

CALIFORNIA STATE UNIVERSITY SAN MARCOS

PROJECT SIGNATURE PAGE

PROJECT SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE

MASTER OF PUBLIC HEALTH

IN

HEALTH PROMOTION AND EDUCATION

PROJECT TITLE: Lactation Supportive Campus Environment: An Analysis of Student-Parent
Breastfeeding Experiences on CSUSM

AUTHOR: Lisa Hammond, Shawnee Morgan, Olivia Nolan

DATE OF SUCCESSFUL DEFENSE: 11/20/2017

THE PROJECT HAS BEEN ACCEPTED BY THE PROJECT COMMITTEE IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC
HEALTH IN HEALTH PROMOTION AND EDUCATION.

Dr. Emmanuel Iyegbuniwe
PROJECT COMMITTEE CHAIR

Emmanuel Iyegbuniwe 12/4/17
SIGNATURE DATE

Dr. Christina Holub
PROJECT COMMITTEE MEMBER

Christina Holub 12/4/17
SIGNATURE DATE

Ms. Lisa Bandong, (MPH)
PROJECT COMMITTEE MEMBER

Lisa Bandong 12/4/17
SIGNATURE DATE

**LACTATION SUPPORTIVE CAMPUS
ENVIRONMENT: AN ANALYSIS OF STUDENT-
PARENT BREASTFEEDING EXPERIENCES ON
CSUSM**

**A Manuscript Presented to
the Department of Public Health
California State University San Marcos**

**In Partial Fulfillment
Of the Requirement for the Degree
Master of Public Health**

**By
Lisa Hammond, Shawnee Morgan, and Olivia Nolan
December 2017**

ABSTRACT

The public health importance and economic implications of breastfeeding cannot be overemphasized. Published studies have shown that as many as 20,000 maternal deaths from breast cancer and 823,000 deaths of infants 0-5 years of age can be prevented annually when breastfeeding is scaled up to the universal level of at least 6 months. In recent years, colleges throughout the United States have witnessed an upswing in enrollment of parenting students. However, the increase in enrollment of student-parents has not kept pace with their needs for provision of adequate resources that encourage the pumping of breastmilk on campus. The purpose of this pilot study was to assess the lactation resource needs of student-parents at the main campus of California State University San Marcos (CSUSM). Seven student-parents and four key stakeholders were recruited to participate in a series of structured qualitative interviews with a view to identifying similar themes and barriers that may potentially affect breastfeeding and/or pumping of breastmilk on campus. The audio-recordings of the interviews were transcribed, coded, and analyzed using inductive reasoning approach. In addition, theme frequency and coding themes were categorized into campus resources, academics, social influence, and health effects. The key findings from student-parents interviews identified the following barriers to breastfeeding: limited campus-wide breastfeeding policy and provision of lactation resources, lack of awareness of the locations of lactation rooms or the presence of breastfeeding accommodations, and school scheduling. The results of this study revealed that the lactation resource needs of student-parents have not been adequately addressed or promoted at CSUSM campus. Several barriers to breastfeeding were identified and discussed. It is important to note that lactation supportive environments often encourage more students to pump their breastmilk with a view to sustaining breastfeeding as well as successfully completing their education. There were a number of limitations of this study and they included a small sample size of 7 student-parents, inherent bias in data analysis based on using qualitative data, and lack of published data regarding the lactation needs of student-parents.

Keywords: Student-parents, lactation support, qualitative interviews, breastfeeding, coding themes, inductive reasoning

ACKNOWLEDGMENTS

We would like to acknowledge Dr. Emmanuel Iyiegbuniwe, Dr. Christina Holub, and Ms. Lisa Bandong (MPH) for serving as members of our capstone committee. Special thanks go to Lisa Bandong for providing guidance throughout this project. We would also like to express gratitude to all the qualitative interview participants and stakeholders for their invaluable contributions to this study.

LIST OF TABLES

Table 1: Qualitative Interview Coding Themes

Table 2: Summary of Participants Comments

TABLE OF CONTENTS

ABSTRACT.....	1
ACKNOWLEDGEMENTS.....	2
LIST OF TABLES.....	3
CHAPTER ONE BACKGROUND.....	5
Health Consequences	
Breastfeeding Rates	
Student-Parents	
Rights and Accommodations	
CHAPTER TWO METHODS.....	11
Qualitative Interviews	
Institutional Review Board Approval	
Participant Recruitment	
Qualitative Phase	
Data Analysis	
CHAPTER THREE RESULTS.....	15
Campus Resources	
Academics	
Social Influences	
Health Effects	
CHAPTER FOUR DISCUSSION.....	21
Summary	
Implications	
Analyzing Interview Questions	
Study Limitations	
Future Research Considerations	
Recommendations to Reduce Breastfeeding Barriers	
Conclusion	
APPENDIX.....	27
Table 1: Qualitative Interview Coding Themes	
Table 2: Summary of Participants Comments	
Informed Consent Form	
REFERENCES.....	38

CHAPTER ONE

Background

Health Consequences

Breastfeeding provides numerous health benefits to both mother and infant. For infants, breastfeeding delivers essential proteins, carbohydrates, vitamins, and fats required for an infant's healthy and physical development (Chowdhury et al., 2015; Kemsley, 2008). Additionally, breastmilk contains antibodies that enable infants to build passive immunity to common childhood illnesses such as otitis media, gastrointestinal tract infections, and respiratory infections (Shamir, 2016). According to the World Health Organization (WHO, 2017), children who were breastfed have a reduced risk of developing childhood cancer and obesity. Breastfeeding also facilitates emotional bonding between mother and infant (Shamir, 2016). The maternal health benefits of breastfeeding include postpartum weight loss, decreased postpartum bleeding, and reduced risk of breast and ovarian carcinomas, as well as Type 2 diabetes (Chowdhury et al., 2015; Shamir, 2016). In contrast, a number of studies have shown that postponing or foregoing lactation may have harmful health consequences (Bartick et al., 2016; Chowdhury et al., 2015; Sankar et al., 2015; Mediano, Fernandez, Garcia, Rodriguez, & Marin, 2016).

Maintaining an adequate breastmilk supply requires pumping a minimum of two to three times daily (Dinour, Pope, & Bai, 2015). Frequently postponing breastfeeding or pumping by lactating mothers can result in a decrease in breast milk supply (Mediano et al., 2016). Additionally, delaying breastfeeding can cause milk leakage and breast engorgement accompanied by swelling, discomfort, and pain as well as increased risk for breast tissue bruising and soreness. In severe cases, delaying breastfeeding can lead to an abscess in the breast tissue or mastitis (Mediano et al., 2016). Mastitis is a serious and painful infection of the breast tissue which requires antibiotic treatment. Mastitis is also one of the main causes of premature breast milk weaning (Mediano et al., 2016). If left untreated, mastitis can develop into potentially life-threatening sepsis that requires intensive medical care.

Breastfeeding also reduces the risk of multiple causes of infant mortality and morbidity. Meta-analyses showed that breastfeeding was associated with a 36% reduction in infant mortality due to Sudden Infant Death Syndrome and a 58% decrease in necrotising enterocolitis (Victoria et al., 2016). Breastfeeding could also reduce infant hospital admissions for common illnesses. For

example, breastfeeding could prevent an estimated 72% and 57% of infant hospital admissions for diarrhea and respiratory infection respectively (Victoria et al., 2016). Additionally, infants 0–5 months of age who were exclusively breastfed had significantly lower risk of all-cause and infection-related mortality compared to both partially breastfed and formula fed infants (Sankar et al., 2015). Children who were breastfed for longer durations had lower infectious morbidity and mortality, as well as higher intelligence than do those who are breastfed for shorter periods, or not breastfed. The more exclusive and longer duration the breastfeeding practice, the greater the protection against infant mortality and morbidity. (Sankar et al., 2015).

The American Academy of Pediatrics (AAP, 2012), recommends that infants be exclusively breastfed for the first six months after birth. WHO (2017) similarly advises mothers to extend breastfeeding for up to two or more years depending on the health and well-being of both mother and child. Suboptimal breastfeeding which is defined as below the optimum level of exclusively breastfeeding for 6 months as recommended by WHO and AAP has negative societal impacts on health and economics (Bartick et al., 2016). An analysis by Bartick et al. (2016) found that suboptimal breastfeeding in the United States is associated with over 3,340 premature maternal and child deaths. It is estimated that suboptimal breastfeeding accounts for \$3.0 billion in total medical costs, \$1.3 billion for non-medical costs, and \$14.2 billion for premature death costs (Bartick et al., 2016). Although breastfeeding is often solely considered a children's health concern; it plays an important role in women's health as well (Bartick et al., 2016). Suboptimal breastfeeding has a significant impact on women's health as the majority of deaths and incurred health costs are linked to women's health concerns. Bartick et al. (2016), estimate that the U.S would save approximately \$18.5 billion in costs related to medical, non-medical, and premature deaths if the current breastfeeding recommendations were met. Although breastfeeding is often considered a children's health concern, it certainly plays an important role in determining women's health (Bartick et al., 2016). Pooled results from several studies on nursing mothers who breastfed for longer-duration showed improved birth spacing, protection against the risks of developing breast and ovarian cancers, Type 2 Diabetes as well as possible protective effects against Type 1 Diabetes (Victoria et al., 2016)

Breastfeeding Rates

In spite of strong breastfeeding recommendations from WHO and AAP, breastfeeding in the United States falls short. In fact, in 2011 only 18.8% of U.S infants were exclusively

breastfed for up to six months (Healthy People 2020, 2016). One maternal health objective from Healthy People 2020 aims to increase the proportion of infants breastfed exclusively through six months up to 25.5% (Healthy People 2020, 2016). During the first year, the proportion of infants exclusively breastfed showed significant declines. For example, in California, 51.5% of infants were exclusively breastfed at three months and by six months, only 24.8% were exclusively breastfed (CDC, 2014). In San Diego county, 78.1% of mothers indicated that they initiated exclusive breastfeeding shortly following birth (Kidsdata, 2014). Although in California the overall proportion of infants breastfed exclusively at six months was close to approaching the Healthy People 2020 objective, there is a lack of data on exclusive breastfeeding among student-parents at colleges and universities.

Breastfeeding practices have been shown to differ based on maternal demographics such as age and education status. In the U.S, 19.3% of mothers younger than 20 years old breastfed for six months, compared to 33.8% of mothers between 20-29 years old and 48.5% of mothers over 30 years of age (Sriraman & Kellams, 2016). Mothers with a college degree were 16% more likely to breastfeed their infants for six months compared to mothers with only some college education (Sriraman & Kellams, 2016). This suggests that student-parents attending colleges and universities may have low breastfeeding rates.

Student-Parents

According to the National Center for Education Statistics (NCES, 2017), 20.4 million students are expected to enroll in colleges and universities by Fall semester 2017. As of 2007, non-traditional students comprised 38% of all students that enrolled in colleges and universities throughout the United States (Brown & Nichols, 2013). Pregnant and parenting students represent a subset of these non-traditional students (Brown & Nichols, 2013; Tilley, 2014). Specifically, 27.5% of non-traditional college and university students had dependent(s) in 2011 (Radford, Cominole, & Skomsvold, 2015). Approximately 4.8 million students in the U.S. were raising children and the number of non-traditional students that attended colleges and universities has been growing (Gault, Reichlin Cruse, Reynolds, & Froehner, 2014). Hence with this trend, it is anticipated that the number of student-parents will continue to grow nationwide (Brown & Nichols, 2013). For the purposes of this capstone, a student-parent is defined as any full or part-time college student with dependent children (Tilley, 2014).

Rights and Accommodations

Despite the rise in student-parents attending colleges and universities, there are inadequate resources and policies for breastfeeding on campus for these students (Brown & Nichols, 2013). Recently, the U.S has seen great advancement in breastfeeding rights for working mothers under the 2010 Affordable Care Act (ACA) which, among other requirements, stipulates that employers must provide “reasonable” unpaid break time and a private, non-restroom space where employees can pump breast milk (Murtagh & Moulton, 2011). However, this law solely protects working parents and may not adequately provide reasonable accommodations for student-parents (Beharie & Dinour, 2015). Title IX is one law that plays a significant role in breastfeeding on college campuses. Under Title IX, federally funded educational institutions cannot discriminate based on a student’s sex or pregnancy. According to Title IX, breastfeeding is a protected practice and, as such, college campuses are required to provide accommodations for breastfeeding parents without discrimination (Department of Education, 2013). Although Title IX protects the right to breastfeed or pump breast milk, student-parents continue to face significant barriers to these needs due to inadequate provision for lactation rooms and policies (Bostick, M.W. Albrecht, S.A. Baghdadi, N. Haley, C. Spatz, 2016; Dinour et al., 2015).

For student-parents, breastfeeding entails pumping breast milk while on campus, storing milk, and then bottle-feeding at a later time (Beharie & Dinour M., 2015). In a study of 139 U.S colleges and universities, Bostick et al. (2016) reported that only 3.6% of these universities had official documented policies and/or provision of maps of the lactation rooms in the student handbook. Furthermore, only 54% of these 139 U.S. colleges and universities had lactation spaces that were available for use by student-parents (Bostick et al., 2015).

Qualitative research on the breastfeeding barriers student-parents encounter on college campuses is limited. However, there is abundant literature on the barriers that breastfeeding working mothers and racial minorities face in the workplace (Spitzmueller, et al., 2016; Bresnahan, et al., 2017; Rojjanasrirat & Sousa, 2010; Johnson et al., 2015; Johnston and Esposito, 2008). Student-parents frequently cite limited availability and the lack of a private place on campus to pump or breastfeed as common barriers (Dinour et al., 2015). Breastfeeding students specifically express the need for lactation spaces that are “accessible, clean, comfortable, and free from intrusion” (Dinour et al., 2015). Moreover, in situations where lactation spaces were available, many were inconvenient or located in inappropriate spaces, such

as highly trafficked areas, unclean spaces, or university health centers that required appointments and do not ensure privacy (Dinour et al., 2015). Another barrier was having an appropriate place to store breastmilk on campus. Since breastfeeding is troublesome for so many of these student-parents, they often chose to replace or supplement breastfeeding with formula feeding. Some student-parents even expressed the need to delay or give up on their education in order to care appropriately for their children (Springer, et al., 2009). It must be noted that limited spaces and lack of private lactation rooms could discourage student-parents from breastfeeding all together (Bostick, et al., 2016).

Within the California State University system, several campuses have demonstrated the need to have a campus environment that supports lactation. For example, California State University Northridge (CSUN) is one campus that provides breastfeeding students with the resources needed to meet their breastfeeding goals, including five lactation rooms on campus which can be accessed either by appointment or on a first come first serve basis (CSUN, 2017). CSUN also houses an on-site space for students receiving assistance through the Women, Infant, and Children (WIC) program by facilitating workshops on how to successfully breastfeed. Conversely, California Polytechnic Pomona (CPP) provides six lactation stations on a first come first serve basis. Although both CSUN and CPP have a larger student body than California State University San Marcos (CSUSM), other CSU campuses comparable to CSUSM in terms of student body size provide more lactation support for student-parents. For example, California State University Dominguez Hills (CSUDH) has four designated lactation rooms on campus and a fifth room under plan for construction (CSUDH, 2017). The accommodations at CSUN, CSUDH, and CPP campuses demonstrate that it is completely feasible for CSUSM to improve its current lactation support for breastfeeding student-parents.

CSUSM is currently inadequately equipped to support the lactation needs of breastfeeding student-parents. Currently, the female student population at CSUSM is increasing compared to their male counterparts. As of 2016, approximately 5,529 students attending CSUSM were male, while 8,649 were female (CSUSM, 2016). With a greater female student body population and rising enrollment of nontraditional students, the number of breastfeeding student-parents at CSUSM is also expected to increase. CSUSM has three designated lactation rooms designed to accommodate university students, faculty, and staff members on campus. Each room is equipped with basic amenities such as a comfortable couch and chair, table, and

electrical outlets (CSUSM, 2017). Although basic amenities are present, each room lacks a washing station and only one lactation room has a refrigerator for students to store breastmilk. One hospital grade approved breast pump is also accessible for student use in the Gender Equity Center lactation room and requires mothers to bring personal pump attachments. Limited on-campus childcare spots are available from 6am to 6pm during weekdays. While CSUSM has some lactation resources available, more would be desired to appropriately support the increasing number of breastfeeding student. Research was needed to determine the barriers CSUSM student-parents face in their pursuit of breastfeeding and how CSUSM can appropriately support breastfeeding students.

The purpose of this capstone project was to assess the lactation resource needs of student-parents at CSUSM main campus. The three research questions were:

- (1) What are the breastfeeding experiences of student-parents surrounding the lactation resources on CSUSM campus?
- (2) How can CSUSM support student-parents in meeting their needs of breastfeeding on campus?
- (3) How can CSUSM promote adequate utilization of lactation resources available on campus?

To investigate these research questions, a series of qualitative interviews among stakeholders and student-parents were conducted to facilitate open discussion about breastfeeding experiences and CSUSM lactation resources. The aim of these interviews was to reveal themes surrounding reported barriers to breastfeeding at CSUSM as well as highlight areas for improvements of lactation resources on campus. Ultimately, the goal of this study was to advocate for a campus environment that supports and enables student-parents to successfully meet both their breastfeeding and educational needs at the same time.

CHAPTER TWO

Methods

Qualitative Interviews

The primary objective of this study was to assess the lactation support and resource needs of student-parents on CSUSM campus through a series of qualitative interviews with two sets of focus groups. At the start of the study, an IRB approval was sought and obtained. Beginning with the qualitative phase, structured interviews were conducted to garner information regarding participants' experiences as lactating mothers on CSUSM campus. Qualitative methods were used to reveal themes regarding breastfeeding barriers on campus and recommendations to improve the lactation resources. These research efforts were guided by our key stakeholders on campus and a lactation expert and MPH Internship Coordinator/Instructor, Ms. Lisa Bandong.

Institutional Review Board Approval

Prior to recruitment, a submissions package was submitted to the California State University, San Marcos Institutional Review Board (IRB) on July 13, 2017 for approval. This package included the IRB application form, the focus group protocol, stakeholder recruitment email, student-parent focus group recruitment email, focus group questions, and the student-parent Informed Consent form (see Appendix). The submissions package also included training certificates for each of the researchers. These certificates included health information privacy and security, social and behavioral research, and conduction of research training certificates. IRB approval was granted July 31st, 2017.

Participant Recruitment

Key stakeholder recruitment. Key stakeholders were recruited via email solicitation. A total of four key stakeholders were recruited for interviews and included staff members involved with CSUSM Student Services and Communication and Gender Equity Center. Other stakeholders included students involved in CSUSM student-parent organization who are most familiar with parenthood and breastfeeding struggles of student-parents on campus.

Student-parent recruitment. Student-parents who participated in the focus group discussions were recruited via a CSUSM-wide email news announcement using the snowball sampling method. The snowball (also known as chain-referral) sampling is a non-randomized method often used in situations where desired sample characteristics may be rare and difficult to obtain. In addition to the email announcement, study flyers were posted in high-traffic areas

throughout the main campus. Eligible participants included student-parents currently attending CSUSM or recent CSUSM student-parent graduates. In an effort to minimize recruitment selection bias, student-parents who have previously breastfed or have not breastfed, or intend to breastfeed were eligible to participate in the qualitative interviews. The study protocol was approved by CSUSM Institutional Review Board. Prior to the interview meetings, a detailed explanation was provided and a written consent was signed by each study participant.

Qualitative Phase

Stakeholder interviews. The purpose of key stakeholder interviews was to collect in-depth, qualitative knowledge from individuals who are most familiar with the struggles student-parents face on campus. Another reason to target these individuals was to gather contacts and connections that lead to more on-site community outreach for breastfeeding student-parents. This allowed us to gather information regarding the best practices for student-parent recruitment into qualitative interviews and provided guidance for appropriate interview questions. The key stakeholder interviews were conducted in-person by the researchers. A note taker who is also one of the researchers collected written information during the interviews.

Qualitative interviews. A qualitative interview protocol was developed based on the feedback received from key stakeholder interviews. The interviews enabled the researchers to gather information related to the knowledge of available lactation resources on CSUSM campus, the students' level of comfort with breastfeeding on campus, perceived level of support, anticipated duration of breastfeeding, and whether or not the level of support on campus impacted their breastfeeding plans. Informed consent forms were explained to and filled out by each participant prior to the start of the qualitative interviews.

A total of five qualitative interviews were conducted. One interview was with three student-parent participants, while four interviews had a single participant. All of the interviews were conducted in-person. Each participant was assigned, and addressed by, a number to maintain confidentiality.

Several of the interview questions were adapted from previously published qualitative research on breastfeeding barriers that working mothers, student-parents, and racial minorities would normally face (Dinour et al., 2015; Johnson, Kirk, & Muzik, 2015; Rojjanasrirat & Sousa, 2010). The interview research questions were tailored specifically to assess the lactation experiences of student-parents on college and university campuses. The following six questions (adapted from

Johnson, Kirk, & Muzik, 2015; Dinour et al., 2015) were presented during the student-parent qualitative interviews:

- (1) What are, or were, your breastfeeding or feeding goals?
- (2) How do you, or did you, go about pumping or breastfeeding on campus?
- (3) What campus resources do you feel are most needed by student-parents in order to breastfeed?
- (4) Is there anything that would help you balance pumping on campus with your schoolwork?
- (5) If anything were to terminate your decision to breastfeed what would it be?
- (6) Are there any other topics or concerns we haven't addressed related to breastfeeding on campus?

Follow-up questions were developed to prompt participants to reveal further details about their experience breastfeeding or pumping on campus. The five follow-up questions (adapted from Rojjanasrirat & Sousa, 2010) were:

- (1) What is your experience using the lactation rooms on campus, if any?
- (2) How have you had to adjust your plans to meet your breastfeeding goals?
- (3) What have you done to accommodate, if pumping or feeding on campus is inconvenient?
- (4) How has the school aspect affected your infant feeding decision?
- (5) Can you explain some of the barriers you have experienced on campus?

For each qualitative interview, the researchers facilitated the interview discussions, which lasted approximately 20-45 minutes. One researcher served as a scribe and noted potential emerging codes and themes during the interviews. All interviews were audio-recorded and saved in a password-protected file for later analysis.

Data Analysis

The audio-recordings of the qualitative interviews were transcribed verbatim to ATLAS.tiTM software for coding and analysis. Notes taken during the interviews were integrated as needed into the transcriptions prior to coding. These notes were used to clarify participant responses and to provide additional information on verbal and nonverbal responses given during the interviews. Prior to coding, a deductive coding list was created from the available related literature. Based on the literature, potential codes included breastfeeding barriers as they relate to lactation room location, time restraints, lactation room amenities, milk storage, and perceived on-

campus breastfeeding support (Beharie & Dinour M., 2015; Brown & Nichols, 2012; Gilmour, Monk, & Hall, 2011; Dinour et al., 2015).

The researchers independently extracted codes from the interview transcripts using an inductive reasoning approach. Inductive codes revealed themselves throughout the interview process. The transcripts were reviewed line-by-line to search for common words, concepts, or themes. The researchers met regularly to compare codes and discuss any observed inconsistencies in coding.

CHAPTER THREE

Results

A total of 7 eligible student-parents participated in the qualitative interviews. Of these participants, 5 indicated that they have pumped or breastfed while on campus. The remaining 2 participants indicated that they have not pumped or breastfed while on campus and instead pumped at home. Based on the qualitative analysis, recurring themes were organized into four categories: campus resources, academics, social influences, and health effects.

The results of the qualitative analysis are presented in Table 1 and Table 2 (see Appendix). Table 1 shows the theme name, description of each theme based on literature or analysis, and participant(s) quote that exemplifies the theme. Table 2 summarizes the frequency and participant count for each recurring theme mentioned by CSUSM student-parents.

Campus Resources

Inadequate campus resources were frequently identified as a breastfeeding barrier throughout the student-parent interviews. Other commonly cited barriers were lack of awareness surrounding the lactation rooms, campus policy on lactation, and presence of breastfeeding accommodations. In total, knowledge and awareness came up 37 times during the interviews. Six participants specifically reported lack of physical signs and campus emails indicating the location of the lactation rooms and pumps (Table 2). Furthermore, all five participants who pumped breastmilk on campus knew about the lactation room in the GEC, three knew about the library lactation room, and only one was aware of the lactation room in Craven Hall. Student-parents expressed annoyance with limited locations for lactation rooms at CSUSM.

Moreover, student-parents stated that the lactation rooms were often inconveniently located in relation to their classes. For example, one of the participants stated, *“I don’t want to be walking back and forth to a place wasting my time when I could be pumping.”* Another participant commented that she had to postpone pumping when she had a class in Markstein since, *“there wasn’t a room nearby.”* Correspondingly, student-parents expressed the need for more accessible spaces to breastfeed and pump on campus. Other barriers and challenges identified included inadequate lactation room environment and absence of lactation amenities such as sinks in the lactation rooms or outlets in the restrooms. Student-parents commented that the only option for cleaning their pump accessories was to use restroom sinks since these were not available in the lactation rooms. Student-parents also brought up the social and physical

environment of the lactation rooms as affecting their decision to breastfeed. The lack of clean rooms, a sense of limited privacy, and high student activity at the GEC lactation room prevented several student-parents from pumping in the GEC.

Six participants reported pumping breastmilk at locations outside the campus since they were either unaware of the availability of lactation rooms or the locations were inconvenient. Common modified pumping locations included: personal cars, instructors' offices, bathrooms, and secluded areas at the library.

Lack of storage for personal pumps and breast milk was also a commonly cited challenge. Five participants expressed frustration with having to carry multiple bags for schoolwork, milk storage, and pumps. These participants relied on bringing coolers to campus in order to keep their breast milk cold. Interestingly, the inability to acquire ice on campus for breast milk storage came up as a concern for one student-parent. One participant in particular chose not to utilize the refrigerator provided in the GEC because she felt that it was not cold enough to safely store breast milk. This participant stated that, *"when I first heard they had a fridge, they kind of made it seem like it was like a really nice fridge and it keeps [breastmilk] really cold. But when I kind of tested it out, I was really [unsure]."* Every student-parent participant communicated the need and desire for improvement on existing pump and breast milk storage options at CSUSM campus.

Resources such as childcare, breast pumps, pumping supplies, and the student-parent network were also discussed by participants. Two participants noted that the prices charged and hours of business for on-campus childcare did not work for them. One participant stated that the on-campus childcare was, *"really expensive"* and *"it didn't meet most of the times that [she] needed."* Although the student-parents appreciated that there was a pump available in the GEC, many discussed the need to provide more breast pumping amenities on campus. One student-parent commented, *"if there were other hospital grade pumps throughout the campus that were easier to access then it would be easier for me to continue pumping."*

Academics

In addition to student resources, academics was reported as another lactation barrier during the interview process. The most commonly discussed barrier in academics was the class schedules at CSUSM and lack of time these students had to properly breastfeed and pump during their school period. All seven participants communicated that their class schedules affected their

pumping schedules, and multiple individuals explained that they would either have to miss parts of class to pump, affecting them academically, or postpone pumping breast milk while on campus. One participant stated that she had planned on continuing pumping during the day while on campus but that it was “*just not feasible with [her] schedule.*” Five participants explained that they had dropped or changed their class schedules to accommodate for their pumping needs and consequently, were unable to take classes needed to keep on track with graduation at that time.

Another barrier related to scheduling of classes was the amount of time needed to successfully pump or breastfeed on campus while excelling academically. All seven participants described time as a major lactation barrier. Some participants explained that the times that lactation rooms were available affected their decision to breastfeed or pump on campus. Many explained that the time allotted between classes was not a practical amount of time to walk all the way to the lactation room, set up the pumping equipment, pump breastmilk, clean the pump accessories, and then continue on to attend other classes. One participant cited that she only had a ten-minute break between classes, so she had to decide whether to pump or show up late. Because of the limited number of lactation rooms on campus, two participants recounted occasions when the lactation rooms were simply unavailable due to the fact that it was being used by another student-parent and therefore, did not have the time to wait.

Another topic that was uncovered during the interview process was the school benefits associated with available lactation rooms. Although it was only discussed briefly, one student explained that having available lactation room actually helped her academically. Another participant explained that she, “*used to study and write papers in the lactation room at the GEC all the time.*” She revealed that it was a quiet and private place to study and, that she “*found it easy to do [her] schoolwork and breastfeed.*”

Social Influences

Major factors that influenced the continuation of breastfeeding and pumping for our sample of participants were aspects associated with social influences, including professional recommendations, social support, and the stigma often associated with breastfeeding and pumping breastmilk. These were some of the major factors that influenced the decision of student-parents to continue or discontinue their lactation efforts. During the qualitative interviews, social influences were mentioned a total of 38 times.

Five of the seven participants were aware of the health recommendations associated with breastfeeding and described prescribing to the recommendations of health professionals in medicine (Table 2). Five participants set goals for themselves based on these recommendations and breastfeeding practices. One participant explained that she checked the World Health Organization's (WHO) website and discovered that their recommendation for breastfeeding was two years, which she then took into consideration when setting her own goals. Other sources of information that influenced lactation efforts were from the American Academy of Pediatrics.

Social support, or a lack thereof, can have a considerable amount of influence on the lactation efforts of student-parents at CSUSM. Lack of social support on campus by peers, faculty, or staff can negatively influence the decision to breastfeed and pump on campus. Three of the seven participants described instances where there was no social support. One participant explained that, *"it would be nice if the professors could be like on our side, cause [breastfeeding] is tough."* Another participant described a time she sought out support from the Disability Center in regards to lactation on campus. She was told to *"contact someone else,"* and that discouraged her.

Positive social support was also experienced by our participants. This included support from their peers, staff on campus, and family members. One participant in particular has received good support on the CSUSM campus and was very involved on the CSUSM campus. She exclaimed that she has received *"nothing but support at CSUSM"*. She explained that prior to pregnancy she played a large role as a community activist on campus and this played a role in her knowledge of the locations of lactation rooms and other resources.

Another major social influence on the decision to breastfeed was the stigma often associated with it and it was stated by five of the participants. One participant stated that she felt people didn't care about her efforts to breastfeed her child and that *"most people don't care about boobs but you mention lactation and [they become upset]."* Another participant explained that people thought it was *"weird"* if she continued to breastfeed an older child.

Health Effects

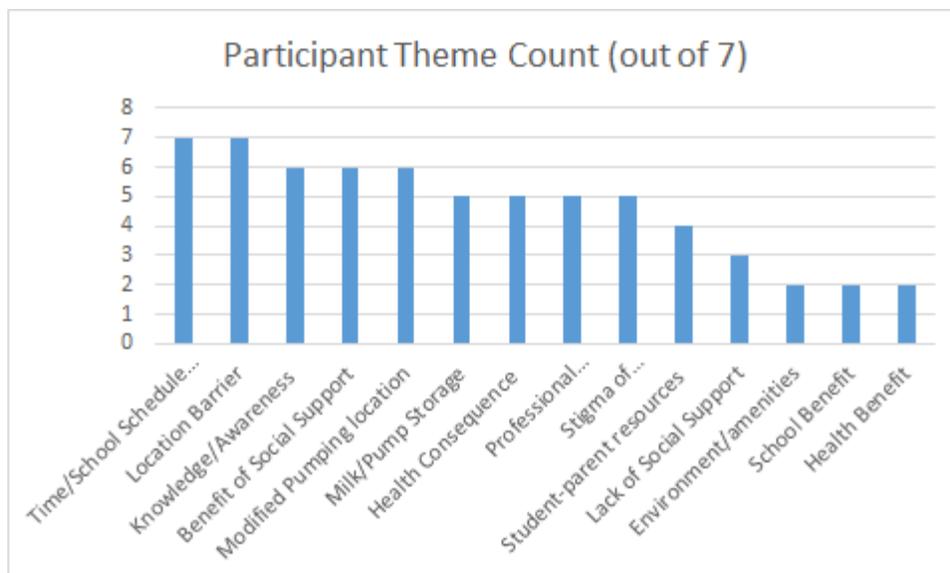
Health effects associated with lactation efforts and benefits were mentioned by two of the seven participants, a total of 18 times during the qualitative interviews. One participant explained that there are many beneficial nutrients in breast milk that can't be found in regular dairy milk. Another said she was continuing her lactation efforts because it provided *"a little extra nutrients"*

or immunity” for her child. Yet, another participant mentioned that she enjoyed the time she spent with her child, and this had potential mental health benefits.

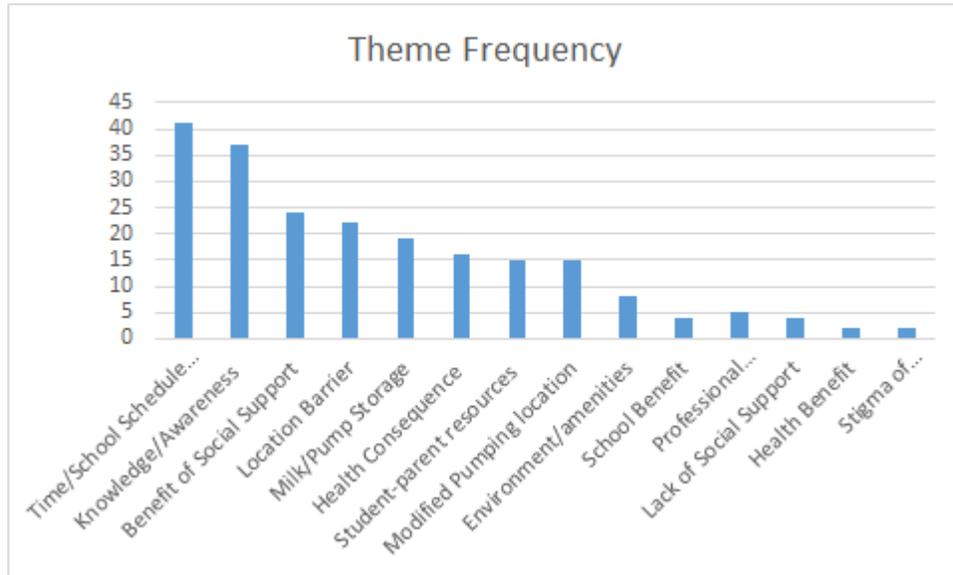
Health consequences that were associated with not being able to breastfeed were discussed more frequently than the associated benefits. Five of the seven participants mentioned the health consequences they experienced when they were not able to lactate on campus. One participant described a time when lactation was so inconvenient she *“had to suck it up and put a breast pad in.”* Postponing pumping of breastmilk can be very painful, it can also lead to a decrease in supply for the affected child. According to our participants, stress and limited time to breastfeed decreased their supply. One participant explained that *“rushing and not having enough time,”* resulted in less milk production compared to when she was at home.

Not being able to produce an adequate amount of milk for an infant can result in mental health consequences for the student-parent affected. One participant struggled with her milk production as a result of school associated stress. She stated that, *“My supply is suddenly dropping. So last week I was like, you know, I’m done. I can’t, like mental health wise, I can’t put myself through that. So, that’s the biggest thing is that it is so inconvenient that it’s adding more stress and decreasing supply.”*

The following bar graph summarizes the participant count for each recurring breastfeeding theme mentioned by CSUSM student-parents:



The following bar graph summarizes theme frequency for each recurring breastfeeding theme mentioned by CSUSM student-parents:



CHAPTER FOUR

Discussion

Summary

The results of this study revealed that the lactation resource needs of student-parents have not been adequately addressed or promoted at CSUSM campus. Several barriers to breastfeeding were identified and discussed and these were consistent with previously published studies. Three significant lactation barriers pertaining to campus resources were: limited lactation stations, knowledge and awareness, and limited time and inconvenient scheduling of classes. One of the barriers mentioned in the literature was inadequate locations and number of lactation rooms available on campus. All seven participants were concerned about the long-distance between lactation rooms and their class location. In addition, they felt constantly stressed when rushing to pump or lactate on campus. Previous research showed that feelings of anxiety and high stress levels could elevate blood pressure and decrease milk production (Dinour, Pope, & Bai, 2015). Five participants explained that they experienced decreased supply of breastmilk, due to constant inability to find easily assessable lactation room. Six out of seven participants resorted to pumping in their cars, instructors' offices, and unsanitary bathrooms. Barriers, such as lack of proper lactation rooms, have the potential to put pressure on student-parents to formula-feed their infant and give up breastfeeding health benefits or postpone education.

The consequences of delayed breastfeeding while on campus include potential negative impacts on an individual's mental and physical health (Dinour et al., 2015). Traditional college students often face various challenges as they develop skills in time management, scheduling class times, and racing to complete assigned projects. They spend a majority of their time studying, engaging in extracurricular activities, and socializing (Estes, 2011). The results of this study apply to an entirely different subset of students identified as parents with children, student-parents, non-traditional students, single or married parent(s).

With an increase in student-parents enrolled in colleges nationwide, a greater demand for breastfeeding resources are required to accommodate and support their breastfeeding practices on campus. Student-parents struggle between being good parents or good students, or trying to be both. The demands to be a student-parent outweigh those of the traditional student.

The lack of knowledge/awareness of lactation rooms on CSUSM was recognized as a major barrier to breastfeeding. Six out of the seven participants noted that if they had known

where the lactation rooms were located, they would have utilized them. CSUSM was replete with extracurricular advertisement throughout the campus. For every activity, there were various posters, flyers, banners, and informational tables that warmly welcomed students to support their clubs or missions. As discussed earlier, colleges and universities are typically setup with the traditional student in mind.

In this study, only one participant was involved with multiple extracurricular activities on campus and was aware of the lactation rooms. Additionally, she utilized the GEC lactation room as a study area as well as for social support with other breastfeeding moms. Only one participant was knowledgeable/aware of all of the lactation resources on campus for student-parents. However, supportive evidence has shown that the majority of student-parents on campus are not able to be as involved (Brown & Nichols, 2012). This growing population of student-parents was overburdened with balancing life, academics, and breastfeeding when compared to non-traditional students. As a result, it was revealed that student-parents had to be very involved on campus in order to receive the support needed to continue breastfeeding and fulfill academic responsibilities when compared to traditional students. All seven participants agreed that provision of more lactation rooms throughout CSUSM campus would benefit student-parents academically and socially.

One of the most commonly discussed barriers was class schedule at CSUSM and the lack of time these students had to breastfeed or pump during the day. Conflicting breastfeeding and academic schedules caused student-parents to drop or change classes to accommodate lactation. In addition to class scheduling, the time required to pump was another breastfeeding barrier for student-parents. All of the participants explained that they would occasionally miss 15-20 minutes of class in order to pump. Five out of seven participants explained that they had postponed lactation all together. According to this research and previous findings, when a lactating mother does not have the adequate amount of time to pump, a number of health consequences can take place. For example, an individual can become sick and develop mastitis. This again, has the potential to decrease milk supply and force the individual to terminate breastfeeding all together.

A notable theme was the mental health consequences associated with struggling to balance breastfeeding and student responsibilities. There can be severe mental health consequences when student-parents feel that they are not caring for their child properly. One of

the participants described that she was not able to produce an adequate amount of milk for her infant due to school related stress, and as a result, struggled emotionally. She stated, “*mental health wise, I can’t put myself through that [stress].*” She became emotional when discussing her struggles to produce milk for her daughter. This participant expressed that she experienced guilt and felt that she was being a bad parent for considering ending her breastfeeding efforts.

In today’s diverse student population, more non-traditional students are returning to college or graduate school. Social norms on campus can play a significant role in student’s behavior and practices. The social norm on campus might be to formula feed instead of coping with the inconvenience of pumping (Tarrant & Dodgson, 2007). With the demands of school work and infant responsibilities, a highly visible lactation supportive environment is needed if student-parents are to successfully reach their breastfeeding and educational goals.

Implications

The results suggest that there has been a disconnect between student-parents and the administration at CSUSM. According to the National Center for Education Statistics, in the year 2000, 27% of undergraduate students had dependents (Estes, 2011). This increased from 1993, when 22% of undergraduates had dependents (Estes, 2011). The number of non-traditional, student-parents is increasing, and many universities like CSUSM have failed to accommodate for this growing population.

This study lays the foundation for future lactation support interventions in order to persuade policy changes. The research in this capstone has the potential to positively affect the lactation environment on CSUSM campus. The qualitative analysis of key stakeholder interviews and student-parent focus groups has revealed gaps in campus lactation resources and barriers to breastfeeding on campus that university officials may be unaware of. By uncovering these consistent themes and building off of suggestions from both stakeholders and parenting students, we hope that we provided CSUSM with recommendations to improve lactation support on campus. It is anticipated that by improving the availability and use of lactation resources on CSUSM campus, student-parents will be able to meet their educational goals while providing children with healthy start in life. Ultimately, we hope this research can create a change in the campus environment and make CSUSM a model lactation supportive environment campus for other CSUs to follow.

Analyzing Interview Questions

Based on analysis of the interview transcripts, two of the interview questions did not elicit qualitatively rich responses. These questions were: “If anything were to terminate your decision to breastfeed what would it be?” As well as, “are there any topics or concerns that we haven’t covered?” For the former question, participant answers were often repeated or reiterated from reasons given earlier for why they might stop breastfeeding or pumping. For the latter question, participants did not know how to respond and asked the researchers to clarify the question. This suggests that the question may have been unclear or too broad for this particular study. In the future, replacing or rewording these two questions may evoke more in-depth responses from participants on breastfeeding barriers.

Study Limitations

There are several limitations in this study. First, although nearly every student-parent that contacted the researchers participated in the study, the small sample size may have limited the diversity of responses. There is a chance that some breastfeeding barriers may not have been revealed due to the small number of participants. Since the number of breastfeeding student-parents on CSUSM is not currently documented, the small sample size may have been due to a limited pool of breastfeeding parents on campus. Despite the small sample size, data saturation was reached by the final interview and no new themes were revealed. In addition, because of the small number of participants only one qualitative group interview was conducted. This limited the amount of participant feedback that resulted from discussion between participants. There also was an inherent bias in data analysis based on using qualitative data. In addition, there was a lack of published data regarding the lactation needs of student-parents. Study protocol remained consistent throughout all interviews however, which likely minimized any differences resulting from a group dynamic.

Future Research Considerations

This study highlighted several potential research topics related to student-parents and lactation. First, due to a lack of data on the number of student-parents and breastfeeding parents that attend CSUSM it may be beneficial to gather more data on this population. Determining the campus buildings and lactation rooms frequented most often by breastfeeding student-parents may help CSUSM pinpoint where to place new lactation rooms. It may also be worthwhile to further explore the relationship between social support and breastfeeding in student-parents. As this study revealed, student-parents commonly mentioned social support when discussing

lactation. It may be helpful to determine the type of social support that is most desired by student-parents in order to help them reach their breastfeeding and educational goals. Future data compilation on student-parents is vital to creating a lactation supportive environment on CSUSM.

Recommendations to Reduce Breastfeeding Barriers

Based on the breastfeeding barriers revealed in this research, there are multiple recommendations to improve lactation resources at CSUSM. To support and accommodate breastfeeding needs, a spacious designated area with lactation amenities should be centrally located on campus. More lactation spaces need to be created and easily accessible to student-parents throughout the academic day. Ideally, there would be a lactation room in every campus building that can accommodate multiple occupants at a time. The student-parent population should have a recognized space on campus to house the Student Parent Network and to enable student-parents to comfortably express breast milk. Based on this study's findings, the college community needs to be made aware of the locations of the three existing lactation rooms on campus. To remedy the lack of knowledge and awareness surrounding CSUSM lactation resources, lactation room locations should be clearly marked on all campus maps. Additionally, maps and resources of the lactation rooms should be included in the student orientation packets. The location of lactation rooms need to be visibly posted in each building and other high traffic areas such as restrooms. In addition, trainings need to be developed to educate administration staff and professors about CSUSM's lactation resources and the importance of supporting breastfeeding student-parents. This study found that student-parents struggle with balancing school schedules, work, and family responsibilities. Therefore, to decrease time and school scheduling as a breastfeeding barrier, CSUSM may want to consider offering priority registration to student-parents to ensure they obtain the classes needed to graduate on time. Providing hospital grade pumps, sinks, and refrigerators in every campus lactation space would also reduce breastfeeding barriers related to milk and pump storage. Following these recommendations has the potential to reduce common breastfeeding barriers that student-parents face on campus and make CSUSM a breastfeeding friendly community.

Conclusion

Breastfeeding plays an important role in the health of both mother and infant. The findings from this study demonstrated that CSUSM student-parents face multiple barriers while

breastfeeding on campus. CSUSM is in a position to positively influence the breastfeeding practices and experiences of student-parents by accommodating breastfeeding needs on campus. Ultimately, improving lactation resources and support for student-parents on CSUSM may enable student-parents to meet their educational goals while continuing to pump and provide their children with a healthy start in life.

APPENDIX

Tables

Table 1: Qualitative Interview Coding Themes

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
<p>Time/ School Schedule barrier</p>	<p>Describes times that the lactation rooms are available, time required to travel to the lactation rooms, and class time missed due to the need to pump as affecting the decision to breastfeed or pump on campus. Mentions struggling balancing schoolwork with breastfeeding or pumping.</p>	<p><i>“I have a ten-minute break between my classes so either I come and pump and I miss class or I’m late to class.”</i></p> <p><i>“I was kind of like at first discourage because they said, ‘there’s rooms but they’re first come, first serve’ and so I was thinking this campus needs a place for women to go and pump and like don’t have to wait.”</i></p> <p><i>“[Lactation] is really time consuming, that’s why I was like getting frustrated with it. I can’t waste time going back and forth.”</i></p> <p><i>“I don’t think it’s the location necessarily that hinders [ability to pump],</i></p>

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
		<p><i>it's more of the schedule in general that CSUSM puts for students."</i></p> <p><i>"I scheduled an hour in-between two of my classes to make sure I had time to pump."</i></p> <p><i>"I had to rearrange school schedule to meet [breastfeeding goals]."</i></p> <p><i>"I worked around it through picking the dates and trying to get lab later in the day so I can go home and see [him] and how he's doing."</i></p> <p><i>"I was going to keep pumping during the day and it's just not feasible with my schedule."</i></p>
<p>Location barrier (Dinour et al., 2015) (Spitzmueller et al., 2015)</p>	<p>Describes the location of lactation rooms on campus (or lack thereof) as affecting the decision to breastfeed/pump.</p>	<p><i>"I was in Markstein and there wasn't a room nearby so I was like okay, I guess I'm not going to pump."</i></p>

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
		<p><i>“There’s a lot of people in the Gender Equity Center most of the time, so I could see how some people can like maybe steer away from it.”</i></p> <p><i>“By the time I’d walk to [the lactation rooms] and get back to class, like our time would be over.”</i></p> <p><i>“I don’t want to be walking back and forth to [the lactation rooms] wasting my time when I could be pumping.”</i></p>
Knowledge/awareness	Describes lack of campus awareness/advertisement of lactation rooms as affecting decision to breastfeed/pump.	<p><i>“Knowing that there’s rooms, I’ll probably be using them and trying to increase my supply.”</i></p> <p><i>“Knowledge that it’s there, because I read the student emails and everything and there is never anything for student-parent groups. The</i></p>

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
		<i>only thing I've seen is the poster for this study. It's not really out there. It's not known that it's available."</i>
Milk (Spitzmueller et al., 2015) /pump storage barrier (Dinour et al., 2015)	Describes storage of supplies and milk as a challenge.	<i>"I know the Gender Equity Center has a fridge but I kind of opened it and put my hand in there and it's not that cold and I gotta keep it cold as long as possible."</i>
Student-parent resources	Describes lack of student-parent resources (ex: available campus daycare) as affecting decision to breastfeed/pump.	<p><i>"When you come on campus they have all these things for different sororities and clubs but they don't ever ask, 'do you have kids? Do you need a nursing room?'"</i></p> <p><i>"If there were other hospital grade pumps throughout campus that were easier to access, it would be easier for me to continue pumping."</i></p> <p><i>"Depending on the college you're in, they have</i></p>

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
		<i>different clubs...but not for parents."</i>
Lack of social support (Spitzmueller et al., 2015)	Describes how lack of social support on campus by peers, faculty, or staff negatively influences the decision to breastfeed/pump on campus.	<i>"...it would be nice if the professors could be like on our side, cause it's tough."</i>
Benefit of social support	Describes how social support by peers, faculty, or staff on campus positively influences the decision to breastfeed/pump on campus, including family members.	<i>"I've got nothing but support at CSUSM. It's awesome." "So, they are understanding, I feel pretty comfortable going up to a professor and being like, I gotta go, hopefully they can understand."</i>
Health consequences	Describes how inability to, or delay of, breastfeeding while on campus negatively impacted health (ex: lead to infection, decreased milk supply etc.).	<i>"My supply is suddenly dropping. So last week I was like, you know, I'm done. I can't, like mental health wise, I can't put myself through that. So, that's the biggest thing is that it is so inconvenient that it's adding more stress and decreasing supply."</i>

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
Health Benefit	Describes the health benefits of breastfeeding for mother or baby.	<i>“You know sometimes they [children] get picky or whatever so if I’m able to kind of like provide a little extra nutrients or immunity or whatever then why not.”</i>
School benefits	Mentions how breastfeeding/pumping on campus while enrolled has benefited their education or ability to receive an education.	<i>“I used to study and write papers in the lactation room at the GEC all the time. It’s just a quiet place to do your thing privately and study. I actually found it easy to do my schoolwork and breastfeed.”</i>
Stigma of breastfeeding/pumping	Negative social stigma associated with breastfeeding/pumping on campus.	<i>“Most people don’t care about boobs but you mention lactation and [they become upset].”</i>
Professional Recommendation	Describes prescribing to the recommendations of professionals in medicine/health in regards to breastfeeding practices.	<i>“Some of the- World Health Organization their recommendation is 2 years. So that was a factor, and American Academy of Pediatrics says one year but if you’re still like both mom and baby are kind of happy with it, like go for as</i>

<u>Code</u>	<u>Definition</u>	<u>Participant Quote</u>
		<i>long as you can.”</i>
Amenities/environment	Describes improvement that could be made to the lactation room environment or amenities (ex: cleanliness, sinks, etc.).	<p><i>“...the Gender Equity Center [lactation room] it’s nice, but I don’t think it’s that clean to be honest.”</i></p> <p><i>“...the time I had to pump in [my professor’s office] there wasn’t really access to a sink...You’d have to like put everything into a little bag and go to the bathroom to rinse [the pump] off...It would be nice to have a sink.”</i></p>
Modified pumping locations	Places that participants have breastfed or pumped outside of the lactation rooms on CSUSM campus. Either because they did not know of lactation rooms or they were unavailable (Ex: car, home, outside, offices, bathroom).	<i>“I’ll even pump while I drive home.”</i>

Table 2: Summary of Participants Comments

Theme	Participant Theme Count (out of 7)	Theme Frequency
Time/School Schedule barrier	7	41
Knowledge/Awareness	6	37
Benefit of Social Support	6	24
Location Barrier	7	22
Milk/Pump Storage	5	19
Health Consequence	5	16
Student-parent resources	4	15
Modified Pumping location	6	15
Environment/amenities	2	8
School Benefit	2	4
Professional recommendation	5	5
Lack of Social Support	3	4
Health Benefit	2	2
Stigma of breastfeeding/pumping	5	5

Informed Consent Form

[California State University San Marcos]

[Informed Consent Form for _____]

This informed consent form is for California State University San Marcos student parents who are currently, or have previously, breastfed while attending the university. We are inviting these student parents to participate in our study titled, “Lactation Supportive Campus Environment”.

Purpose of Research

We, as current Master of Public Health students, are conducting this research project in order to assess the lactation resource needs of student parents on California State University San Marcos (CSUSM) campus. Many student parents are lacking the proper lactation support on college campuses. This leads to the early termination of breastfeeding, and in some cases, affects the students’ educational goals. Breastfeeding is a healthy, natural practice that provides numerous benefits to both mother and infant. By uncovering consistent themes and building off of suggestions from parenting students, we hope to provide CSUSM with recommendations to improve lactation support on campus. It is anticipated that by improving the availability and use of lactation resources on CSUSM campus, student parents will be able to meet their educational goals while providing children with healthy start in life.

Type of Research Intervention

This research will involve your participation in a group discussion that will take about one hour.

Participant Selection

You are being invited to take part in this research because we feel that your experience as a breastfeeding student-parent can contribute much to our understanding and knowledge of lactation support on the CSUSM campus.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not.

Procedures

You will be asked to take part in a discussion with 7-8 other persons with similar experiences. This discussion will be guided by the researchers.

The group discussion will start with the focus group moderator making sure that you are comfortable. Then they will ask you questions about your breastfeeding experience on the CSUSM campus and give you time to share your knowledge. The questions will include inquiry like: What are the experiences of student parents surrounding the lactation resources on CSUSM? How can CSUSM support student parents in their pursuit of breastfeeding on campus? How can CSUSM promote the lactation resources available on campus?

We will not ask you to share personal beliefs, practices, or stories and you do not have to share any knowledge that you are not comfortable sharing.

The discussion will take place in [location of the FGD], and no one else but the people who take part in the discussion and moderator will be present during this discussion. The entire discussion will be tape-recorded, but no-one will be identified by name on the tape. The information recorded is confidential, and no one else except the names listed previously will have access to the tapes.

Benefits

There will be no direct benefit to you, but your participation is likely to help us find out more about how to improve lactation support on the CSUSM campus

Reimbursements

You will not be provided any incentive to take part in the research. However, we will provide you with a follow up of our study.

Confidentiality

We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research project will be kept private. Any information about

you will have a number on it instead of your name. Only the researchers will know what your number is. It will not be shared with or given to anyone.

We will ask you and others in the group not to talk to people outside the group about what was said in the group. We will, in other words, ask each of you to keep what was said in the group confidential. You should know, however, that we cannot stop or prevent participants who were in the group from sharing things that should be confidential.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so. You may stop participating in the focus group discussion at any time. I will give you an opportunity at the end of the focus group to review your remarks, and you can ask to modify or remove portions of those, if you do not agree with my notes or if I did not understand you correctly.

Part II: Certificate of Consent

I have been invited to participate in research about the current lactation support on the California State University San Marcos Campus

I have read the foregoing information. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

References

- AAP. (2012). Breastfeeding and the Use of Human Milk. *American Academy of Pediatrics*.
<http://doi.org/10.1542/peds.2011-3552>
- Bartick, M. C., Schwarz, E. B., Green, B. D., Jegier, B. J., Reinhold, A. G., Colaizy, T. T., ... Stuebe, A. M. (2016). Suboptimal breastfeeding in the United States: Maternal and pediatric health outcomes and costs. *Maternal and Child Nutrition*, *13*, 1–13.
<http://doi.org/10.1111/mcn.12366>
- Beharie, N., & Dinour M., L. (2015). Lessons Learned from a Student-Led Breastfeeding Support Initiative at a US Urban Public University. *Journal of Human Lactation*, *31*(3), 341–343. <http://doi.org/10.1177/0890334415571636>
- Bostick, M.W. Albrecht, S.A. Baghdadi, N. Haley, C. Spatz, D. L. (2016). Do American Colleges and Universities Support the Lactation Needs of Students? *Breastfeeding Medicine*, *11*, 376–379. Retrieved from <http://doi.org/10.1089/bfm.2016.0022>
- Bresnahan, M., Zhuang, J., Anderson, J., Zhu, Y., Nelson, J., Bresnahan, M., ... Nelson, J. (2017). The “pumpgate” incident: Stigma against lactating mothers in the U.S. workplace. *Women and Health*, *242*, 1–15.
<http://doi.org/10.1080/03630242.2017.1306608>
- Brown, V., & Nichols, T. R. (2012). Pregnant and Parenting Students on Campus: Policy and Program Implications for a Growing Population. *Educational Policy*, *27*(3), 499–530.
<http://doi.org/10.1177/0895904812453995>
- CDC. (2014). Breastfeeding Report Card United States 2014. *Centers for Disease Control and Prevention*. Retrieved November 30, 2017, from
<http://www.cdc.gov/breastfeeding/pdf/2014breastfeedingreportcard.pdf>
- Chowdbury, R., Sinha, B., Sankar, M. J., Taneja, S., Bhandari, N., Rollins, N., ... Martines, J. (2015). Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. *Acta Paediatrica*, *104*(467), 96–113. <http://doi.org/10.1111/apa.13102>
- CSUDH. (2017). *Information for Lactating and Breastfeeding Parents*. Retrieved November 12, 2017, from [Information for lactating and breastfeeding parents](#)
- CSUN. (2017). Lactation Accommodations. Retrieved November 30, 2017, from
<https://www.csun.edu/wellbeing/csun-lactation-accomodations>
- CSUSM. (2016). Fast Facts. Retrieved November 30, 2017, from

- <https://news.csusm.edu/fast-facts/>
- CSUSM. (2017). Support for Nursing Mothers. Retrieved November 20, 2017, from https://www.csusm.edu/hr/benefits/other_programs/supportfornursingmothers.html
- Department of Education. (2013). *Supporting the Academic Success of Pregnant and Parenting Students*. Retrieved from <http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf>
- Dinour, L. M., Pope, G. A., & Bai, Y. K. (2015). Breast Milk Pumping Beliefs, Supports, and Barriers on a University Campus. *Journal of Human Lactation*, 31(1), 156–165.
- [Breast milk pumping beliefs, supports, and barriers on a university campus](#)
- Estes, D. (2011). Managing the Student-Parent Dilemma: Mothers and Fathers in Higher Education. *Symbolic Interaction*, 34(2), 198–219. <http://doi.org/10.1525/si.2011.34.2.198>
- Gault, B., Reichlin Cruse, L., Reynolds, E., & Froehner, M. (2014). 4.8 Million College Students are Raising Children. *Institute for Women's Policy Research*. Retrieved from <https://iwpr.org/publications/4-8-million-college-students-are-raising-children/>
- Gilmour, C., Monk, H., & Hall, H. (2011). Breastfeeding mothers returning to work: Experiences of women at one university in Victoria, Australia. *Breastfeeding Review*, 21(2), 23–30.
- Healthy People 2020. (2016). Infants breastfed exclusively through 6 months. Retrieved November 30, 2017, from <https://www.healthypeople.gov/2020/data-search/Search-the-Data#objid=4863>;
- Johnson, A. M., Kirk, R., & Muzik, M. (2015). Overcoming Workplace Barriers: A Focus Group Study Exploring African American Mothers' Needs for Workplace Breastfeeding Support. *Journal of Human Lactation*, 31(3), 425–433.
- <http://doi.org/10.1177/0890334415573001>
- Johnston, M. L., & Esposito, N. (2007). Barriers and Facilitators for Breastfeeding Among Working Women in the United States. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 36(1), 9–20. <http://doi.org/10.1111/j.1552-6909.2006.00109.x>
- Kemsley, J. (2008). Unraveling breast milk: Analytical scrutiny reveals how complex fluid nourishes infants and protects them from disease. *Chemical and Engineering News*, 86(39), 13-17. <http://cen.acs.org/articles/86/i39/Unraveling-Breast-Milk.html>
- Kidsdata. (2014). Breastfeeding of Newborns, by Breastfeeding Status. Retrieved July 02, 2017, from <http://www.kidsdata.org/topic/243/breastfeedingstatus/map/cmp#loct=3&fmt=299&tf=79&ch=491¢er=-13325098.893387,4509031.392449&zoom=0>

- Mediano, P., Fernández, L., Garcia, R., Rodriguez, J., & Marín, M. (2016). Risk Factors Predicting Infectious Lactational Mastitis: Decision Tree Approach versus Logistic Regression Analysis. *Maternal and Child Health Journal, 20*, 1895–1903.
<http://doi.org/10.1007/s10995-016-2000-6>
- Murtagh, L., & Moulton, A. D. (2011). Working mothers, breastfeeding, and the law. *American Journal of Public Health, 101*(2), 217–223. <http://doi.org/10.2105/AJPH.2009.185280>
- NCES. (2017). College and University Education. Retrieved November 30, 2017, from <https://nces.ed.gov/fastfacts/display.asp?id=372>
- Radford, A. W., Cominole, M., & Skomsvold, P. (2015). Demographic and Enrollment Characteristics of Nontraditional Undergraduates: 2011-2012. Retrieved from <https://nces.ed.gov/pubs2015/2015025.pdf>
- Rojjanasrirat, W., & Sousa, V. D. (2010). Perceptions of breastfeeding and planned return to work or school among low-income pregnant women in the USA. *Journal of Clinical Nursing, 19*(13–14), 2014–2022. <http://doi.org/10.1111/j.1365-2702.2009.03152.x>
- Sankar, M. J., Sinha, B., Chowdhury, R., Bhandari, N., Taneja, S., Martines, J., & Bahl, R. (2015). Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis. *Acta Paediatrica, 104*(1), 3–13.
<http://doi.org/10.1111/apa.13147>
- Shamir, R. (2016). The Benefits of Breast Feeding. *Nestle Nutrition Institute, 86*, 67–76.
<http://doi.org/10.1169/000442724>
- Spitzmueller, C., Wang, Z., Zhang, J., Thomas, C. L., Fisher, G. G., Matthews, R. A., & Strathearn, L. (2016). Got milk? Workplace factors related to breastfeeding among working mothers. *Journal of Organizational Behavior, 37*(5), 692–718.
<http://doi.org/10.1002/job.2061>
- Springer, K. W. (2009). Making space for graduate student parents. *Journal of Family Issues, 30*(4), 435–457. <http://doi.org/10.1177/0192513X08329293>
- Sriraman, N. K., & Kellams, A. (2016). Breastfeeding: What are the Barriers? Why Women Struggle to Achieve Their Goals. *Journal of Women's Health, 25*(7), 714–722.
<http://doi.org/10.1089/jwh.2014.5059>
- Tarrant, M., & Dodgson, J. (2007). Knowledge, Attitudes, Exposure, and Future Intentions of Hong Kong University Students Toward Infant Feeding. *Journal of Obstetric,*

Gynecologic, & Neonatal Nursing, 36 (3), 243-254.

<http://doi.org/10.1111/j.1552-6909.2007.00144.x>

Tilley, B. P. (2014). What Makes a Student Non-traditional? A comparison of students over and under age 25 in online , accelerated psychology courses. *Psychology Learning & Teaching*, 13(2), 95–106. <http://doi.org/10.2304/plat.2014.13.2.95>

Victora, C. G., Bahl, R., Barros, A. J. D., França, G. V. A., Horton, S., Krasevec, J., ... Walker, N. (2016). Breastfeeding in the 21st century: epidemiology , mechanisms, and lifelong effect. *The Lancet*, 387, 475–490. [http://doi.org/10.1016/S0140-6736\(15\)01024-7](http://doi.org/10.1016/S0140-6736(15)01024-7)

WHO. (2017). Exclusive breastfeeding. *World Health Organization*. Retrieved November 30, 2017, from http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/