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UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
DOCTOR OF NURSING PRACTICE

Improving Pediatric Provider Preparedness for Postpartum Depression Screening

by

Samantha A. Shafer

A Doctor of Nursing Practice Portfolio presented to the
FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
requirements for the degree
DOCTOR OF NURSING PRACTICE

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Martha G. Fuller, PhD, PPCNP-BC, Faculty Advisor

Aysun Azimi, DO, Clinical Mentor

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Documentation of Mastery of DNP Program Outcomes

Final Manuscript

Improving Pediatric Provider Preparedness for Postpartum Depression Screening

Samantha A. Shafer

University of San Diego Hahn School of Nursing and Health Sciences

Author Note

This evidence-based practice change project would not have been possible without the support, guidance and dedication of Drs. Aysun Azimi, DO, Hilary Bowers, MD, and Martha Fuller, PhD

Abstract

Background: Postpartum depression (PPD) is one of the most common complications of childbirth, affecting approximately 10-20% of mothers within the child's first year of life with negative impact on both mother and child. Pediatric primary care providers have frequent contact over the infant's first year of life. The American Academy of Pediatrics (AAP) recommends screening mothers for PPD at the 1, 2, 4, and 6-month well-baby visits, yet due to barriers, pediatric providers are not consistently screening for PPD. Barriers include lack of preparedness and knowledge of resources, and inadequate time.

Aims of Service Change: To improve pediatric provider preparedness to screen for PPD at a large multi-site pediatric group practice in Southern California and lead to increased screening, detection, and treatment of PPD.

Details of Innovation: The core intervention was provider education regarding recommendations for postpartum depression screening. Provider education also included provider responsibility in identifying PPD, community resources, and an overview of PPD diagnostic criteria. This project assessed provider preparedness using a pre-post education online anonymous survey.

Outcome: Implementation of provider education increased self-reported preparedness to screen for PPD at well-baby visits with an increase of average score in all categories. Knowledge of resources and provider confidence had the most substantial increases.

Discussion: Implementing provider education regarding screening for PPD at well-baby visits is a simple and cost-effective intervention. This leads to improved provider preparedness, potential increased identification of PPD in mothers, and improved overall outcomes for mothers and babies.

Description of the Clinical Problem

Postpartum depression (PPD) is defined as major depressive disorder that occurs in women during the perinatal or immediate postnatal period (United States Preventive Services Task Force, 2019). Postpartum depression (PPD) is one of the most common complications of childbirth, estimated to affect between 10-20% of childbearing women (Friedman et al., 2016). Although studies estimate up to 20% of women experience PPD, numbers are suspected to be much higher, as many cases go undetected (Friedman et al., 2016). Postpartum depression can present up to a year after childbirth, but most cases occur within 6 months postpartum (Friedman et al., 2016).

If postpartum depression is left untreated, serious consequences can arise including the mother's ability to bond and engage with her child (Friedman et al., 2016). Lack of engagement and bonding between the pair can lead to impaired cognitive, language and emotional development in the child, along with other health problems (Waldrop et al., 2018). Early detection and intervention of PPD can reduce the risks of negative outcomes for both mother and child (Waldrop et al., 2018). For this reason, it is imperative that mothers are screened for postpartum depression during the postnatal period (Waldrop et al., 2018).

Pediatric primary care providers are in a valuable position to screen for PPD, as they have frequent contact with mothers over the infant's first year of life (Waldrop et al., 2018) The American Academy of Pediatrics (AAP) recommends screening for PPD at the 1, 2, 4, and 6-month well-baby visits (Earls et al., 2019). A recent review of literature showed that only about 55% of providers screened for PPD, with pediatric providers ranking the least likely to screen for PPD (Goldin Evans et al., 2015). Barriers to screening for PPD include lack of preparedness, inadequate time, and attitude of the pediatric provider (Goldin Evans et al., 2015). The majority

of pediatric providers indicated that they believed screening for PPD was their responsibility, but lacked confidence in their ability to recognize and manage it (Goldin Evans et al., 2015).

Description of the Project

The proposed evidence-based practice change was an educational intervention that aimed to better prepare pediatric providers to screen for PPD in the pediatric primary care setting. The Doctor of Nursing Practice Student worked with a pediatrician at a large, multi-site pediatric primary care clinic in Southern California to provide a one-time education session regarding screening for PPD at the 1, 2, 4 and 6-month well-baby visits. The physician who researched, constructed, and gave the lecture is a pediatrician at the group with special interest in maternal depression and postpartum health. The principal investigator (PI) performed a literature review and created an 8-question survey in order to measure provider preparedness to screen for PPD prior to the education. The survey collected demographic information, as well as used a 5-point Likert Scale to measure five main categories of provider preparedness to screen for PPD. These categories included perceived responsibility of screening for PPD, self-reported frequency of screening for PPD, confidence in identifying PPD, knowledge of resources for women with PPD, and current time constraints with well-baby visits. Providers also had to opportunity to identify barriers to screening for PPD at well-baby visits. One week prior to the education, the survey was emailed to all eligible pediatric providers in the practice, including physicians, nurse practitioners, and physician assistants, to complete anonymously.

The one-time education included a PowerPoint that presented an overview of the PPD diagnosis and the standardized tools used to screen for it. This clinic group decided to incorporate the Patient Health Questionnaire-9 (PHQ-9) (Pfizer, 1999) into the 1, 2, 4, and 6-month well-baby visits, as this screen was already integrated into their charting system. The

education then reviewed available PPD resources and referral procedures for positive diagnoses of PPD. The lecture went on to review the impact of untreated PPD on both child and mother and discussed the PPD screening opportunity that presents itself in pediatric primary care offices. The same survey administered pre-education was then re-emailed to every provider in the company immediately post education.

Evidence Based Practice Model

The Johns Hopkins Nursing Evidence-based Practice Model and Guidelines (JH-NEBP) “steadfastly dedicated to the advancement of evidence-based practice (EBP) and to frontline nurses who strive daily to improve patient care outcomes through the translation of evidence into practice” (Dang & Dearholt, 2017, p.xii). The JH-NEBP Model is nursing-oriented and focuses on “inquiry, practice and learning” (Dang & Dearholt, 2017, p. 36). The core process utilized by the JH-NEBP Model is the practice question, evidence and translation (PET) process (Dang & Dearholt, 2017). This process provides a systematic approach for identifying clinical questions that lack evidence-based research, appraising the existing research, and safely implementing that research into clinical practice (Dang & Dearholt, 2017). This project identifies the lack of postpartum depression (PPD) screening in new mothers as a clinical practice problem. There is current evidence that shows that PPD screening in pediatric primary care can result in an increase in PPD identification and early intervention, so why are pediatric providers not screening for PPD more frequently (Earls & Health, 2010)? The evidence points to a lack of preparedness within the pediatric provider community. The JH-NEBP Model provided the framework for implementing the current research on provider preparedness for PPD screening and translating it in the pediatric primary care setting using the PET process (Dang & Dearholt, 2017).

Synthesis of the Evidence

A literature review was conducted to find evidence to support the method of self-reported survey in order to assess provider preparedness to screen for PPD. Included was review of evidence to support the use of provider education to better prepare providers to screen for PPD. The following databases were used as search engines: CINAHL and PubMed. The following keywords were used: “postpartum depression screening”, “postpartum depression screening pediatric”, “perinatal depression”, “screening pediatrics”, “pediatrics AND depression”, “postpartum depression screening pediatric primary care”, and “attitude, postpartum depression screening”. The filters used in the search engines include *free full text, English, humans, published between 2010-2020*.

Postpartum depression screening pediatrics yielded 13 results, 2 of which were saved for further review. *Postpartum depression screening* produced 87 results, and 5 articles were saved for review. *Attitude, postpartum depression screening* yielded 77 results, and 3 articles were saved. The search criteria were broadened to extend to articles written from 2000-2020. This search yielded three additional articles, which were saved for further review. After narrowing the results based off duplicate articles, studies not based in the United States, and relevance of article content, 10 articles were selected for use. The PI referenced the PHQ-9 screening tool in formulating evidence-based solutions (Pfizer, 1999). In addition, the American Academy of Pediatrics website, which recommends screening for PPD at well-baby visits, was used as evidence (American Association of Pediatrics, 2021). The United States Preventative Services Task Force (USPSTF) recommendations on screening for PPD were also used to support evidence-based solutions (United States Preventive Services Task Force, 2019). The Johns Hopkins Nursing Evidence Level and Quality Guide was used to grade the evidence (Dang &

Dearholt, 2017). The Johns Hopkins Nursing Evidence Level and Quality Guide assigns articles a level, ranked I-V, based on the type of study that was conducted (Dang & Dearholt, 2017). Level I articles include experimental studies, RCTs, and systemic reviews of RCTs (Dang & Dearholt, 2017). Level II-IV articles include quasi-experimental, non-experimental, qualitative studies, and expert opinions (Dang & Dearholt, 2017). Level V articles include non-research data (Dang & Dearholt, 2017). The Johns Hopkins Nursing Evidence Level and Quality Guide also assigns evidence quality grades between A-C (Dang & Dearholt, 2017). Grade A articles include high quality evidence, grade B includes good quality evidence, and grade C includes low quality evidence (Dang & Dearholt, 2017). Based on the Johns Hopkins Nursing Evidence Level and Quality Guide, the literature review provided 7 level III, grade A/B articles and 3 level IV, grade A articles (Dang & Dearholt, 2017).

The evidence shows that women are being underdiagnosed and therefore, undertreated for PPD (Delatte et al., 2009). Untreated PPD can lead to poor health outcomes in the mother, but can also cause delays in development, cognition and language for the child (Waldrop et al., 2018). Screening for PPD in the pediatric primary care is a feasible and effective way to increase detection rates of PPD, given the amount of contact that pediatric providers have with new mothers (Zee-van den Berg et al., 2017). Although pediatric providers have an important opportunity to screen for PPD, one national survey showed that less than half of pediatricians were screening on a regular basis (Olson et al., 2002). It is important to assess attitude about, confidence in, and frequency of screening for PPD for pediatric providers in order to evaluate the areas that are lacking education (Olson et al., 2002).

An email survey of obstetrics providers at a large hospital was able to assess confidence levels of diagnosing, managing, and referring PPD (Delatte et al., 2009). The study also showed

that presenting the survey results about PPD increased overall provider awareness to screen for PPD (Delatte et al., 2009). Another national mail survey was able to assess 437 obstetric residents attitudes in screening for PPD, showing that self-report surveys can adequately evaluate provider attitude and potentially determine barriers to care (Dietrich et al., 2003).

One study performed at a large, urban pediatric practice was able to assess provider preparedness and attitude for screening for PPD in the pediatric outpatient setting (Friedman et al., 2016). An educational intervention on PPD screening was given to all pediatric providers (Friedman et al., 2016). Prior to the educational intervention, a 5- point Likert scale pre-educational survey was sent out in order to assess comfort of screening for PPD, self-reported screening and referring for PPD, and general knowledge of PPD (Friedman et al., 2016). The same email survey was sent out to all providers 2 months post educational intervention (Friedman et al., 2016). Based on self-report, knowledge of PPD, frequency of screening, and confidence in diagnosis increased after the educational intervention (Friedman et al., 2016).

A literature review performed by Goldin Evans et al., found that pediatricians were the least confident in their skills to recognize PPD, even though 75% reported responsibility to do so (Goldin Evans et al., 2015). A policy statement published by the AAP, formulated by the Committee on Psychosocial Aspects of Child and Family Health, recommends that all pediatric providers should receive education regarding screening for PPD in the primary care setting (Earls et al., 2019).

The literature review supported the use of an educational intervention to better prepare pediatric providers to screen for PPD. In addition, the literature review demonstrated the use of self-report survey as a valid way to assess provider preparedness to screen for PPD.

Stakeholder Identification and Implementation Barriers

The large medical group has taken initiative to incorporate best practice for mental health into the policies and procedures. The mental health director of the practice was in support of increasing screening for PPD at well-baby visits, making her a valuable stakeholder in this project. Additionally, the student's clinical mentor is a passionate advocate for maternal health and important stakeholder in the project. The Chief Medical Officer (CMO) also showed his support of the educational intervention via email and letter of support. Frequent check-ins with the mental health director, CMO, and clinical mentor helped facilitate a smooth implementation.

Potential barriers for implementing the project were identified, including the need to present the educational intervention virtually due to the COVID-19 pandemic. The presenting physician requested all video cameras be turned on and questions be directed toward the chat box to maintain focus and flow during the presentation. The presenting physician also asked engaging questions to the participants in order to boost participation.

Another potential barrier that was identified was provider resistance to change. The presenting physician directly laid out the specific changes that would be implemented throughout the practice after the PPD educational intervention, including adding PHQ-9 screenings to well-baby visits that fit certain criteria. Resources were also populated into a smart set to make these visits as efficient as possible.

Project Approval

The Chief Medical Officer (CMO) of the medical group approved the educational intervention on April 10th, 2020. The online survey generator, Survey Monkey, was utilized to design an 8-question survey, which was subsequently approved by the clinical mentor of the student and the Chief Medical Officer on April 13th, 2020. Due to the fact that the pediatric

practice does not have an IRB, a letter of support from the CMO was received on April 10th, 2020. IRB exempt status was received from the University of San Diego on April 14th, 2020.

Project Methods and Implementation

Once approval was received from the pediatric practice and USD IRB, the electronic survey was created. The decision to use this online survey generator was at the recommendation of the clinical mentor and faculty advisor. Based off the literature review, the principal investigator (PI) of this project generated 8 questions to assess provider preparedness for postpartum depression screening in well-baby visits. The questions used a 5-point Likert Scale and are outlined in Table 1. The 5-point Likert scale asked the survey participants to rank their agreeance of the statement on a scale of strongly disagree, somewhat disagree, neutral, somewhat agree, and strongly agree. The anonymous survey was sent to providers one week, three days and one day prior to the planned educational presentation. The identities of the survey respondents were kept anonymous. The pre-educational survey yielded 131 responses.

Due to the COVID-19 pandemic, the educational session was held electronically, and all participants were able to see a PowerPoint presentation. The lecture discussed the diagnostic parameters surrounding PPD diagnosis, importance of screening for PPD in pediatric primary care, effects of PPD on children, tools utilized to screen for PPD, and future implementations of screening protocols for the practice. The education session lasted about 1 hour, which included time for questions.

Directly after the presentation, the same survey was emailed out to all providers at the practice, regardless of attendance of the education session. Participants were encouraged to respond to the survey in order to help with data analysis for the project. The post-education survey yielded a 70% response rate with 92 responses.

Process Indicators

Process indicators for the project included number of survey responses prior to and directly after the educational intervention. Several emails were sent out to all providers at the pediatric practice in order to increase the number of responses prior to the education. Pre-education survey numbers were important in order to assess the self-reported level of provider preparedness to screen for PPD at well-baby visits and as a needs-assessment for the areas that providers felt least confident in. The presenting physician and PI were able to use these survey results to evaluate which areas to focus on during the presentation.

Outcome Indicators

Outcome indicators consisted of number of participants who attended the educational intervention, number of participants who took the post-education survey, and average change in Likert scale rankings in the post-survey analysis. In agreement with the IRB exempt status, the participants were kept anonymous. For this reason, it was not possible to directly compare pre and post survey results for each individual participant. Instead, an average Likert score was calculated for each question in both pre and post education surveys. An increase in the average score indicated an increase in preparedness in that category.

Data Analysis

Data collection for the project began with administration of the pre-educational survey that was emailed to all eligible providers at the pediatric practice. The survey utilized a 5-point Likert scale to capture provider attitude towards various statements about postpartum depression screening. The survey-takers were given a statement regarding attitude, comfort level or knowledge of postpartum depression screening. The survey-takers rated their agreement with the statement on a scale of 1-5, with 1 being “strongly disagree” and 5 being “strongly agree”. There

were 131 responses to the pre-education survey. Data analysis identified the areas that providers were in lowest level of agreement based on the Likert scale score. The average score for each statement was calculated in order to identify areas that needed the most focus during the educational session.

As outlined in Figure 1, question 3, which assessed provider self-reported responsibility to screen for PPD, showed an average Likert score of 4.2. Question 4, which assessed self-reported screening for PPD, showed an average Likert score of 2.97. Question 5, which assessed provider confidence in screening for PPD, had an average Likert score of 3.09. The lowest average Likert score of 2.56 was Question 6, which asked providers about knowledge of resources and referrals for mothers who screen positive for PPD. Lastly, Question 7, which asked about adequate time to screen for PPD, showed an average Likert score of 2.73. The average Likert scores for each question were calculated and used to determine content of the educational session.

Immediately after the 1-hour education session, the same survey was emailed out to all providers at the practice. Due to the nature of the project, the respondents were kept anonymous, and therefore, it was impossible to link individual responses. The Likert scores for each statement in the pre and post education surveys were averaged and compared. There were increases in average scores in all categories in the post-education survey. The average post-education scores increased by 0.5%, 4.4%, 21%, 41%, and 23%, respectively (See Figure 1). Additionally, the percentage of providers who marked each Likert scale rating pre and post education were compared.

The most significant increases in scores were in the “confidence” and “knowledge of resource” categories. Knowledge of resources (Question 5) had increases in the “somewhat

agree” and “strongly agree” rankings. The “strongly agree” ranking increased by 13%, and the “somewhat agree” ranking increased by 16%. Inversely, the percentage of providers who marked “somewhat disagree” decreased by 20%. Provider confidence (Question 6) showed a 17% increase in the “strongly agree” ranking, and a 15% increase in the “somewhat agree” ranking. The “strongly disagree” ranking decreased by 23%.

Table 1*Questions included in the survey*

Question 1	Please specify your role at the clinic.
Question 2	Please specify years of practice in your role.
Question 3	I believe it is my responsibility to identify postpartum depression.
Question 4	I screen mothers of newborns for postpartum depression at the well-baby visits between 2 weeks- 6 months.
Question 5	I feel confident in my ability to screen for postpartum depression.
Question 6	I am aware of the resources that exist and where to refer a mother if she screens positive for postpartum depression.
Question 7	I have adequate time to screen newborn mothers for postpartum depression at well-baby visits.
Question 8	Which of the following are barriers to screening for postpartum depression at well-baby visits? Please select all the apply.

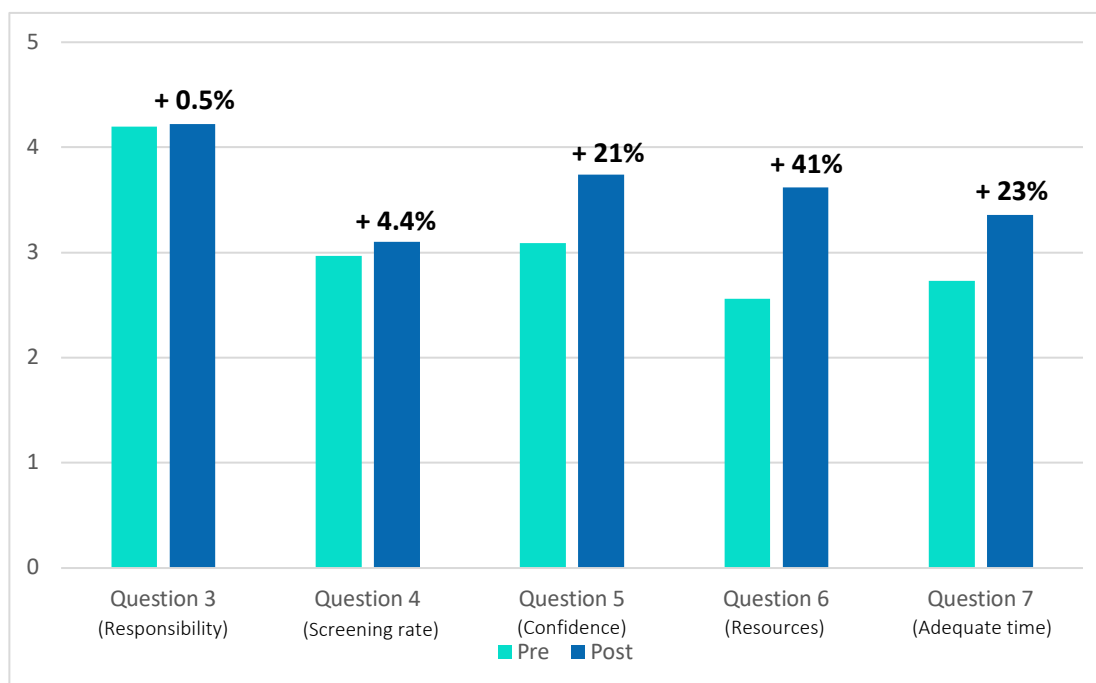
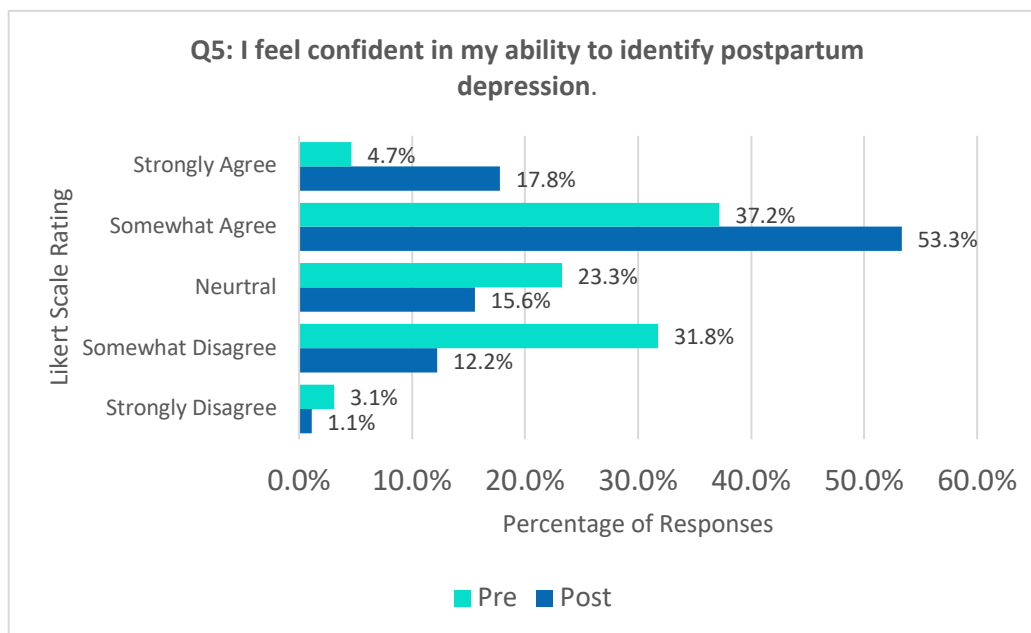
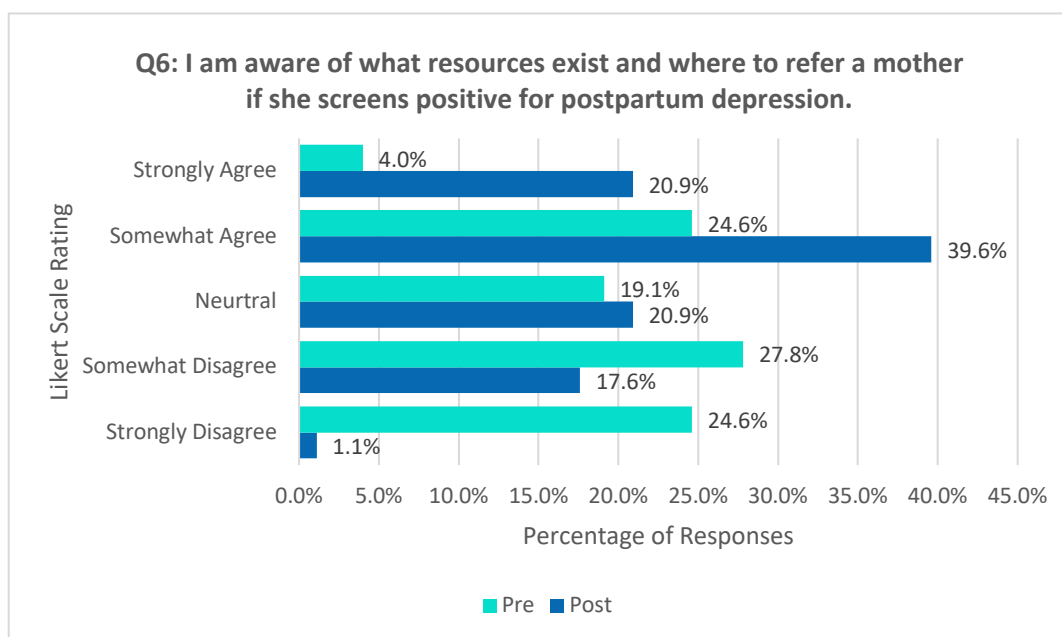
Figure 1*Average Likert Scores Pre and Post Education*

Figure 2

Percentages Pre and Post Education for Provider Confidence

**Figure 3**

Percentages Pre and Post Education for Knowledge of Resources



Implications for Clinical Practice

Clinical implications for this project include increased provider preparedness for PPD screening, overall better outcomes for patients and families, and potential for the participating providers to receive continuing education credit for completing the education. Based on the analysis of the pre and post education survey results, providers who completed the education had self-reported increase in all categories of assessment. Using this information, it can be concluded that providers had an increase in self-reported preparedness to screen for PPD during well-baby visits. With increase provider preparedness, there will likely be an increase in screening of new mothers at well-baby visits. Increased screening can lead to increased identification and treatment of mothers who have PPD, which can lead to overall better outcomes for both mothers and children. The opportunity to receive continuing education credit for attending the education may be possible, pending approval from the certifying organizations.

Cost Benefit Analysis

The costs to complete this project were relatively low. A subscription to the online survey system was purchased for the pre and post surveys. An additional factor considered in the cost of the project was provider time and associated cost to complete the surveys and attend the education session. Based on an average pediatrician salary in California, the estimated total cost was \$7,266 for 131 providers to participate in both surveys and the educational session. There are no additional costs from training or educating ancillary staff, as the PHQ-9 is incorporated into the electronic tablet system that the practice currently uses.

Estimated benefits for this project include pediatric provider's ability to bill for administering the screening and counseling mothers about postpartum depression. Additionally, there is an estimated cost avoidance of \$10,182 per remission of severe PPD in new mothers

(Wilkinson et al., 2017). Based on known incidence of PPD, it is estimated that the practices could see an average 1 mother with severe PPD per month, putting the cost avoidance to the health care system at approximately \$122,184 annually. In addition to monetary benefits, several service improvement benefits were identified. Patients and families are receiving improved care services with provider preparedness to screen for PPD at well-baby visits. Increased screening and identification of PPD can prevent complications in the child associated with poor maternal bonding such as developmental delays, anxiety, and emotional development (Waldrop et al., 2018).

According to these estimates, for every dollar spent there is a \$16.60 cost savings (avoidance of health care costs) by implementing this project. This calculates to a 1,558% return on investment (ROI) for the practice and associated health care systems.

Project Dissemination

This project will be presented at the Western Institute of Nursing (WIN) virtual conference on April 14-17th, 2021. In addition to presenting at the WIN conference, the project was presented at the National Association for Pediatric Nurse Practitioners (NAPNAP) local San Diego chapter meeting. Pediatric Nurse Practitioners who practice at various locations in the San Diego area attended this presentation. A stakeholder presentation was conducted on March 31, 2021 with the clinical mentor, clinical faculty, and other clinic providers in attendance. A poster presentation with summary was presented to the University of San Diego students and faculty at Doctor of Nursing Practice Presentation Day, conducted virtually on March 4, 2021.

Conclusions

Pediatric primary care providers are in a valuable position to screen new mothers for PPD due to frequent well-baby visits during the child's first year of life. Screening for PPD is

recommended by the AAP at the 1, 2, 4, and 6-month well-baby visits. Although pediatric providers have the opportunity to screen for PPD, many do not screen on a consistent basis. Many pediatric providers do not feel adequately prepared to screen for PPD due to lack of confidence, knowledge of resources, and time constraints during well-baby visits. The evidence supports provider education as a simple yet effective tool in increasing provider preparedness for PPD screening. Implementation of a one-time education session regarding the AAP recommendations to screen for PPD, existing resources for mothers who screen positive for PPD, and future implications for incorporating PPD screening into well-baby visits increased self-reported provider confidence and overall preparedness for screening for PPD. Increased screening for PPD can lead to increased identification and early intervention for new mothers, which will benefit both the mother and child's overall health and wellbeing.

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Appendix G

Copy of Electronic Survey

Postpartum Depression Screening Survey (Pre-Education)

1. Please specify your role at Children's Primary Care Medical Group (CPCMG):

- Physician (MD, DO)
- Nurse Practitioner (NP)
- Physician Assistant (PA)

Other (please specify)

2. Please specify years of practice as an MD, NP, or PA:

The following statements are intended to assess your current work environment. Please indicate to what extent you agree or disagree with each statement:

3. I believe that it is my responsibility to identify postpartum depression.

Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree

4. I screen mothers of newborns for postpartum depression at the well-baby visits between 2 weeks- 6 months.

Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree

5. I feel confident in my ability to identify postpartum depression.

Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree

6. I am aware of what resources exist and where to refer a mother if she screens positive for postpartum depression.

Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree

7. I have adequate time to screen newborn mothers for postpartum depression at well-baby visits.

Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree

8. Which of the following are barriers to screening for postpartum depression at well-baby visits? Please select all that apply.

- Inadequate time
- Lack of resources
- Liability issues
- Lack of education/training

Other (please specify)