

Designing a Primary Research Study

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NURS 6207: Evidence-Based Practice for Health Care Researchers

Designing a Primary Research Study

Past research has extensively highlighted that breastfeeding is the superior option for infant nutrition in children less than a year old. Breastmilk provides necessary antibodies to protect infants from infection, is easier for most infants to digest than formula, and facilitates a healthy maternal-newborn bond (Office on Women's Health, 2014). Not only does the infant benefit from breastfeeding, but the mother does too. Mothers who breastfeed have a lower risk of developing type 2 diabetes, certain types of breast cancer, and ovarian cancer (Office on Women's Health, 2014). However, despite these documented benefits, only 51% of infants born in 2012 were breastfeeding at six months and only 29% were breastfeeding at 12 months even though 80% of infants born in that same year were ever breastfed (Center for Disease Control and Prevention [CDC], 2014). The American Academy of Pediatrics (2012) recommends infants be exclusively breastfed for the first six months of life followed by breastfeeding and food introduction through 12 months of age.

Although breastfeeding is highly recommended, it appears that numerous mothers are still not breastfeeding. A few of the most common reasons mothers cite for not breastfeeding are concerns relating to lactation and infant nutrition (Odom, Li, Scanlon, Perrine, & Grummer-Strawn, 2013). These issues can be addressed through education, particularly with healthcare providers such as lactation consultants. Lactation consultants play a vital role in promoting exclusive breastfeeding and supporting breastfeeding mothers. However, mothers in rural and remote locations may not have feasible access to lactation consultants. Therefore, it could be very beneficial to provide remote access to lactation consultants for breastfeeding mothers in

these areas. Unfortunately, research is scarce on the effect of remote lactation consulting on breastfeeding adherence.

Literature Search

Remote Videoconferencing at a Local Hospital

In this article, the researchers focused on how videoconferencing with a lactation consultant compares to standard face-to-face interaction in relation to maternal experiences of lactation consulting (Habibi et al., 2012). To investigate this topic, the researchers placed participating mother and infant dyads in a private room of a local hospital (Habibi et al, 2012). Initially, the mothers conferenced with a lactation consultant via Skype (Habibi et al., 2012). After the videoconference session, the mothers had a meeting with a lactation consultant in person (Habibi et al., 2012). Both lactation consultants performed their assessments and then revealed their final diagnosis after consulting each other to discuss their findings (Habibi et al, 2012). The mothers were then interviewed via telephone 3 days after the consultations to discuss the videoconferencing experience (Habibi et al., 2012).

The population of the study was mothers who were 18 years and older with an infant who was 3 months old or younger, who had a breastfeeding issue that affected the ability to successfully breastfeed, who had access to a working phone, and who were able to self-pay for services if they did not have health insurance or state assistance (Habibi et al., 2012). The independent variable was the use of remote lactation consultation and the dependent variable was the maternal experiences with remote lactation consultation (Habibi et al, 2012).

The results of the study highlighted three themes including “maternal characteristics and interaction with technology..., accuracy and trust determines acceptability for consultation

type..., and conditional acceptance of remote consultation use” (Habibi et al., 2012, p. 214).

Overall, the participants were satisfied with the remote consultation, but the majority still preferred traditional interaction (Habibi et al., 2012). In addition, most of the mothers felt positive about the experience and trusted the remote lactation consultant’s assessment (Habibi et al., 2012). A final analysis revealed that all the mothers would recommend remote lactation to other breastfeeding mothers and highlighted how this method can save time, save money, and can provide convenient access for other mothers (Habibi et al., 2012).

Remote Videoconferencing at Home

The focus of this research article was the feasibility of breastfeeding support using remote lactation consulting in the home (Rojjanasrirat, Nelson, & Wombach, 2012). To evaluate this topic, the researchers had the participating mothers undergo two types of consultation, remote and in-person (Rojjanasrirat et al., 2012). For the first 4 weeks after birth, each mother and infant dyad were assessed by a lactation consultant in their home (Rojjanasrirat et al., 2012). For the first 2 visits, a remote lactation consult as well as a traditional face-to-face consult were performed using the LATCH assessment tool (Rojjanasrirat et al., 2012). For weeks 3 and 4, the dyads were only evaluated remotely (Rojjanasrirat, 2012). At the end of the 4 weeks, the mothers described their experiences (Rojjanasrirat, 2012).

The participants were mothers who delivered at a specific birthing center, who were 18 years and older, spoke English, had access to high-speed internet, “had initiated breastfeeding their healthy full-term infants,” and had a support person who could attend the remote consultations (Rojjanasrirat et al., 2012, p.465). The independent variable was the use of remote lactation consulting (Rojjanasrirat, 2012). The dependent variables were the “reliability of LATCH

assessment tool, ability to consult and teach using standard educational material”, and maternal satisfaction with remote lactation consulting (Rojjanasrirat, 2012). The results revealed the LATCH scores were similar among the remote lactation consultants and in-person lactation consultants, but further research was recommended to determine substantial reliability (Rojjanasrirat et al., 2012). In addition, the remote lactation consultants were able to accurately diagnose the mothers’ issues, verified by the in-person lactation consultant, and provide appropriate education to address each issue (Rojjanasrirat et al., 2012). The mothers felt positive about the videoconferencing sessions, stating the sessions did not interfere with daily routines, and most of the mothers felt the remote sessions were just like talking in-person (Rojjanasrirat et al., 2012). However, some mothers did experience technical difficulties with the videoconferencing equipment (Rojjanasrirat et al., 2012).

Article Comparison

Numerous consistencies emerged from both studies. The results found the mothers from each study felt positively about their experience with videoconferencing and mentioned videoconferencing would save them money and time since they would not have to travel (Habibi et al, 2012; Rojjanasrirat et al., 2012). In addition, all participants stated they felt comfortable discussing their issues during the remote visits (Habibi et al., 2012; Rojjanasrirat et al., 2012). Unfortunately, some of the mothers from both studies also reported they experienced technological difficulties during the visit and felt frustrated with the process (Habibi et al., 2012; Rojjanasrirat et al., 2012). Technological barriers would have to be addressed individually to provide an optimal platform for education, but remote lactation seemed to have a positive response among both studies.

However, the settings of the studies were inconsistent with one study completed in a hospital and the other study in the participants' home (Habibi et al., 2012; Rojjanasrirat et al., 2012). The articles did not address if the setting in which the consultations were implemented influenced the maternal experiences. In addition, most of the mothers who attended the visits at home were "white, were married, and had a college education" (Rojjanasrirat et al., 2012, p. 465). The mothers who visited at the hospital were mostly white, almost half were low-income, and only some had postsecondary education (Habibi et al., 2012). The differences in the participants' backgrounds from each study could have contributed to the differing opinions of the remote visits.

Also, the home visit study mentioned all the participants continued "exclusively breastfeeding at 4 weeks postpartum" (Rojjanasrirat et al., 2012, p. 466). The hospital visit study did not mention if there was any follow-up with the participants. It would be beneficial to see if videoconferencing has an effect on breastfeeding duration compared to traditional breastfeeding support administered in the hospital as videoconferencing could create a stronger basis for breastfeeding support. Unfortunately, this topic has yet to be explored by researchers as exhibited by Habibi et al. (2012) and Rojjanasrirat et al. (2012). The gap in research regarding breastfeeding adherence provides the motivation to design a study that would examine the effects of videoconferencing and breastfeeding duration as not all mothers have easy access to lactation consultants, especially those mothers who live in rural and remote areas. In addition, neither study addressed how remote lactation consults affected the self-efficacy, or confidence, in breastfeeding of the mothers. Lack of confidence has been shown to be a barrier to breastfeeding

(Dunn, Kalich, Henning, & Fedrizzi, 2015; Odom et al., 2013). Therefore, it is vital to see if remote lactation consults can improve confidence in mothers to encourage breastfeeding.

Develop a Research Question

The appropriate research question to explore how videoconferencing with a lactation consultant affects breastfeeding adherence and self-efficacy would be, “In mothers with an identified breastfeeding need, does videoconferencing with a lactation consultant versus traditional breastfeeding education provided in the hospital increase the duration of breastfeeding and improve self-efficacy with breastfeeding?” This question is presented in a treatment/intervention format because the use of videoconferencing is an intervention and it is being compared to the alternative method, traditional breastfeeding education that is provided in the hospital to mothers after delivery.

Identifying Study Variables

The independent variable is the use of videoconferencing with a lactation consultant after discharge. The study will contain an intervention group which will participate in videoconferences with a lactation consultant and a comparison group which will utilize traditional breastfeeding resources given to them before discharge from the hospital after birth. The dependent variables are the duration of breastfeeding the mothers maintain after birth and the self-efficacy of the mothers with breastfeeding.

Study Population and Inclusion/Exclusion Criteria

The general population in this research study will be mothers who delivered at a local hospital, Chesapeake Regional Medical Center, who have been determined to have an identified

breastfeeding need (i.e. latching issues, pain with breastfeeding etc.) by a lactation consultant postpartum (Habibi et al., 2013). The mothers will be at least 18 years old with no preference to race. In addition, the mothers must be healthy with no serious postpartum complications and must read as well as speak English (Rojjanasrirat et al., 2012). The inclusion criteria for the participants are infants who were full-term and healthy (Rojjanasrirat et al., 2012); mothers who were healthy, had initiated breastfeeding postpartum, had an identified breastfeeding need, and were 18 years or older (Habibi et al., 2012; Rojjanasrirat et al., 2012). Exclusion criteria included infants who were already exclusively fed formula; mothers who experienced significant postpartum complications leading to prolonged hospitalization; mothers unable or uninterested in breastfeeding; non-English speaking mothers; and mothers who had multiple births.

Research Category and Design

This experiment will be a quasi-experimental study with a longitudinal pretest/posttest design. The quasi-experimental design does not randomly assign participants to an intervention or control group and the longitudinal design collects data at multiple points over a certain period of time (Polit & Beck, 2014). In addition, in a pretest/posttest design, a variable is measured before and after the implementation of an intervention (Polit & Beck, 2014). The participants' confidence with breastfeeding will be measured before and after the intervention with the Breastfeeding Self-Efficacy Survey-Short Form (BSES-SF), supporting a pretest/posttest design to adequately measure the effects of the intervention on self-efficacy (Polit & Beck, 2014). The BSES-SF is a questionnaire designed to measure the confidence of mothers with breastfeeding and identify breastfeeding concerns (McQueen, Dennis, Stremmler, & Norman, 2011). The study will consist of mothers with an identified breastfeeding need assigned to one of two groups. One

group will attend videoconferencing sessions with a lactation consultant after discharge 3 times over 3 weeks at a local hospital, Chesapeake Regional Medical Center, and the other group will utilize the resources provided by a lactation consultant prior to discharge, i.e. information to contact a breastfeeding hotline and handouts related to latching, positioning, etc.

To recruit participants, eligible mothers who delivered at Chesapeake Regional Medical Center will be approached after delivery to see if they will participate in the study. Mothers who agree to the videoconferencing sessions will be assigned to the intervention group and the mothers who do not desire to videoconference will be assigned to the comparison group upon their permission. All participants will meet with a lactation consultant face-to-face before discharge from the hospital for determination and evaluation of the breastfeeding need. Both groups will be asked to record the date they stop breastfeeding, if they choose to stop, once they are discharged. The participants from both groups will then report their status of breastfeeding at 1 month, 3 months, and 6 months post-intervention and the results of each group will be compared. The mothers' confidence with breastfeeding will also be assessed before the intervention and one week after the intervention by the BSES-SF. Participants will not be randomly assigned to a group because allowing mothers who do not want to attend videoconferencing sessions to still participate in the comparison group would offer the opportunity to recruit more participants for the study, thus supporting a quasi-experimental design. Different variables will be measured at multiple points in time after the intervention to determine the length of breastfeeding duration, correlating with the longitudinal experimental design.

Breastfeeding adherence data will be collected via the open-ended question "Are you currently still breastfeeding?" If the answer is yes, the interview will be complete. If the answer is

no, the mother will then be asked the date she stopped breastfeeding or the closest estimate she can provide if unable to remember. These interviews will be conducted via telephone with each participating mother in both the intervention and control groups at 1 month, 3 months, and 6 months post-intervention. A telephone interview for this data would be most feasible as data collection for this information would be brief (Polit & Beck, 2014). The mothers' confidence with breastfeeding will be measured pre-intervention by administering the BSES-SF during postpartum hospitalization upon agreement to join the study. Post-intervention confidence levels will be measured by having the mothers complete the BSES-SF at their pediatrician's office during the infant's one month check-up appointment. The data will then be analyzed to estimate the average time each group breastfed after discharge from the hospital as well as the average scores of self-efficacy from the BSES-SF pre- and post-intervention.

The setting of the study will be at Chesapeake Regional Medical Center as this hospital has the one of the largest labor and delivery units in Hampton Roads, Virginia, making it an optimal option to recruit participants (Swenson, n.d.). The intervention group will participate in the videoconferencing sessions here as well. The comparison group will implement the standard breastfeeding intervention in their homes.

Theory

A theory that supports this study is the Social Cognitive Theory (1985) by Albert Bandura. This theory focuses on a person's self-efficacy, defined as "people's beliefs in their own capacity to carry out particular behaviors" (Polit & Beck, 2014, p. 138). The theory suggests that a person's self-efficacy toward a specific action affects the likelihood the person will perform that action (Polit & Beck, 2014). More specifically, if a patient has a high-self efficacy

with an action, then they will be more likely to perform that action than someone with a low self-efficacy (Polit & Beck, 2014). In addition, self-efficacy affects the individual's level of motivation and quality of attempt toward the specified behavior (Polit & Beck, 2014). The theory proposes that if a person's self-efficacy concerning a behavior is increased, then the probability of that person performing the behavior will increase along with the caliber of effort (Polit & Beck, 2014).

This theory relates to the proposed research study because the intervention is designed around the idea that a mother's confidence in her ability to breastfeed affects her decision to breastfeed her child. As previously discussed, research has shown that barriers to breastfeeding include lack of knowledge on the benefits of breastfeeding and mothers doubt in their bodies to make an adequate supply of milk (Dunn et al., 2015; Odom et al., 2013). Videoconferencing with a lactation consultant has shown to increase confidence in mothers and their trust in their bodies as well as expand breastfeeding knowledge (Friesen, Hormuth, Petersen, & Babbitt, 2015). Ideally, videoconferencing with a lactation consultant will increase the mothers' confidence level and self-efficacy with breastfeeding. Assessing each mother's confidence level from both the intervention and control groups to identify if the confidence levels correlate with breastfeeding duration will reveal if remote lactation consulting affects breastfeeding self-efficacy.

Conclusion

With technological advances in the healthcare system occurring more frequently than in the past, videoconferencing could potentially serve as a beneficial tool for breastfeeding mothers, especially mothers with little to no access to quality healthcare due to location. While the use of

videoconferencing is still a novel idea, continued research could ignite a movement toward the implementation of this educational method. Continued studies would most definitely need to be conducted to assess the feasibility and accuracy of this tool in breastfeeding education. However, videoconferencing may have a positive impact on breastfeeding support one day in the near future.

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