Implementing Screening for Postpartum Depression in the Pediatric Primary Care Setting: A Review of the Literature

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Abstract

The health implications of postpartum depression not only on mothers but also on their children are far reaching. The intention of this literature review is threefold- to investigate the processes being utilized in pediatric primary care to incorporate screening for postpartum depression, to examine which screening tools are being used, and what referral or follow up processes have been implemented for positive screenings. Searches were conducted in PubMed, CINAHL, and PsychInfo databases. This yielded a total of 343 articles and six additional articles from other sources were included. After the removal of duplicates and the screening of titles and abstracts, 31 articles remained. The full text review of these articles yielded a total of eight articles that met the inclusion criteria. The findings discussed in this review have demonstrated that the implementation of postpartum depression screening into the pediatric primary care setting is feasible and successful screening programs have reflected both an intra-professional and multidisciplinary approach. Additionally, this review has highlighted an area where there is need for further clinical research and publication, particularly from pediatric primary care settings that have successfully implemented postpartum depression screening, and successfully referred women, who have screened positive for symptoms of postpartum depression.
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**Introduction and Background**

Postpartum depression (PPD) affects approximately 10%-20% of women, and nearly half of those women go undiagnosed (Sriraman, 2012). Postpartum depression impairs a mother’s ability to engage with her family and child at an emotional and cognitive level, placing the child at greater risk for impaired development (Milapkumar et al., 2012). In fact, research has demonstrated a negative relationship between postpartum depression and language development, IQ development and physical health for children of mothers who suffered from postpartum depression (O’Hara & McCabe, 2013). While postpartum depression can have long-term consequences for both mothers and families, early diagnosis and management can reduce the negative impacts of postpartum depression. In light of this, the American Congress of Obstetricians and Gynecologists recommends that clinicians screen patients at least once during the perinatal period for depression and anxiety symptoms. Furthermore in recognizing that screening alone is insufficient to improve outcomes, they recommend appropriate follow-up and treatment and clinicians should be prepared to initiate medical therapy and/or refer patients to appropriate resources (“Screening for Perinatal Depression. Committee Opinion No. 630,” 2015). In 2010, the American Academy of Pediatrics issued a clinical report encouraging pediatric practices to screen for postpartum depression, use community resources for treatment and referral for those women experiencing depressive symptoms, and to provide support for the mother-child relationship (Earls, 2010).

However, making a recommendation is perhaps much easier than implementing a recommendation. While the majority of mothers are open to being screened for postpartum
depression, approximately 80%, the screening rate is less than 50% (Neiman & Carter, 2010). Typically during the postpartum period women have one to two postpartum visits with their obstetricians or primary care provider, limiting the opportunity for screening to a very narrow window. A pediatric primary care provider sees a mother as frequently as six times within the first six months of her child’s life, placing pediatric providers, in a strategic position for screening for postpartum depression (Sriraman, 2012). This position, though strategic, faces several barriers.

In a recent systematic review of literature, Evans et al., examined the postpartum depression screening practices of primary care providers. The authors looked specifically at research studies that involved the screening practices of pediatricians, OB/GYNs and family practitioners. They found that while most pediatricians felt a responsibility for identifying PPD, out of the three provider groups, they were the least likely to assess for postpartum depression. Pediatricians were also the least confident in their skills to recognize PPD, but the most likely to rely on their own clinical judgment rather than a screening tool to detect PPD. The review goes on to identify time constraints as the most frequently cited barrier by providers. Other perceived barriers included inadequate training, skills, or knowledge needed to screen for PPD, as well as lack of mental health services, issues of liability, lack of financial incentives, perceived ineffectual treatment and the perception that mothers did not want to discuss PPD (Goldin Evans, Phillippi, & Gee, 2015).
Purpose

Given the American Academy of Pediatrics’ recommendation to screen for postpartum depression and their conclusion that doing so is best practice, much of the present literature reflects support for this recommendation and encourages pediatric primary care providers to implement screening (Byatt, Biebel, Friedman, Debordes-Jackson, & Ziedonis, 2013; Earls, 2010; Garg, Toy, Tripodis, Cook, & Cordella, 2016; Olin et al., 2015). However, there is a gap in the literature with regard to how pediatricians are meeting this recommendation in light of the barriers described previously. Therefore, the purpose of this literature review is to examine the literature that presently reflects the processes being utilized in pediatric primary care to incorporate screening for postpartum depression, to examine which screening tools are being used and what referral or follow up processes have been implemented for positive screenings.

Methods

This literature review was conducted using PubMed, CINAHL, and PsychInfo searches for articles published after 2010. This date was selected because the AAP published their recommendation for PPD screening in 2010. Ultimately, however, three articles with publication dates prior to 2010 were included because they met all other criteria. The search included the following key words: maternal depression, post-partum depression, postpartum depression, postnatal depression, postnatal depression, screen*, test*, tool*, scale*, instrument*, determin*, assess* idnetif*, recogn*, primary care, pediatric*, nurse practitioner, nurse practitioners.
Articles were included if they described the implementation of postpartum depression screening in a pediatric primary care setting and the results thereof. Articles were excluded if the research was conducted outside of the United States and if the article was written in a language other than English. The PubMed search yielded 143 articles. After screening of titles and abstracts this was narrowed to 17 articles. The CINAHL search yielded 71 articles. After the removal of duplicates and screening of titles and abstracts, 7 relevant articles remained. The PsychInfo search yielded 129 articles. Of these, only one relevant article was found after the removal of duplicates and screening the titles and abstracts. A total of 6 additional articles were found from other sources. This yielded a total of 31 articles for full text review. Two articles were excluded because the pediatric primary care settings were outside of the United States. Of the remaining articles only eight articles met the inclusion criteria, describing the implementation and outcomes of PPD screening in the pediatric primary care setting.

Results

Research Design

Two studies featured experimental designs; two were quasi-experimental in design; two featured quality improvement projects following the Plan-Do-Study-Act (PDSA) model, and the remaining two were case studies. Fernandez y Garcia, et al. (2014) and Carrol et al. (2013) conducted randomized control trials. The nature of the studies conducted by Chaudron et al. (2004) and Freeman et al. (2005) was categorized as quasi-experimental. Mgonja and Schoening (2016) as well as Fernandez y Garcia, et al. (2011) carried out quality improvement projects utilizing the PDSA model. The studies by Whichman et al. (2010) and Feingberg et al. (2006) were considered case studies.
**Purpose/Aims of Studies**

While the purpose and aims of each study were slightly nuanced, overarching each was a desire to implement and evaluate the effectiveness of post partum depression screening in a pediatric primary care setting. The specific purpose/aims of each study are summarized in Table 1 (see Appendix A).

**Setting and Sample**

All of the studies included in this review were conducted in the United States. Five out of the eight were associated with academic universities (Carroll, Biondich, Anand, Dugan, & Downs, 2013; Chaudron, Szilagyi, Kitzman, Wadkins, & Conwell, 2004; Fernandez y Garcia et al., 2015; Fernandez y Garcia, Lacaze, & Ratanasen, 2011; Freeman et al., 2005). Six of the eight studies were conducted in urban settings (Carroll et al., 2013; Chaudron et al., 2004; Feinberg et al., 2006; Freeman et al., 2005; Whichman, Angstman, Lynch, Whalen, & Jacobson, 2010); one was conducted in a metropolitan area that saw patients from both urban and rural populations (Fernandez y Garcia et al., 2011), and one was conducted in a faith-based clinic in the Midwest (Mgonja & Schoening, 2016). The majority of the studies reflected some degree of ethnic diversity, however, the Fernandez y Garcia, et al. (2011) quality improvement study did limit their project to English speaking mothers.

**Findings from Studies**

Each approached the implementation of screening slightly differently. Some practices using electronic medical records (EMR) created prompts within the system to remind providers to screen for depression (Carroll et al., 2013; Feinberg et al., 2006; Fernandez y Garcia et al., 2011). One study incorporated both screening prompts within the EMR, in this case CHICA (Child Health Improvement through Computer Automation), as well as prescreening forms...
generated by CHICA, which included PHQ2 questions. The family completed the form in the waiting room and the nurse gathered the form and scanned it into the CHICA system, which extracted the coded information and created for the provider specialized prompts specific to that baby/mother dyad (Carroll et al., 2013).

In the Feingberg et al. (2006) study, those sites with EMRs incorporated the Maternal Well Being form into the well-child visit template and utilized this form for screening purposes. With the exception of some of the pediatric sites discussed in the Feingberg et al. (2006) study, in all other studies copies of the screening tool were given to the mothers, which they in turn completed during the intake process or while waiting for the provider. In the Fernandez y Garcia et al. (2011) quality improvement study, they initially planned to have pediatric residents go through the PHQ2 questions verbally with patients but after two PDSA cycles, they decided to create a form with both PHQ2 and PHQ9 questions and have clinic staff give the form to patients during the rooming process, allowing them time to answer the questions prior to being seen by the provider. The provider would then discuss the mother’s responses. After the implementation period for the Mgonja et al. (2016) quality improvement study, the team decided to have mothers complete the Edinburgh Postnatal Depression Scale (EPDS) screening tool online prior to the well-child appointment with the expectation that this would avoid missed opportunities. In at least five of the studies nurses were utilized to administer and/or score the screening form, recording the score in the medical record (Carroll et al., 2013; Chaudron et al., 2004; Freeman et al., 2005; Mgonja & Schoening, 2016; Whichman et al., 2010).

Once screened, researchers described varying approaches to referral for positive depression screenings. Only the Freeman et al. (2005) study made no mention of referral. Approaches included making a direct referral to a provider in the community (Carroll et al.,
2013; Feinberg et al., 2006; Mgonja & Schoening, 2016), referring the patient to a “depression care manager” on site (Whichman et al., 2010), referral to a social worker on site (Chaudron et al., 2004; Fernandez y Garcia et al., 2011), or providing the patient with a list of community resources (Fernandez y Garcia et al., 2015, 2011). While the majority of studies mentioned referral as a part of their study, six of the eight studies did not report the percentage of referrals for positive depression screens (Feinberg et al., 2006; Fernandez y Garcia et al., 2015, 2011; Freeman et al., 2005; Mgonja & Schoening, 2016; Whichman et al., 2010). In the Carroll et al. (2013) study, there were two different intervention groups and a control group. The referral rate for the JIT (just in time) group was 2.8% and similarly the referral rate for the PSF (pre-screen form) group was 2.8%, however, the referral rate for the control group was 1.2%. The Chaudron et al. (2004) study reported a referral rate of 0.2% prior to the implementation of universal screening and 3.6% referral rate after the implementation of universal screening.

The Fernandez et al. (2014) study differed from the other studies in that, positive screening for depression utilizing the PHQ2 questionnaire was part of the eligibility assessment required for participation in the study and women who screened positive were not given a direct referral to a mental health provider but rather motivational talks and resources meant to encourage them to seek out additional support and further assessment. This was a provider led intervention that sought to determine whether or not such an intervention would effectively encourage women with positive depression screening to seek additional help and support. The intervention included a short motivational interaction with the patient after initial screening and a handout, both the discussion and handout focused on destigmatizing depression, describing the symptoms as common, relating depression to child health outcomes, and providing both parental and mental health resources. Two days after delivery of the initial intervention, participants
received a telephone call, which was semi-structured and designed to be motivational. They found that the proportion of participants who attempted to contact a resource was higher than that of the control group with a difference of 20.3%.

A common objective found in most of the studies was the feasibility of universal screening. Rates of accurate and appropriate screening ranged from 46% to 78.8%. Specifically, in the Mgonja et al. (2016) study, 78.7% of mothers were screened appropriately, with the implementation of universal screening. They found they had 10 missed opportunities; approximately 21.3% of women were not screened. In the Whichman et al. (2010) study 47.9% were screened appropriately. For the Chaudron et al. (2004) study, of the 223 potential well-child visit screenings, 102 (approximately 46%) of the EPDS forms were included in the medical record. Of those 102 screening forms, 88% were completed, 6% were not completed, 1% was partially completed and 5% refused. Of the 88% (approximately 90) that were completed, 80% were scored by the clinician, of those 86% were accurately scored (approximately 62). Thus the actual percent of accurate and appropriately screened mothers was 27.8% (62/223). The response rate in the Freeman et al. (2005) study was 56.9% but not all of these were usable EPDS scores, so the specific depression-screening rate was 51.7%. For the quality improvement study conducted by Fernandez y Garcia, et al. (2011), 50% of mothers were screened appropriately.

Three of the studies do not reference specific data related to the percentage of mothers screened (Carroll et al., 2013; Feinberg et al., 2006; Fernandez y Garcia et al., 2015). However, the Carroll et al. (2013) study does discuss the percentage of positive depression screenings within each intervention group. For the JIT group 8.7% screened positive for depressed mood and 5.2% screened positive for anhedonia. In the PSF group 8.8% screened positive for
depressed mood and 5.1% screened positive for anhedonia. Whereas in the control group 1.2% screened positive for depressed mood and 0.4% screened positive for anhedonia. In the Feinberg, et al. (2006) study qualitative interviews were conducted, and they found that routine screening for postpartum depression was feasible and that the majority of providers did not find the PHQ2 screening tool burdensome, and thought that it provided greater opportunity for discussing depression. Again, the Fernandez y Garcia, et al. (2015) study began with participants who had already screened positive on the PHQ2 assessment.

Discussion

Each study experienced varying degrees of success and limitations with the interventions and/or screening programs they implemented. Even the highest reported rate of accurate and appropriate screening was still below the 100% goal of universal screening. Additionally, many of the studies did not track their referral rates. The Feingberg et. al (2006) study found that “providers recognized they did not have the capacity to track referrals and did not know if the mother’s they had referred for services actually received them” (p.698). The authors went on to highlight the providers’ need for, “dedicated personnel for case management to facilitate women’s engagement in care” (p.698). Those who did track their rates of referral had rather low rates of referral 2.8% and 3.6% (Carroll et al., 2013; Chaudron et al., 2004).

While at first this may all sound rather grim, the truth is each study saw an increase in the percentage of women screened and an increase in the detection of postpartum depression as well as referral with the implementation of a screening program. In the Carroll et al. (2013) study compared to the control group, which consisted of a generic reminder to the provider to screen for depression, with the use of appropriate tools and reminders the detection of positive depression factors in the intervention groups more than tripled, and the rate of referral more than
doubled. Similarly in the Chaudron et al. (2004) study the rate of referral was eighteen times higher after the implementation of universal screening.

From each of these studies one can find components that make a program for postpartum depression screening easy and effective. To begin with, the clinical sites recognized the importance and accepted the challenge of meeting the AAP recommendation to screen for postpartum depression, provide resources and referrals as well as support for the mother/child relationship. The majority of the sites in the studies took a team approach to the implementation of postpartum depression screening by training staff in the importance of screening, educating staff on the type of screening they chose and how to utilize it. Most teams were intra-professional and some were multi-disciplinary and brought in the expertise of social workers and/or case managers and included nurses as well as pediatric primary care providers and other staff including front desk staff. Copies of the screening tools were given to the mothers to complete while they were waiting or during the rooming process and provided an effective way to integrate screening into the work flow. Reminders in the electronic medical records prompted providers to either screen further or make referrals. Lists of community resources provided those sites, which lacked a social worker with an easy means of guiding and encouraging women to seek further assessment. Using language that destigmatized depression, and following up with women increased the likelihood of them seeking additional help.

The purpose of this literature review was to examine the literature that presently reflects the processes being utilized in pediatric primary care to incorporate screening for postpartum depression, to examine which screening tools are being used and what referral or follow up processes have been implemented for positive screenings. The findings of this review have demonstrated a variety of means by which postpartum depression screening may be incorporated
into the pediatric primary care setting, as well as the utilization of effective screening tools such as the EPDS, PHQ9, and PHQ2. Additionally this review has described how pediatric primary care providers are offering referrals and/or follow-up for positive depression screens. However, this review has also highlighted an area where there is need for further clinical research and publication, particularly from pediatric primary care settings that have successfully implemented postpartum depression screening, and successfully referred women, who have screened positive for symptoms of postpartum depression.
References


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Appendix A

<table>
<thead>
<tr>
<th>Study</th>
<th>Purpose/Aim</th>
<th>Design</th>
<th>Sample Size</th>
<th>Screening Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carroll, et al. (2013)</td>
<td>To determine whether or not automated reminders to screen, prescreening depression forms and/or additional testing and referral materials readily available to providers, increased universal screening</td>
<td>Randomized Controlled Trial</td>
<td>3,520</td>
<td>PHQ2</td>
</tr>
<tr>
<td>Chaudron, et al. (2004)</td>
<td>To assess for feasibility, prevalence, detection, and social work referrals in the context of pre and post universal screening implementation</td>
<td>Quasi-Experimental Design</td>
<td>220</td>
<td>EPDS</td>
</tr>
<tr>
<td>Feignberg et al. (2006)</td>
<td>To present an evidenced based model for management of post partum depression in the pediatric setting</td>
<td>Case Study</td>
<td>Not specified; 9 focus groups and 37 key informants.</td>
<td>PHQ2 PHQ9</td>
</tr>
<tr>
<td>Fernandez y Garcia, et al. (2011)</td>
<td>To implement post partum depression screening and referral program</td>
<td>Quality Improvement (Model for Improvement)</td>
<td>50</td>
<td>PHQ2</td>
</tr>
<tr>
<td>Fernandez y Garcia, et al. (2015)</td>
<td>To examine the effectiveness of a pediatric primary care based intervention designed to encourage mothers to seek further assistance after a positive depression screening</td>
<td>Randomized Controlled Trial</td>
<td>104</td>
<td>PHQ2</td>
</tr>
<tr>
<td>Freeman, et al. (2005)</td>
<td>To assess for feasibility, and risk factors associated with post partum depression</td>
<td>Quasi-Experimental Design</td>
<td>172</td>
<td>EPDS</td>
</tr>
<tr>
<td>Mgonja and Shoening (2016)</td>
<td>To implement a post partum depression screening program and evaluate it’s effectiveness</td>
<td>Quality Improvement (Model for Improvement)</td>
<td>37</td>
<td>EPDS</td>
</tr>
<tr>
<td>Whichman et al. (2010)</td>
<td>To review the screening protocol for post partum depression utilizing depression care managers</td>
<td>Case Study</td>
<td>695</td>
<td>EPDS</td>
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