. Should you have any questions about participating in this study, you may contact myself, Maria Swiss RDN, CD at maria_swiss@byu.edu or Rickelle Richards PhD, MPH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Nutrition Dietetics and Food Science Department
Brigham Young University

Dear [Director's name],

We are pleased with the responses we have received so far for our study of breastfeeding curricula in dietetics programs. We know that breastfeeding curricula will be tailored for every school across the United States. Thus for the results of this study to be useful, it is very important that we hear from programs in all locations across the U.S. This will ensure that we can accurately describe the differences in programs.

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- 2) Provide a link to faculty member(s) to our survey on breastfeeding curricula, which will take **instructors about 10-15 minutes** to complete. https://byu.az1.qualtrics.com/SE/?SID=SV_eQYmR6SiYBuhyx7

Thank you so much for considering our request. Also, rest assured that your responses will remain confidential. If you prefer not to answer a particular question, feel free to skip it and go on to the next. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. Should you have any questions about participating in this study, you may contact myself, Maria Swiss RDN, CD at maria_swiss@byu.edu or Rickelle Richards PhD, MPH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Nutrition Dietetics and Food Science Department
Brigham Young University

Subject: Describe your Breastfeeding Curricula, BYU Dietetics Research Study

Dear [Director's name]

We thank you for helping us in our research study. We are hoping to hear from more instructors who teach about breastfeeding in their curriculum. Please forward this email to those instructors in your program. We appreciate you taking a few moments to help us in our research.

Maria Swiss, RDN, CD
Masters Candidate
Nutrition Dietetics and Food Science Department
Brigham Young University

Dear instructor,

We are pleased with the responses we have received so far for our study of breastfeeding curricula in dietetics programs. We know that breastfeeding curricula will be tailored for every school across the United States. Thus for the results of this study to be useful, it is very important that we hear from programs in all locations across the U.S. This will ensure that we can accurately describe the differences in programs.

For this reason, we would really appreciate you taking a few minutes to complete this survey, which we think is the first one to address this topic in dietetic programs.

We believe it should only take about 10-15 minutes to complete the questionnaire. You can access it at https://byu.az1.qualtrics.com/SE/?SID=SV_eQYmR6SiYBuhyx7.

Thank you so much for considering our request. Also, rest assured that your responses will remain confidential. If you prefer not to answer a particular question, feel free to skip it and go on to the next. This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. Should you have any questions about participating in this study, you may contact myself, Maria Swiss RDN, CD at maria_swiss@byu.edu or Rickelle Richards PhD, MPH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Nutrition Dietetics and Food Science Department
Brigham Young University

APPENDIX H: SECOND POSTAL LETTER

-DPD Director/Instructor

-DPD Director

-DPD Instructor

-DI Director/Instructor

-DI Director

-DI Instructor

Dear [Director's name]

A few weeks ago we wrote asking for your help in our effort to understand some general information about your Didactic Program in Dietetics (DPD) and the breastfeeding curricula in your dietetics program. We have enclosed paper versions of our online questionnaire we originally asked you to complete.

You will notice there are two surveys enclosed:

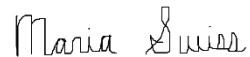
- **DPD Director Survey:** The Director's portion of our survey will ask some questions about your DPD and should take you no longer than 2-3 minutes to complete. Please use the enclosed Business Reply envelope to return the completed survey to us.
- **DPD Instructor Survey:** This survey is for the instructor in your program who teaches about breastfeeding in any course and should take approximately 10-15 minutes to complete. Please give the survey and enclosed Business Reply envelope to the instructor to fill out and return to us.

We hope that by receiving responses from your school and schools across all areas of the United States, we will be able to describe to the dietetic population what is currently being included in breastfeeding curricula.

This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. This survey is confidential, and your individual answers will not be linked to your name or program in any reports of the data. If you have any questions or comments, please contact myself at maria_swiss@byu.edu or Rickelle Richards, PhD, PMH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Thank you for considering this opportunity to share your thoughts.

Sincerely,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Dear [Director's name]

Thank you for forwarding our survey link about the breastfeeding curricula in your dietetics program to the instructor at your university. We also needed you to fill out a survey as the Director to provide us with some general information about your Didactic Program in Dietetics (DPD). We have enclosed paper version of our online questionnaire we originally asked you to complete:

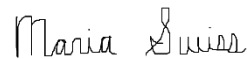
- **DPD Director Survey:** The Director's portion of our survey will ask some questions about your DPD and should take you no longer than 2-3 minutes to complete. Please use the enclosed Business Reply envelope to return the completed survey to us.

We hope that by receiving responses from your school and schools across all areas of the United States, we will be able to describe to the dietetic population what is currently being included in breastfeeding curricula.

This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. This survey is confidential, and your individual answers will not be linked to your name or program in any reports of the data. If you have any questions or comments, please contact myself at maria_swiss@byu.edu or Rickelle Richards, PhD, PMH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Thank you for considering this opportunity to share your thoughts.

Sincerely,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Dear [Director's name]

Thank you for completing our survey for Dietetic Internship (DI) Directors. We have still not heard from any instructors at your facility who teach about breastfeeding in their course(s), thus we have enclosed a paper copy of the questionnaire for them along with a Business Reply envelope.

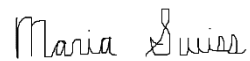
We would greatly appreciate if you could give the paper survey and envelope to the instructor who teaches about breastfeeding in their course(s). We think the survey should take about 10-15 minutes to complete. We would really appreciate if they could complete this paper questionnaire and return it using the enclosed Business Reply envelope.

We hope that by receiving responses from your internship program and programs across all areas of the United States, we will be able to describe to the dietetic population what is currently being included in breastfeeding curricula.

This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. This survey is confidential, and your individual answers will not be linked to your name or program in any reports of the data. If you have any questions or comments, please contact myself at maria_swiss@byu.edu or Rickelle Richards, PhD, PMH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Thank you for considering this opportunity to share your thoughts.

Sincerely,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Dear [Director's name],

A few weeks ago we wrote asking for your help in our effort to understand some general information about your Dietetic Internship (DI) Program and the breastfeeding curricula taught to interns at your facility. We have enclosed paper versions of our online questionnaire we originally asked you to complete.

You will notice there are two surveys enclosed:

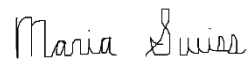
- **DI Director Survey:** The Director's portion of our survey will ask some questions about your DI program and should take you no longer than 2-3 minutes to complete. Please use the enclosed Business Reply envelope to return the completed survey to us.
- **DI Instructor Survey:** This survey is for the instructor in your program who teaches about breastfeeding in any course and should take approximately 10-15 minutes to complete. Please give the survey and enclosed Business Reply envelope to the instructor to fill out and return to us.

We hope that by receiving responses from your facility and facilities across all areas of the United States, we will be able to describe to the dietetic population what is currently being included in breastfeeding curricula.

This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. This survey is confidential, and your individual answers will not be linked to your name or program in any reports of the data. If you have any questions or comments, please contact myself at maria_swiss@byu.edu or Rickelle Richards, PhD, PMH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Thank you for considering this opportunity to share your thoughts.

Sincerely,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Dear [Director's name]

Thank you for forwarding our survey link about the breastfeeding curricula in your dietetic internship to the instructor at your facility. We also needed you to fill out a survey as the Director to provide us with some general information about your Dietetic Internship (DI). We have enclosed paper version of our online questionnaire we originally asked you to complete:

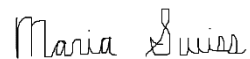
- **DI Director Survey:** The Director's portion of our survey will ask some questions about your DI and should take you no longer than 2-3 minutes to complete. Please use the enclosed Business Reply envelope to return the completed survey to us.

We hope that by receiving responses from your facility and facilities across all areas of the United States, we will be able to describe to the dietetic population what is currently being included in breastfeeding curricula.

This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. This survey is confidential, and your individual answers will not be linked to your name or program in any reports of the data. If you have any questions or comments, please contact myself at maria_swiss@byu.edu or Rickelle Richards, PhD, PMH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Thank you for considering this opportunity to share your thoughts.

Sincerely,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Dear [Director's name]

Thank you for completing our survey for Dietetic Internship (DI) Directors. We have still not heard from any instructors at your facility who teach about breastfeeding in their course(s), thus we have enclosed a paper copy of the questionnaire for them along with a Business Reply envelope.

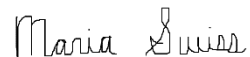
We would greatly appreciate if you could give the paper survey and envelope to the instructor who teaches about breastfeeding in their course(s). We think the survey should take about 10-15 minutes to complete. We would really appreciate if they could complete this paper questionnaire and return it using the enclosed Business Reply envelope.

We hope that by receiving responses from your internship program and programs across all areas of the United States, we will be able to describe to the dietetic population what is currently being included in breastfeeding curricula.

This study has been approved by BYU's Institutional Review Board for Human Subjects Committee. This survey is confidential, and your individual answers will not be linked to your name or program in any reports of the data. If you have any questions or comments, please contact myself at maria_swiss@byu.edu or Rickelle Richards, PhD, PMH, RDN, CD, my thesis advisor, at (801) 422-6855 or rickelle_richards@byu.edu.

Thank you for considering this opportunity to share your thoughts.

Sincerely,



Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

APPENDIX I: LAST EMAIL REQUEST

-DPD Director/Instructor

-DPD Director

-DPD Instructor

-DI Director/Instructor

DI Director

-DI Instructor

Subject: Last Chance to Voice Your Opinion of Breastfeeding Curricula, BYU Dietetics Research Study

Dear [Director's name]

Our records indicate you and any instructors that teach interns about breastfeeding in your DI have not responded to our surveys. (If you recently completed and returned the questionnaire, thank you very much for your help.)

You can still return the **DPD Director's** paper questionnaire in the envelope provided previously. Or, if you prefer to respond via the web, you may still do so – the questions are the same either way. Just click on the link below and you will be automatically logged into the survey website.

https://byu.az1.qualtrics.com/SE/?SID=SV_b7ORrSlkrLxWplp

Please also remind the **DPD Instructor** that he/she may still return the paper questionnaire or fill out the survey online at: https://byu.az1.qualtrics.com/SE/?SID=SV_aXBE2gCQwCtLUiB

Thank you again for considering our request. We know this is a busy time of year for directors and instructors alike, so we truly appreciate your help.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Subject: Last Chance to Voice Your Opinion of Breastfeeding Curricula, BYU Dietetics Research Study

Dear [Director's name]

Our records indicate you have not responded to our survey for DPD Directors. (If you recently completed and returned the questionnaire, thank you very much for your help.)

You can still return the DPD Director's paper questionnaire in the envelope provided previously. Or, if you prefer to respond via the web, you may still do so – the questions are the same either way. Just click on the link below and you will be automatically logged into the survey website.

https://byu.az1.qualtrics.com/SE/?SID=SV_b7ORrSlkrLxWpjp

Thank you again for considering our request. We know this is a busy time of year for directors, so we truly appreciate your help.

Sincerely,

Maria Swiss, RDN, CD

Masters Candidate

Department of Nutrition Dietetics and Food Science

Brigham Young University

Subject: Last Reminder, BYU Dietetics Research Study

Dear [Director's name]

A few weeks ago, we mailed a paper questionnaire to give to the instructors we have not yet heard from in our study of breastfeeding curricula. We would still ask you to forward this last email to those instructors, as we have not yet received a completed survey from them. Thank you for your participation in our research.

Dear instructor,

We mailed a paper version of our survey to you earlier this week. If you have already completed and returned the questionnaire, thank you very much for your help.

If you have not responded, you can return the paper questionnaire in the envelope provided previously. Or, if you prefer to respond via the web, you may still do so – the questions are the same either way. Just click on the link below and you will be automatically logged into the survey website.

https://byu.az1.qualtrics.com/SE/?SID=SV_aXBE2gCQwCtLUIB

The school year is almost over, and we plan to start analyzing the results of this study in the next week or so. Therefore, we wanted to follow up one last time to provide you with every opportunity to share your thoughts and opinions with us. We hope that the results will be useful to the future of the dietetics' profession in thinking about breastfeeding curricula. Thank you again for considering our request. We know this is a busy time of year for directors and instructors alike, so we truly appreciate your help.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Subject: Last Reminder, BYU Dietetics Research Study

Dear [Director's name]

Our records indicate you and any instructors that teach interns about breastfeeding in your DI have not responded to our surveys. (If you recently completed and returned the questionnaire, thank you very much for your help.)

You can still return the **DI Director's** paper questionnaire in the envelope provided previously. Or, if you prefer to respond via the web, you may still do so – the questions are the same either way. Just click on the link below and you will be automatically logged into the survey website.

https://byu.az1.qualtrics.com/SE/?SID=SV_0J0I9IMAUej0aPj

Please also remind the **DI Instructor** that he/she may still return the paper questionnaire or fill out the survey online at: https://byu.az1.qualtrics.com/SE/?SID=SV_eQYmR6SiYBuhyx7

Thank you again for considering our request. We know this is a busy time of year for directors and instructors alike, so we truly appreciate your help.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

Subject: Last Chance to Voice Your Opinion of Breastfeeding Curricula, BYU Dietetics Research Study

Dear [Director's name]

Our records indicate you have not responded to our survey for DI Directors. (If you recently completed and returned the questionnaire, thank you very much for your help.)

You can still return the DI Director's paper questionnaire in the envelope provided previously. Or, if you prefer to respond via the web, you may still do so – the questions are the same either way. Just click on the link below and you will be automatically logged into the survey website.

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Thank you again for considering our request. We know this is a busy time of year for directors, so we truly appreciate your help.

Sincerely,

Maria Swiss, RDN, CD

Masters Candidate

Department of Nutrition Dietetics and Food Science

Brigham Young University

Subject: Last Reminder, BYU Dietetics Research Study

Dear [Director's name]

A few weeks ago, we mailed a paper questionnaire to give to the instructors we have not yet heard from in our study of breastfeeding curricula. We would still ask you to forward this last email to those instructors, as we have not yet received a completed survey from them. Thank you for your participation in our research.

Dear instructor,

We mailed a paper version of our survey to you earlier this week. If you have already completed and returned the questionnaire, thank you very much for your help.

If you have not responded, you can still return the paper questionnaire in the envelope provided previously. Or, if you prefer to respond via the web, you may still do so – the questions are the same either way. Just click on the link below and you will be automatically logged into the survey website.

https://byu.az1.qualtrics.com/SE/?SID=SV_eQYmR6SiYBuhyx7

The school year is almost over, and we plan to start analyzing the results of this study in the next week or so. Therefore, we wanted to follow up one last time to provide you with every opportunity to share your thoughts and opinions with us. We hope that the results will be useful to the future of the dietetics' profession in thinking about breastfeeding curricula.

Thank you again for considering our request. We know this is a busy time of year for directors and instructors alike, so we truly appreciate your help.

Sincerely,

Maria Swiss, RDN, CD
Masters Candidate
Department of Nutrition Dietetics and Food Science
Brigham Young University

APPENDIX J: COGNITIVE INTERVIEW SCRIPT

Implied Consent Form

My name is Maria Swiss, RDN, CD, and I am a graduate student at Brigham Young University. I am conducting this research under the supervision of Rickelle Richards, PhD, MPH, RDN, CD from the Department of Nutrition Dietetic and Food Science. Our research is to describe what is currently being taught about breastfeeding in dietetic programs.

You are being invited to take part in a 45-60 minute interview about an online survey because you are a current or retired BYU faculty member from a health-related department. Your participation in this study will require talking out loud about each question on the survey, giving us your thoughts about what you think each question is asking you to answer, and if the question seems clear to understand. The purpose of this interview is not to test your knowledge about breastfeeding curriculum, but to test the quality of the questions used in the survey. The researcher will take brief notes during the interview to keep a record of the conversation with you.

There is minimal risk associated with participation in this study. There are no benefits to you personally. The potential benefit to society is providing a baseline for breastfeeding education for future studies to use.

Your email address will be requested by the researcher at the end of the survey, only as a means to provide you with a \$10 Amazon gift card as compensation for your time in taking part in this study. Your specific answers will not be associated with your email address.

If you have questions regarding this study you may contact me, Maria Swiss, RDN, CD at maria_swiss@byu.edu, or Rickelle Richards, PhD, MPH, RDN, at (801) 422-6855 or rickelle_richards@byu.edu. If you have questions regarding your rights as a participant in research projects, you may contact: IRB Administrator, A-285 ASB Campus Drive Brigham Young University Provo, UT 84602, Phone: (801) 422-1461, Email: irb@byu.edu.

By clicking the “next” button below, you indicate you understand the process involved in this study and that you agree to take part in this study.

Cognitive Interview Script (after the implied consent form completed)

A. Introduction

Thank you for taking the time today to help us out. The reason we have asked for your help is that you have experience in a health related field and would be able to give us insight into the strengths and weaknesses of our survey for directors and instructors of dietetics programs. The survey is about current breastfeeding curricula and we would ask you to help us evaluate the quality of the questions.

Today I am going to ask you to look at an online survey that was created to evaluate breastfeeding curricula. When I do, I would like you to talk out loud about your reactions to the survey as you read the questions and fill it out. I would like to know everything you think about it. Talking out loud about these sorts of things may seem a little unusual, so before I have you view the online survey, I have a really short practice online survey (two questions). When I show it to you, please tell me everything you are thinking as you look at the survey design, the questions, and as you start deciding how to answer the questions. I would like to know any thoughts you have about the wording of the question, what you think the question is asking you to answer, and whether it is clear as to what we are asking you to answer. Your reactions to these surveys will provide us with information that will help make the survey as easy to complete as possible.

B. Bring up Practice Questions on Computer Screen

Okay, please read the questions out loud and tell me everything you are thinking about while you fill it out on the computer.

Respondent sees Practice Question #1: How many residencies have you lived in since you were born? ___ Number of residencies

Provide positive reinforcement while the subject is completing the questions e.g. “Good, that’s what we need to know.”

Encouragement for other information e.g. “When you do the actual breastfeeding curricula survey, be sure to tell us about your reactions to everything, the design, font style and size, whether it’s clear what the question is asking you, anything you don’t understand, or anything that seems strange.”

In previous research (from Dillman, Smyth, & Christian, 2009) survey respondents have approached this question differently, with some thinking of the number of cities in which they have lived, whereas others think about individual residencies, and some count from birth whereas others make an estimate. *[Note: If the current survey respondent thought through the process differently than these ideas listed, the trained interviewer will also include the current survey respondent’s interpretation in this sentence.]* When we learn that people interpret a question differently, this is valuable to the survey developers because it tells them that the

question needs to be improved, and that is why we do interviews of this nature. You may practice with question #2 now.

Respondent sees Practice Question #2: How many windows are in your home? __ Number of windows

Did you count sliding glass doors when answering the question? Did you count any windows that might be in your garage? Bathroom? Again, questions can be interpreted differently by people, thus hearing your thought process in answering the questions gives the survey developers valuable insights as to the quality of the question written and the design of the survey.

C. Bring up Actual Survey (DI Director Survey) online

Here is the breastfeeding curricula survey. As you did in the practice survey, please fill out the survey and talk out loud about your impressions of it. We would like for you to read whatever you would read if you were filling this out on your own; however, if there is anything you wouldn't read, don't read it here. We'd like you to fill it out just like you would if you were taking it on your own, except that you should talk out loud about it, and anything you read to yourself should be read out loud. Please remember to tell me everything you are thinking as you look at the survey design, the questions, and as you start deciding how to answer the questions. I would like to know any thoughts you have about the wording of the question, what you think the question is asking you to answer, and whether it is clear as to what we are asking you to answer.

If needed, the trained interviewer will ask probes:

- What are you thinking right now?
- Remember to read out loud for me – it's up to you what you read, but whatever you decide to read please do so out loud so I know what you are looking at.
- Can you tell me more about that?
- Could you describe that for me?
- Don't forget to tell me what you are thinking as you do that.

D. Debriefing Questions After Survey Completion

Overall how easy or difficult was the survey to complete?

- Very Easy?
- Somewhat Easy?
- Somewhat Difficult?
- Very Difficult?

Was there anything unclear or confusing about how to fill out the survey?

- Yes? (*If yes, Please explain...*)
- No?

If this survey arrived in your inbox, how soon do you think you would respond?

- The same day?
- In 1-2 days?
- In a week or so?
- Two weeks or more?
- Not at all?

Do you have any other final suggestions for making this a better survey?

E. Thank Them

We appreciate your coming in to talk with us. Your help will bring us closer to designing a survey that is easily understood and completed by everyone. Thank you very much for your time and thoughts.

F. Summary Comments of Important Observations to be Recorded Immediately after Completion of the Interview to Help Guide the Analysis and Review.

APPENDIX K: INSTITUTIONAL REVIEW BOARD APPROVAL

Institutional Review Board
for Human Subjects



Brigham Young University
A-285 ASB Provo, Utah 84602
(801) 422-3841 / Fax: (801) 422-0620

January 22, 2015

Maria Swiss
767 E. 700 N.
Provo, Utah 84606

Re: Evaluation of Breastfeeding Curricula in Didactic Programs in Dietetics and Dietetic Internships
Across the United States

Dear Maria Swiss

This is to inform you that Brigham Young University's IRB has approved the above research study.

The approval period is from 1-22-2015 to 1-21-2016. Your study number is E15020. Please be sure to reference this number in any correspondence with the IRB.

Continued approval is conditional upon your compliance with the following requirements.

A copy of the Informed Consent Statement, approved as of 1-22-2015 is enclosed. No other consent form should be used.

All protocol amendments and changes to approved research must be submitted to the IRB and not be implemented until approved by the IRB.

The enclosed recruitment advertisement has been approved. Advertisements, letters, Internet postings and any other media for subject recruitment must be submitted to IRB and approved prior to use.

A few months before this date we will send out a continuing review form. There will only be two reminders. Please fill this form out in a timely manner to ensure that there is not a lapse in your approval.

If you have any questions, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Allen Parcell".

Allen Parcell, PhD., Chair