

Education for New and Expecting Mothers about Compatible Medications to Take During Lactation

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Receive date: Apr 25, 2018; Accepted date: May 22, 2018; Published date: May 25, 2018

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Abstract

In the United States, over 81% of women breastfeed their children. As this number continues to rise, a need for education on safe lactation practices could prove to be beneficial for breastfeeding mothers. Of the community support groups offered, there is very little education on what medications are compatible with breastfeeding. This led to the development of an educational information session with a focus on compatibility of the most commonly used supplements, over-the-counter and prescription medications. It was designed to increase the knowledge of breastfeeding and expecting mothers. This study was performed at the Hope Clinic for Women in Nashville, Tennessee and consisted of seven subjects. Prior to the session, a pre-session assessment was given to the subjects to acquire baseline knowledge of compatible medications with breastfeeding. After the information session was completed, the same assessment was given to determine improvement in baseline knowledge. The primary endpoint was to see a 20% relative increase in the average post-session assessment score after the 30-minute informational session. The session consisted of an introduction to breastfeeding, compatible supplements, over-the-counter and prescription medications, along with tips for appropriately taking medications. According to the results of the post-session assessment, all participants showed an increase in scores from baseline and the goal of a 20% relative increase in the average post-session score was met. This demonstrated an increase in baseline knowledge in subjects receiving an educational information session regarding compatible medication with lactation.

Keywords: Breastfeeding; Lactation; Compatible medications

Introduction

By 2025 the World Health Assembly has set a target of 50% exclusive breastfeeding [1]. That is 50% of women who could potentially be taking medications while breastfeeding that could be harming their child. Medications transfer into the breast milk in an unionized and non-protein bound form. This allows for delivery to the nursing infants, creating potential harm [2]. According to the Centers for Disease Control and Prevention, eight out of ten women breastfeed their children and the American Academy of Pediatrics recommends exclusive breastfeeding for six months, followed by continued breastfeeding for twelve months with the addition of food [3]. This recommendation is based on the numerous health benefits to infants [4].

Breastfeeding mothers are often faced with an array of challenges such as having adequate space for expressing milk at work and lack of education on lactation practices [5,6]. Of the challenges mothers face, knowledge of what medications are compatible with lactation is a subject that is not frequently taught by support groups in the community [7]. This knowledge indicated the need for the development of an educational information session regarding medications compatible with breastfeeding for pregnant and nursing mothers. The session addressed the most common supplements, over-the-counter and prescription medications. It was determined that this information would have the most benefit for those mothers who are seeking the assistance via community support groups. Therefore, researchers partnered with The Hope Clinic for Women, located in Nashville, Tennessee, which is an organization that helps women who

are dealing with unplanned pregnancies regardless of their ability to pay.

Methods

Population

The educational information session was conducted at The Hope Clinic for Women located in Nashville, Tennessee. The subjects consisted of seven women who are members of the clinic and are pregnant or new mothers (less than one year postpartum) who experienced an unplanned pregnancy. These women elected to attend the educational information session based on their desire to learn more and educate themselves on safe lactation practices involving medications. Because of this open enrollment for the subjects, a sample size was not calculated prior to the start of the study.

Design

The contents of the session were generated based on the most common questions that are asked by patients in the pharmacy regarding compatibility with lactation. Inclusion criteria for this study consisted of women at least 18 years of age, pregnant, previously pregnant or nursing, with no prior professional education on the subject presented. Exclusion criteria were males and women under the age of 18 years old. Prior to the start of the session, subjects were presented with an assessment asking about demographics and current knowledge of supplements, over-the-counter and prescription medications compatible with breastfeeding.

The assessment was generated based on the most common questions that are received in the pharmacy regarding compatibility

with lactation. The session addressed and educated the most common supplements, over-the-counter (OTC) and prescription medications. Discussions on supplements included such items as caffeine and melatonin and OTC products included common cold, allergy and headache medications. Prescription medications were briefly mentioned and it was stressed to consult a physician when continuing medications while nursing. The educational information session also gave a demonstration of where to look for active ingredients on a label. The session lasted approximately 30 minutes and another assessment was given at the conclusion of the session. This assessment asked the exact same questions as the pre-session assessment in order to gauge newly acquired knowledge.

Both assessments were graded out of eighteen correct compatible medications. After the subjects completed the post-session assessment, they were given a take-home pamphlet containing the information from the session to use as a reference. Both pre and post-assessments were graded and scored out of eighteen possible correct answers and a relative percent increase in scores was generated to assess knowledge gained from the educational information session.

The goal was to see a 20% relative increase when comparing the average scores of the pre- and post- session assessments. Because the educational information session and assessment have not been previously used in studies, there was no hypothesized differences based on prior research. Therefore, a 20% relative increase in average score was considered meaningful by the researchers (Table 1A and 1B).

Demographics	N	Previous Parity (%)	Previous Breastfeeding (%)
Age Group 18-25	1	100	100
Age Group 26-35	4	75	100
Age Group >35	2	100	50

Table 1A: Study participant demographics.

S.no	Pre-session assessment score (Out of 18)	Post-session assessment score (Out of 18)	Relative Increase in Post-session Scores (%)
Subject 1	9	17	47
Subject 2	5	8	37
Subject 3	11	17	35
Subject 4	1	2	50
Subject 5	11	14	21
Subject 6	2	2	0
Subject 7	6	6	0
Average Score	6.4 ± 4.1	9.4 ± 6.6	32

Table 2: Pre and post-assessment results.

Conclusion

Overall, a majority of the subjects at the Hope Clinic for Women showed an increase in baseline knowledge from the educational information session regarding compatible medications with lactation. Based on the post assessment; all subjects indicated that the session

Education Level	
Some high school	0
High school diploma/GED	2
Some college/vocational school	4
Bachelor's degree	1
Other	0

Table 1B: Study participant demographics.

Statistical analysis

Since the seven subjects were compared between their pre-session scores and their post-session scores. The sample size consisted of fourteen subjects with seven in the pre-session group and the same seven in the post-session group, serving as their own control. A power calculation was developed using JMP® Pro v11.2.0 software by SAS Institute Inc. of Cary, NC to yield a power of 24%, which is well below a recommended 80%, demonstrating the study is underpowered. This was expected due to the small sample size. Based on no previous studies of similar nature, there were no other references to compare statistical data against, thus this study serves as hypothesis-generating research.

Results

As shown in Table 2 below, five out of seven subjects showed an increase in their post-session assessment scores while two subjects showed no improvement. The average relative percent increase was 32% with 6.4 as the average pre-session score and 9.4 as the average post-session score. The goal of a 20% relative increase in the average post-session score was met, demonstrating an increase in baseline knowledge of medications compatible with lactation in the study subjects.

was helpful. Because the subjects who attended the information session had a desire to acquire information, this may have excluded participants who were not self-motivated to learn. Because only seven subjects participated in the study, the sample size limited the ability to reach 80% power. Feedback from the pregnancy care coordinator at the clinic stressed a need for future classes regarding educating the

women on medications. The advantages of this study included the willingness of the participants to engage in the session, ask questions and provide feedback. Disadvantages include the small sample size and lack of availability of researchers to perform multiple sessions with more subjects. Due to the current rising rates of breastfeeding and an expected increase indicated by the World Health Assembly by 2025, this study demonstrates potential benefit from providing an educational information session to increase knowledge of compatible medications during lactation. Since there is no prior studies similar in design and assessments, this serves as a hypothesis-generating study to determine the effectiveness of an educational information session to see if it could be beneficial in a larger cohort of new and expecting mothers who intend to breastfeed their offspring.

Acknowledgement

Thank you to The Hope Clinic for Women in Nashville, Tennessee for providing the venue, subjects and resources in this study.

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