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## Paternal Postpartum Depression Screening: A Critical Measurement that is Long Overdue

Nicholas C. McClellan  
*Minnesota State University, Mankato*

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**Paternal Postpartum Depression Screening: A Critical Measurement that is Long Overdue**

Nicholas C. McClellan

School of Nursing, Minnesota State University, Mankato

N695- Alternate Plan Paper

Gwen Verchota, PhD, APRN-BC

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## Abstract

The birth of a child is one of the most important events in a parent's life. It is a time of intense emotion, the characteristics of which vary greatly depending on individual circumstances and the relationship between the mother and father. Joy is mixed with feelings of being overwhelmed by the multitude of responsibilities that come with caring for an infant. Changes in relationships and feelings of isolation are common and can be a source of duress for parents. Fortunately, the severity of these emotions is often mild and self-limiting. Sometimes, however, they are severe enough to negatively affect daily functioning (Stewart & Vigod, 2016). This suggests the presence of a disorder known as postpartum depression. Many people are familiar with this condition, but it is often falsely assumed to only affect women. However, men can also experience postpartum depression. This is commonly referred to as paternal postpartum depression (PPD). Unfortunately, compared to women, men are rarely screened for the disorder. When screening does occur, it is done sporadically, and instruments originally developed for women, such as the Edinburgh Postnatal Depression Scale (EPDS), are commonly used. This occurs despite knowledge that depressive symptoms in men frequently differ from those that are typically seen in women. Further research is needed to determine the optimal timing and frequency of paternal postpartum depression screening so that clinical practice guidelines may be developed. Implementation of a clinically validated screening tool that is specific to paternal postpartum depression would likely enhance this process.

*Keywords:* Postpartum depression, paternal postpartum depression, postpartum depression in men, fathers, screening, screening tool, major depression, clinical practice guidelines.

## **Paternal Postpartum Depression Screening: A Critical Measurement that is Long Overdue**

The adverse effects of postpartum depression in men can be far reaching and severe. Research conducted over the course of the past three decades has shown that untreated paternal postpartum depression (PPD) negatively affects family relationships, interferes with paternal-infant bonding, and decreases overall quality of life. In severe cases, it can even lead to suicide (Scarff, 2019). Despite this knowledge, there is a lack of evidence-based guidelines for practicing clinicians to refer to when caring for this population.

The objective of this literature review is to discern what is currently known about PPD screening and treatment. As a part of this process, an attempt will be made to answer the following question: *Among fathers of infants, how would routine paternal postpartum depression screening completed at three-month intervals, compare to current practice (no routine paternal postpartum depression screening), impact the early detection and management of depression during the first year of fatherhood?*

### **Background**

Postpartum depression has been extensively studied in women. As a result, formal diagnostic criteria has been developed and successfully integrated into clinical practice. These criteria are listed in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V). Screening and treatment guidelines, validated by years of research, are also readily available for clinical practitioners to reference when caring for postpartum women. However, research has repeatedly demonstrated that postpartum depression is not a phenomenon unique to women. It regularly occurs in men as well (Kim & Swain, 2007). PPD prevalence estimates vary, but it is thought to affect anywhere between 10-25% of new fathers (Scarff, 2019).

Unfortunately, despite a general consensus among providers that PPD is an important problem that needs to be addressed, there is a lack of consistent diagnostic criteria specific to PPD. In fact, despite its unique characteristics, it is still not formally recognized as a distinct disorder from maternal postpartum depression (Massoudi, et al., 2016). Therefore, it is not listed in the DSM-V. As a result, organizational screening protocols for PPD are often absent or inconsistent. When providers do screen for PPD, they frequently rely on clinical tools, such as the Edinburgh Postnatal Depression Scale (EPDS), which were developed specifically to detect postpartum depression in women (Edmondson et al., 2010). Some studies indicate that tools like the EPDS can be used to effectively to detect potential cases of paternal postpartum depression when the positivity threshold is adjusted (Edmondson et al., 2010). However, the fact is, postpartum depression manifests differently in men. Therefore, retrofitting tools like the EPDS for use in PPD screening likely leads to under detection or misdiagnosis of the disorder. This will be described in greater detail later in this paper.

Unlike maternal postpartum depression, PPD often manifests as irritability, anger, indecisiveness, social isolation, and a restricted range of emotions rather than excessive tearfulness, or external expressions of sadness (Steward & Vigod, 2016). The time of onset for PPD differs from postpartum depression in women as well. PPD is insidious in nature and usually peaks around three to six months (Scarff, 2019). However, it may occur at any time during the first year. Onset may be gradual or sudden depending on the situation (Scarff, 2019). In contrast, signs of postpartum depression in women are frequently seen in the first 4 weeks (Scarff, 2019).

Although maternal postpartum depression is still considered to be one of the strongest predictors of PPD, there are several other risk factors that must be considered. For instance,

mental illness, poverty, unintended pregnancy, and a strained relationship with the mother are all positively associated with PPD (Scarff, 2019).

There is likely a biological component to PPD too. Men experience subtle hormonal changes during their partner's pregnancy. Most notably, testosterone levels drop prior to the child's delivery and remain lower for several months (Kim & Swain, 2007). It has been theorized that this drop in testosterone helps facilitate paternal bonding with the infant and aids in concentration with parenting (Kim & Swain, 2007). Unfortunately, lower testosterone levels are also associated with an increased risk for depression (Kim & Swain, 2007). Similarly, postpartum dysregulation of hormones such as estrogen, cortisol and vasopressin can negatively affect paternal bonding and response to stressful events, thereby contributing to many of the symptoms associated with PPD (Kim & Swain, 2007).

### **Methods**

In order to determine the extent of academic knowledge related to PPD screening and compare the use of structured screening protocols with the absence thereof, an extensive literature review was conducted between the dates of October 20<sup>th</sup>, 2020 and November 14<sup>th</sup>, 2020. The following four electronic, search databases were used in this process: CINHAI Plus with Full Text, Cochrane, MEDLINE and the Nursing and Allied Health Database, formally known as ProQuest. These databases were chosen for their well-established reliability in retrieving high quality published academic material. Each covers topics pertaining to medicine, nursing, and the health sciences. The decision was made to use four different databases for the literature abstraction process to ensure that the largest possible scope of published research on the subject would be located. More details on the individual search database can be seen in Table

A1 of Appendix A. Searches were restricted to the English language, full-text, and peer-reviewed research articles published between 2010 and 2020.

Multiple search terms were used in the process including the following: “Postnatal depression in fathers,” “Postnatal depression in fathers” AND “suicide,” “Postnatal depression in fathers” AND “screening tools,” “Postpartum depression in men,” “Postpartum depression” AND “fathers,” “Postpartum depression in men” AND “screening.” For each search, the number of results was carefully recorded. Detailed results of the individual searches can be seen in Table A2 of Appendix A. Initially, more general search terms were used. This produced an insurmountable number of results. Therefore, search terms were subsequently narrowed in a stepwise fashion to more accurately match the focus of this literature review. Every effort was made to avoid potential bias when completing the search process. However, the impact of personal and professional experience as well as academic interests cannot be fully discounted.

Article abstracts were carefully reviewed for relevance and either included or excluded based on specific predetermined criteria. To be included in the review, articles had to focus on screening and diagnostics as they relate to PPD. Articles that discussed select risk factors, clinical practice guidelines or targeted interventions were also included. In contrast, articles that focused on postpartum screening efficacy in women were excluded. Qualitative research articles with a focus on reporting men’s individual subjective experiences with paternal postpartum depression were also excluded. In the end, a total of twelve articles were selected for review. Tables A3 and A4 of Appendix A may be referenced for details regarding rationale for inclusion as well as a basic description of each study’s design and findings.

## Literature Review

Given the scarcity of diagnostic criteria for PPD, it is difficult to precisely define the disorder. In fact, many sources simply build on the definition of maternal postpartum depression and apply it to men (Musser et al., 2013; Scarff, 2019). However, the general consensus within the literature is that the diagnosis of PPD should be considered in cases where clinically significant depressive symptoms appear in a father after the birth of a child (Edward et al., 2015). To be consistent with postpartum depression, these symptoms must occur within the first year (Bruno et al., 2020).

### Incidence and Risk Factors

Clinicians should be adept at recognizing factors that put men at higher risk for developing PPD. This was the objective of a targeted population-based study involving 885 new fathers that was conducted in Sweden and published in 2016. The following were identified as primary risk factors for PPD: Limited education, a recent stressful life event, a history of depression or other mental health disorder, relationship problems with the mother, limited partner and external social support, unemployment, depressive symptoms in the mother, and sudden increased work demands (Massoudi, et al., 2016). Of these, the presence of maternal postpartum depression was the strongest predictor of PPD (Edward et al., 2015; Psouni, et al., 2017). In fact, the incidence of PPD increases almost 50% when the mother is suffering from postpartum depression or other concurrent mental health disorder (Bruno et al., 2020). Therefore, diagnosed, or suspected postpartum depression in the mother should cue providers that the father should be assessed for depression as well. This way, diagnosis and treatment can be expedited. Prompt PPD treatment is necessary in order to optimize family functioning, paternal-infant



bonding, and individual quality of life. Most importantly, early treatment can help prevent potentially catastrophic outcomes like suicide. (Edward et al., 2015).

Universal screening for PPD at defined intervals, such as every three months, is vital. Unfortunately, the optimal frequency and timing to screen fathers for PPD has not yet been established. The American College of Obstetricians and Gynecologists (ACOG) recommends that women be screened for perinatal depression using a clinically validated assessment tool like the EPDS at the initial comprehensive postpartum visit, and again at subsequent visits if certain risk factors are present (American College of Obstetricians and Gynecologists [ACOG], 2018; Musser et al., 2013). Ideally, women should be screened for depressive symptoms at one or more prenatal visits to establish a baseline and then again between three and four weeks postpartum (ACOG, 2018). Unfortunately, there is an absence of such guidelines for fathers. This is partially due to the paucity of higher-level evidence from studies comparing the effects of screening for PPD at regular intervals in the first postpartum year with screening once or not at all (Scarff, 2019).

As previously mentioned, there is a broad range of estimates for the prevalence of PPD in the general population. Some researchers have attempted to narrow these estimates. One such study by Massoudi, et al. (2016), was completed in a population of Swedish fathers and their partners. The intent was to compare both the rates of depressive symptoms in fathers and their partners as well as quantify population-based estimates of PPD. (Massoudi, et al., 2016). Potential participants, who were deemed eligible to participate, were recruited from child health centers in Kronoberg County, Sweden. Surveys containing the EPDS were mailed to a total 1268 couples. Of these, 885 were completed and returned within the given time frame. A positivity cutoff score of 12 was used (Massoudi et al., 2016). Of those fathers that were surveyed, 6.3%

had a positive score of 12 or greater on the EPDS. In comparison, 12% of their female partners had a positive score.

In the general population, depressive disorders are diagnosed twice as often in women as they are in men (Massoudi et al., 2016). The results of this study are consistent with this finding. However, the reported 6.3% PPD positivity rate is far less than that which is found in other sources. There are several potential confounding variables that warrant consideration when interpreting these results. First, 93% of the fathers were employed and all but 7% had taken a minimum of two weeks of paternal leave (Massoudi et al., 2016). In addition, the EPDS alone was used to screen both men and their female partners. While this continues to be common practice, the effectiveness of the using the EPDS to screen for PPD has been questioned (Carlberg et al., 2018).

In contrast to the findings published in Massoudi et al. (2016), the results of another study by Da Costa et al. (2019) suggests that the prevalence of PPD is much higher. A survey containing the EPDS was administered to a cohort of 622 men in the Montreal area at three different times. The first was completed during their partner's third trimester, the second was done at two months postpartum and the third was completed four months later (six months postpartum) (Da Costa et al., 2019). Unlike the Massoudi et al. (2016) study, which used 12 as the EPDS cutoff score, the authors of this study adjusted it to 10 (Da Costa, 2019). The results were as follows: Men who were depressed during their partner's pregnancy were seven times more likely to be depressed at two months postpartum (Da Costa et al., 2019). In addition, the incidence of positive PPD screening was 13.76% at two months and 13.60% at six months. This is almost two times higher than what was reported by Massoudi et al. (2016) (Da Costa et al., 2019). Interestingly, a majority of the men in both studies were similar in that most were

employed and well educated. Therefore, the discrepancy in the results may be a consequence of the different positivity cut off scores used for the EPDS. The results may also have been influenced by another confounding variable that was not reported. The Da Costa et al. (2019) study is unique in that it is one of the few studies where men were screened for PPD more than once in the first postpartum year.

### **Cost Effectiveness of Screening**

Regular screening for PPD is an important part of secondary prevention for both individuals and their families. However, it also has important public health implications (Asper et al., 2018). As with any large-scale initiative, regular screening for PPD must demonstrate cost effectiveness. Untreated depression results in a huge economic burden. It is linked to a number of costly outcomes like reduced productivity in the form of lost workdays, long-term disability, early retirement, and expensive interventions like acute psychiatric hospitalization (Asper et al., 2018). However, there is also cost involved in the development of a standard PPD screening tool. More frequent healthcare visits may be needed, and it takes extra time to integrate screening into a clinic visit. Both of these could impact healthcare costs.

To date, little has been published on the cost effectiveness of screening for PPD. In a rare exception, a single study involving a basic cost analysis of regular PPD screening was located and thus, included in this review. The study was based in Stockholm County, Sweden. This location was chosen because of a 2017 county wide initiative to include a specific father visit at a child health center (clinic) in the early postpartum period (Asper et al., 2018). A sample of 3,656 men were screened during these visits and offered treatment as dictated by their screening results. The cost of integrating this screening was compared to the quantified costs of non-postpartum depression in Sweden. In the end, it was found that standardized PPD screening leads

to more timely identification and treatment of the disorder (Asper et al., 2018). As is the case for non-postpartum depression, this leads to cost saving outcomes such as fewer lost workdays (Asper et al., 2018). Therefore, the overall conclusion is that at least one screening for PPD within the first year is more cost-effective than not screening at all (Asper et al., 2018). It is, however, unclear if more than one screening during the first year would be equally as cost-effective. The optimal timing to complete the screening was also not discussed.

### **Comparing Paternal Postpartum Screening Instruments**

Comparing the efficacy of PPD screening efforts between studies is challenging. First, different studies use different instruments to screen for PPD. Second, the associated positivity cut off points are often arbitrarily adjusted to meet the needs of the study. When screening women for postpartum depression using the EPDS, a standardized score of 12 or greater is considered a positive screen for postpartum depression. However, in studies designed to evaluate the effectiveness of using these tools to screen for PPD, some researchers choose lower cut off scores in an attempt to account for gender differences in hopes that fewer men slip through the cracks. For example, in the Lai et al. (2010) study, a score of 10 or 11 is considered to be the optimal cut off point (10-11 or above is a positive PPD screening). In the Carlberg et al. (2018) study, however, a cut off score of 9 is used (Lai et al., 2010). Despite these discrepancies, some researchers claim that the EPDS is an effective, validated, screening tool for PPD. Thus, it is the most commonly used tool for this purpose. However, the inconsistencies found in the literature indicate that this practice may not be appropriate.

The EPDS is not the only tool used in the clinical setting to screen fathers for PPD. This opens the question of whether there is a more effective tool that providers should be using for PPD screening instead. The Lai et al. (2010) study, included as part of this review, compared the

Beck Depression Inventory (BDI), EPDS and the Patient Health Questionnaire-9 (PHQ-9) for their ability to accurately identify men who may be experiencing PPD. All three instruments were administered to a total of 551 Chinese fathers within two days of the birth of their child and then again eight weeks later. Statistical analysis of the sensitivity, specificity, positive predictive value, and negative predictive value of each of the three tools indicated that the EPDS was slightly more effective at detecting postpartum depression in men at eight weeks. An aggregate measure of performance of the EPDS, BDI and PHQ-9, commonly referred to as the area under the curve (AUC) value, a measure of the accuracy of a quantitative test, was 0.97, 0.93, and 0.92 respectively (Lai et al., 2010). These results were confirmed to be statistically significant ( $P= 0.00$ ). It is important to stress, however, that the subjects were not screened at regular, defined intervals (Lai et al., 2010). In addition, the optimal EPDS cut off score was not stated as a single number. Instead, it was reported to either be 10 or 11 (Lai et al., 2010). This demonstrates an area of problematic study methodology and results reporting.

Another potential problem with the EPDS is that it excludes certain somatic symptoms of depression such as fatigue, sleep disturbance, anger, moodiness, and trouble with concentration. Given the challenges faced by most new parents, such as lack of sleep, these symptoms are considered, by at least some researchers, to be inaccurate indicators of postpartum depression (Carlberg et al., 2018). Again, however, the results of multiple studies conducted in the past ten years strongly suggest that PPD is more likely to manifest as somatic symptoms like fatigue, anger, social withdrawal, and labile mood (Bruno et al., 2020; O'Brien et al., 2017; Psouni et al., 2017).

A similar study by Edmondson et al. (2010), was completed with the intent of evaluating the efficacy of the EPDS for PPD screening. A sample of 4,107 new fathers from in the United

Kingdom were sent the EPDS at seven weeks postpartum. A total of 1,562 participants, or 38% of the total study cohort, responded in a timely manner. A positivity cut off score of 10 was selected. Those with a positive EPDS score were then contacted for a structured clinical interview to determine if they were suffering from clinical postpartum depression (Edmonson et al., 2010). The interview was conducted by trained graduate psychologists in the father's home (Edmonson et al., 2010). Ultimately, a total of 192 participants, just 12.29% of those originally surveyed, were interviewed (Edmonson et al., 2010). Results from this study demonstrated that the EPDS had a sensitivity of 89.5% and specificity of 78.2% for identifying PPD in men (Edmonson et al., 2010). One of the problems with this study and the Lai et al. (2010) study is that the researchers make conclusions based on the relatively small percentage of respondents who decided to complete every stage of the study. The incentive for those subjects to participate is also unclear. For instance, there is a possibility that men who felt that they needed to pursue treatment for their depressive symptoms would have been more motivated to participate if they believed that doing so would connect them to treatment resources. In addition, both Lai et al. (2010) and Edmonson et al. (2010) relied on subjects to voluntarily return completed screenings within a select timeframe. Given the sudden increase in responsibilities and normal stress of having to care for an infant, many new fathers might find that taking extra time to complete a mail-in survey with follow-up interview to be too time consuming. This is especially true for those who were already experiencing an excessive level of stress and depression. Therefore, it would be a mistake to conclude that the EPDS is an effective tool for PPD screening, based solely on the results of these two studies. Furthermore, in both the Lai et al. (2010) and Edmondson et al. (2010) study, participants were screened at either seven or eight weeks postpartum when in fact, there is little to no evidence to suggest that this is the optimal time to

screen for PPD-especially since symptoms of PPD are generally thought to peak between three and six months (Scarff, 2019).

Another tool that has recently been evaluated for use in PPD screening is the Gotland Male Depression Scale (GMDS). It was originally designed to more accurately address symptoms of Major Depressive Disorder (MDD) thought to be more specific to men, such as anxiety, anger, and irritability (Carlberg et al., 2018). Developed and validated in 2002, it has since been used in a variety of different populations and settings (Carlberg et al., 2018; Sigurdsson, 2014). The 13 items on the GMDS covers such items as stress, aggressiveness, difficulties with self-control, feelings of being “burned out,” excessive fatigue, irritability, restlessness, frustration, difficulties with decision making, sleep problems, and substance use (Carlberg et al., 2018). Each item is rated on a scale of 0 to 4 with a total possible score of 0-39. A score of 13 or above is considered a positive screen, indicating the possible presence of depression (Carlberg et al., 2018). Theoretically, such a tool would be far more effective at detecting PPD than the EPDS. However, postpartum depression has certain unique characteristics that set it apart from other depressive disorders. The complex dynamics of becoming a father, including changes in the relationship with the mother, acceptance of the new caregiving role, and expectations of increased responsibility trigger depression in a different way. Therefore, it is critical that the correct tool be used to minimize the chance of missing potential cases of PPD.

Carlberg et al. (2018) compared the EPDS and GMDS to determine the effectiveness of using a male-specific depression tool for PPD screening. A total of 8,011 fathers were sent a questionnaire containing both the GMDS and EPDS along with several other questions pertaining to PPD risk factors and sociodemographic status. Fathers were given the opportunity

to respond at any time between three and six months postpartum. Of those, 46% returned the survey ( $N=3656$ ). Not surprisingly, certain sociodemographic factors such as poverty, low level of education, and living separately from the mother were found to be predictive of a positive score on the EPDS, GMDS or both (Carlberg et al., 2018). Perhaps one of the most important findings of this study, however, was that many of those that responded only scored positively on either the EPDS or GMDS, but not both instruments. This strongly suggests that the two tools capture different aspects of PPD (Carlberg et al., 2018). Clearly, neither the EPDS nor GMDS are optimal PPD screening instruments when used alone. Therefore, the common practice of retrofitting the EPDS to screen for PPD likely contributes to the problem of under diagnosis and under treatment of the disorder. Similar to many of the other studies included in this review, the participants in the Carlberg et al. (2018) study were screened only once rather than at regular intervals throughout the first postpartum year making it difficult to delineate whether screening every three months for the first year would be superior to a one-time screening approach. Another point to consider when interpreting the results of the Carlberg et al. (2018) study is that less than 50% of those invited to participate actually responded. Similar to both the Lai et al. (2010) and Edmondson et al. (2010) studies, the low response rate may be due to the fact that taking extra time to complete a mail-in survey could be perceived as a low priority, especially given the host of other responsibilities involved in caring for a new infant.

### **Combining Paternal Postpartum Screening Instruments**

Based on the information presented thus far, it is clear that none of the currently available depression screening tools is ideally suited for use in PPD screening. The EPDS lacks many of the somatization and externalizing factors that are important indicators of male depression, while the GDMS, BDI and PHQ-9 do not account for key etiological differences between PPD and



other depressive disorders (Carlberg et al., 2018; Edmondson et al., 2010; Lai et al., 2010).

Utilizing a combination of depression screening instruments that capture both classic depressive and depressive equivalent symptoms may be more effective than using any one tool alone. In a study by Psouni et al. (2017), 447 Swedish fathers completed an online version of the Beck Depression Inventory-II (BDI-II) and combination of the EPDS and GMDS. Of those that completed the screening in full ( $N=438$ ), 28% scored above the positivity threshold score of 14 on the BDI-II scale (Psouni, et al., 2017). Of these, 14% scored above 20, which is suggestive of moderate to severe depression (Psouni et al., 2017). The EPDS and GMDS were combined in an attempt to best capture both the traditional symptoms typically associated with postpartum depression and the depressive equivalents, including somatization, traditionally associated with depression in men. In the end, it was found that those with a positive screen on the BDI-II consistently scored high on both traditional depressive symptoms and depressive equivalents found on the combined EPDS and GMDS survey (Psouni et al., 2017). Overall, the combined EPDS and GMDS showed superior sensitivity in detecting potential PPD compared to when either of these tools was used alone. The specificity was roughly equivalent (Psouni et al., 2017). The fact that 28% of respondents scored high enough on the BDI-II to be considered positive for depression suggests that PPD is far more common than has been previously reported. However, it must be noted that of the respondents, a disproportionately high number had some level of post-secondary education (76%,  $N=333$ ). Among the study cohort, 88% of the participants were employed. Most also earned an average monthly income that was higher than the Swedish national average (Psouni et al., 2017). Finally, 21% of the fathers had a partner that had received some sort of professional treatment for depressive symptoms (Psouni et al., 2017). Each of these represents a potential confounding variable that could have influenced the results of the study.

As is the case with the other articles included in the review, screening was not completed directly by a healthcare provider in a clinic-like setting. In addition, screening was done only once in the first postpartum year rather than at regular intervals. By screening only once, there is a risk that cases of PPD which manifest later could be missed.

### **Paternal Postpartum Depression Treatment**

Little has been published on treatment modalities specific to PPD. However, as is the case with non-postpartum depression, prevention is key. A review by Edward et al. (2015) concluded that attending antenatal classes or support groups geared toward the common concerns experienced by many new fathers can be helpful, especially when they are led by a male facilitator (Edward et al., 2015).

Because PPD is frequently associated with various socioeconomic factors such as joblessness and poverty, it has been postulated that intervening at these levels during the prenatal period may be most effective (Edward et al., 2015; Musser et al., 2013; O'Brien et al., 2017). However, these factors are incredibly difficult to change with simple interventions in a short period of time. Ideally, concurrent mental health conditions should be well managed prior to the postpartum period or even before the partner becomes pregnant (Edward et al., 2015; O'Brien et al., 2017). When potential PPD has been identified through screening, a more comprehensive mental assessment is necessary for diagnosis. Current management strategies are similar to those used in non-postpartum depressive disorders. This includes a combination of medication and therapy, usually CBT (Musser et al., 2013). However, there have been few, if any, studies on how these interventions work for PPD specifically. Other interventions, such as family or couple therapy, have also not been evaluated in the setting of PPD. The current recommendation is that

providers “focus on the cause” (Musser et al., 2013). This vague suggestion highlights just how little is truly known about PPD treatment.

### **Discussion**

There is no doubt that screening for PPD is highly efficacious. Compared to those that are not screened, men with PPD can be identified earlier, allowing for prompt intervention. Early management of PPD can result in improved quality of life, a better relationship with the mother, and enhanced paternal-infant bonding. Early treatment is also associated with healthier long-term development for the child (Edward et al., 2015; O'Brien et al., 2017). Unfortunately, screening is still sporadic at best and no large-scale academic or clinical practice organization has sought to develop standardized practice recommendations related to PPD.

Much of what is currently known about PPD is based on cross-sectional studies, case control studies or expert opinion. Only one study met the inclusion criteria for this review used a prospective cohort model in which men were screened more than once.

Based on the findings included in this literature review, it can be concluded that regular screening for PPD leads to a higher level of early detection and management. However, it is not certain if screening more than once at regular intervals for the first year is any better than screening only once. What is known is that symptoms of PPD can occur at any time during the first year and they often occur later in men. This suggests that screening more than once would be beneficial (Scarff, 2019).

The optimal time for PPD screening has yet to be determined. The findings outlined in this review highlight the fact that decisions related to when to screen men for PPD differs substantially depending on the source. In fact, in most studies related to PPD, researchers

arbitrarily choose when to conduct the screening and fail to provide an explanation for their decision.

Another important point to consider is that white males are disproportionately represented in PPD research (Kim & Swain, 2007). Racial and ethnic differences in PPD may be significant, yet difficult to quantify given that most studies are conducted with predominantly white participants. Despite this, there is a propensity for many researchers studying PPD to generalize their findings to all postpartum fathers. As for the studies reviewed in this paper, many researchers failed to recruit a racially or ethnically diverse mix of subjects. Interestingly, a large portion of the research on PPD comes from Sweden. While Sweden is considered to be one of the most gender equal countries in the world, it is also one of the least racially diverse (Asper et al., 2018). There is no doubt that this has influenced the results of some of these studies. Therefore, care must be taken not to assume that the findings apply to all populations.

## **Implications for the Future**

### **Implications for Further Research**

There is a specific need for more well-designed, randomized control studies related to PPD screening. Little has been done to determine the optimal timing and frequency of screening. Therefore, this needs to be one of the main focuses of future research. In addition, it has been repeatedly demonstrated that postpartum depression manifests differently in men. Therefore, current screening tools like the EPDS, are not appropriate for PPD screening, even when the cutoff score is adjusted. At the same time, tools such as the GMDS and PHQ-9 do not account for the differences between PPD and other depressive disorders. Therefore, development and validation of a new, male specific, postpartum depression, screening tool is necessary.

Thus far, most of the research related to PPD is completed remotely in the form of mail-in surveys. While valuable information can be obtained in this way, ideally, screening would occur in the clinic or home setting either in the form of male specific postpartum visits or at the same time that the partner is screened. More research will be needed to determine the optimal setting for PPD screening.

Finally, there is a paucity of information on effective treatment for PPD. At current, the same treatments used for non-postpartum depression are used to treat men with PPD. However, because of the differences between PPD and other depressive disorders, what works well for conditions like Major Depressive Disorder may not be appropriate for PPD (Edward et al., 2015).

### **Implications for Future Practice**

One of the biggest challenges to implementing regular PPD screening protocols is that traditionally, postpartum depression screening occurs as a part of either the first postpartum follow-up or well child visit. These are disproportionately attended by women without their male partner (Musser et al., 2013). In addition, many of the same factors that increase the risk for PPD, such as poverty and mental illness, are also known to negatively impact preventative care visit attendance (Scarff, 2019). Overcoming such hurdles will require creative thinking and a team approach. To maximize opportunities for PPD screening, it should be offered at any healthcare access point where postpartum fathers are likely to be seen. This includes general practitioner's offices, pediatric clinics, at home health visits, and during community health screening events. In addition, while interpreting the results of most healthcare screenings requires the skill of a trained provider, PPD screening should be made as simple as possible so

that it can be administered by different members of the healthcare team, including those who have minimal healthcare expertise.

### **Conclusion**

Careful review of the available literature on PPD, has made it is clear that the lack of universal PPD screening guidelines needs urgent attention. Failure on the part of the healthcare community to do so has forced many fathers and their families to suffer needlessly. As a result, some feel as though they need to “self-medicate,” leading to substance abuse and irreparable damage to families and relationships. Sadly, many children have been forced to grow up without a father when lose their lives to suicide, as a consequence of untreated PPD. Such tragedies are often avoidable through early recognition and intervention. It is time, once and for all, to acknowledge PPD as its own unique disorder and give it the attention it deserves.

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## Appendix A

**Question:** *Among fathers of infants (P), how would routine paternal postpartum depression screening completed at three-month intervals (I), compare to current practice (no routine paternal postpartum depression screening), (C) impact the early detection and management of depression (O) during the first year of fatherhood (T)?*

**Table 1**

Database	Search Restrictions	Dates Included in Database	General Subjects Covered in the Database
CINHAL Plus with Full Text	Full Text; English Language; Peer Reviewed; Research Article; Abstract Available	2010-present	Covers a variety of subjects on nursing and allied health with full text access to 29 nursing journals and e-books related to subjects which are pertinent to nursing.
Cochrane	Full Text; English Language; Peer Reviewed; Research Article; Abstract Available	2010-present	Full text articles, abstracts, and protocols related to healthcare and evidence-based practice. Focuses on literature and meta-analyses showing statistically significant results.
MEDLINE	Full Text; English Language; Peer Reviewed; Research Article; Abstract Available	2010-present	Provides citations and full-text access to a broad range of medical and healthcare topics including the following: Research, clinical practice, administration, and policy issues.
Nursing & Allied Health Database	Full Text; English Language; Peer Reviewed; Research Article; Abstract Available	2010-present	Formerly known as “ProQuest.” Covers a broad range of topics related to nursing and allied health. Provides full text, peer reviewed articles, abstracts, and citations.

Table 2

Date of Search	Key Words	Results in: CINHAL Plus with Full Text	Results in: Cochrane Database of Systematic Reviews	Results in: MEDLINE	Results in: Nursing & Allied Health Database
10/20	Postnatal depression in fathers	320 (121)	4	279 (56)	2988 (1931)
	postnatal depression in fathers AND screening	13	39 (13)	42 (8)	1523 (1521)
	Postnatal depression in fathers AND needs	61 (22)	61 (22)	59 (15)	2592 (1638)
10/23	Postnatal depression in fathers AND screening tools	5	5 (2)	4 (1)	1018 (584)
	Postnatal depression in fathers AND screening for depression	39 (13)	0	39 (8)	960 (958)
	Postnatal depression in fathers AND suicide	1	1	5 (1)	525 (311)
	Postnatal depression in men AND primary care	5(3)	2	0	2956 (2038)
	Postpartum depression in men AND primary care	2	1	8 (3)	1296
	Postnatal depression in fathers AND primary care	5	0	18 (6)	680
10/25	Postpartum depression in men	179 ( <b>58</b> )	0	<b>25 (10)</b>	<b>893</b>
	Postpartum depression AND fathers	194 ( <b>57</b> )	2	<b>39 (13)</b>	<b>643</b>
	Postpartum depression in men AND screening	<b>8</b>	0	<b>2</b>	<b>618</b>
11/14	Postnatal depression in fathers AND intervention	35	1	35	1203
	Paternal Postnatal Depression	58	1	146	1488

*\*BOLDED terms selected for review.*

**Table 3***Characteristics of Literature Included and Excluded*

<b>Reference</b>	<b>Included or Excluded</b>	<b>Rationale</b>
Asper, M. M., Hallén, N., Lindberg, L., Månsdotter, A., Carlberg, M., & Wells, M. B. (2018). Screening fathers for postpartum depression can be cost-effective: An example from Sweden. <i>Journal of Affective Disorders, 241</i> , 154-163. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2018.07.044">http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2018.07.044</a>	Included	Study conducted to determine if widespread screening for paternal postpartum depression would be cost effective. <b>Included:</b> Increased screening and treatment guidelines are cost effective.
Bruno, A., Celebre, L., Mento, C., Rizzo, A., Silvestri, M. C., De Stefano, R., Zoccali, R. A., & Muscatello, M. (2020). When Fathers Begin to Falter: A comprehensive review on paternal perinatal depression. <i>International Journal of Environmental Research and Public Health, 17</i> (4), 1139. <a href="https://doi.org/10.3390/ijerph17041139">https://doi.org/10.3390/ijerph17041139</a>	Included	Review of knowledge on diagnosis, screening tools and practices related to paternal postpartum depression. “Currently, there are no screening tools sufficiently accredited to evaluate perinatal affective disorders in males.” Indicates need for a Male PPD oriented screening tool and practice guidelines. <b>Included:</b> Relates to need for screening and treatment guidelines.
Carlberg, M., Edhborg, M., & Lindberg, L. (2018). Paternal perinatal depression assessed by the Edinburgh Postnatal Depression Scale and the Gotland Male Depression Scale: Prevalence and possible risk factors. <i>American Journal of Men’s Health, 720–729</i> . <a href="https://doi.org/10.1177/1557988317749071">https://doi.org/10.1177/1557988317749071</a>	Included	Low SES is a risk factor for paternal postpartum depression. There is a need for further diagnostic assessment related to paternal postpartum depression in order for men to receive adequate treatment and support. There is a need for practice guidelines and a male specific screening tool. <b>Included:</b> Need for screening and treatment guidelines.
Da Costa, D., Danieli, C., Abrahamowicz, M., Dasgupta, K., Sewitch, M., Lowensteyn, I., & Zekowitz, P. (2019). A prospective study of postnatal depressive symptoms and associated risk factors in first-time fathers. <i>Journal of Affective Disorders, 249</i> , 371-377. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2019.02.033">doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2019.02.033</a>	Included	There is a need for early screening and targeted prevention strategies for fathers at risk for depression during the transition to parenthood.

<p>Eddy, B., Poll, V., Whiting, J., &amp; Clevesy, M. (2019). Forgotten fathers: Postpartum depression in men. <i>Journal of Family Issues</i>, 40(8), 1001–1017. <a href="https://doi.org/10.1177/0192513X19833111">https://doi.org/10.1177/0192513X19833111</a></p>	<p>Excluded</p>	<p>Qualitative study related to a select number of father’s experiences with postpartum depression. Validates the fact that postpartum depression in men does exist and can be life changing. <b>Excluded:</b> The goal of this qualitative study was to collect and report men’s personal experiences with postpartum depression. It is not a study specific to effective screening or treatment modalities.</p>
<p>Edmondson, O. J., Psychogiou, L., Vlachos, H., Netsi, E., &amp; Ramchandani, P. G. (2010). Depression in fathers in the postnatal period: Assessment of the Edinburgh Postnatal Depression Scale as a screening measure. <i>Journal of Affective Disorders</i>, 125(1-3), 365–368. <a href="https://doi.org/10.1016/j.jad.2010.01.069">https://doi.org/10.1016/j.jad.2010.01.069</a></p>	<p>Included</p>	<p>Assesses sensitivity and specificity of Edinburgh Postnatal Depression Scale (EPDS) when used to assess men for postpartum depression. <b>Included:</b> Discusses need for screening and treatment guidelines.</p>
<p>Edward, K., Castle, D., Mills, C., Davis, L., &amp; Casey, J. (2015). An integrative review of paternal depression. <i>American Journal of Men's Health</i>, 9(1), 26-34. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1557988314526614">http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1557988314526614</a></p>	<p>Included</p>	<p>Recognition, assessment, and treatment for postpartum depression rarely occurs in practice. This represents a gap in practice. <b>Included:</b> Discusses need for screening and treatment guidelines.</p>
<p>Lai, B., Tang, A., Lee, D., Yip, A., &amp; Chung, T. (2010). Detecting postnatal depression in Chinese men: A comparison of three instruments. <i>Psychiatry Research</i>, 180(2), 80–85. <a href="https://doi.org/10.1016/j.psychres.2009.07.015">https://doi.org/10.1016/j.psychres.2009.07.015</a></p>	<p>Included</p>	<p>Three validated depression screening instruments are compared for use in paternal postpartum depression screening. <b>Included:</b> Current screening tools need to be tailored to reliably detect postpartum depression in men.</p>
<p>Matthey, S., Agostini, F. (2017). Using the Edinburgh Postnatal Depression Scale for women and men—some cautionary thoughts. <i>Arch Women's Mental Health</i> 20, 345–354 (2017). <a href="https://doi.org/10.1007/s00737-016-0710-9">https://doi.org/10.1007/s00737-016-0710-9</a></p>	<p>Excluded</p>	<p><b>Excluded:</b> Explores limitations of using the Edinburgh Postnatal Depression Scale. However, findings are not specific to men who may have PPD.</p>
<p>Matthey, S., &amp; Della Vedova, A. M. (2020). Screening for mood difficulties in men in Italy and Australia using the Edinburgh Postnatal Depression Scale and the matthey generic mood questionnaire. <i>Psychology of Men &amp; Masculinities</i>, 21(2), 278-287. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1037/men0000227">doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1037/men0000227</a></p>	<p>Excluded</p>	<p><b>Excluded:</b> Compares efficacy of two different scales used to screen men for PPD. Does not compare screening for PPD versus not screening at all.</p>

<p>Massoudi, P., Hwang, C. P., &amp; Wickberg, B. (2016). Fathers' depressive symptoms in the postnatal period: Prevalence and correlates in a population-based Swedish study. <i>Scandinavian Journal of Public Health, 44</i>(7), 688-694.  <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1403494816661652">http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1403494816661652</a></p>	Included	<p><b>Goal of study:</b> To determine correlates and prevalence of postpartum depression in new fathers.</p>
<p>Musser, A. K., Ahmed, A. H., Foli, K. J., &amp; Coddington, J. A. (2013). Paternal postpartum depression: What health care providers should know. <i>Journal of Pediatric Health Care, 27</i>(6), 479–485.  <a href="https://doi.org/10.1016/j.pedhc.2012.10.001">https://doi.org/10.1016/j.pedhc.2012.10.001</a></p>	Included	<p>Healthcare providers are missing opportunities to screen men for postpartum depression.  <b>Included:</b> Theme: Need for screening and treatment guidelines.</p>
<p>O'Brien, A. P., McNeil, K. A., Fletcher, R., Conrad, A., Wilson, A. J., Jones, D., &amp; Chan, S. W. (2017). New fathers' perinatal depression and anxiety-treatment options: An integrative review. <i>American Journal of Men's Health, 11</i>(4), 863–876.  <a href="https://doi.org/10.1177/1557988316669047">https://doi.org/10.1177/1557988316669047</a></p>	Included	<p>Current diagnostic criteria for postpartum depression is likely skewed toward female responses to depression. There is a need for a specific tool to screen men for postpartum depression.  <b>Included:</b> Need for screening and treatment guidelines.</p>
<p>Psouni, E., Agebjörn, J., &amp; Linder, H. (2017). Symptoms of depression in Swedish fathers in the postnatal period and development of a screening tool. <i>Scandinavian Journal of Psychology, 58</i>(6), 485–496.  <a href="https://doi-org.ezproxy.mnsu.edu/10.1111/sjop.1239">https://doi-org.ezproxy.mnsu.edu/10.1111/sjop.1239</a></p>	Included	<p>Discusses need for a validated screening tool to detect postpartum depression in men.  <b>Included:</b> Discusses need for screening and treatment guidelines.</p>
<p>Scarff J. R. (2019). Postpartum depression in Men. <i>Innovations in Clinical Neuroscience, 16</i>(5-6), 11–14.</p>	Included	<p>Discusses inadequacy of current screening and treatments for PPD. This is, at least in part, due to the fact that there is a paucity of randomized control trials on the subject.  <b>Included:</b> Applying a lower cut off score when using the Edinburgh Postnatal Depression Scale to screen men for PPD in order to compensate for the fact that PPD manifests differently in men may be inadequate. The practice has not been validated. Provides good background on topic.</p>

**Table 4***Literature Review Table of All Studies Included*

Criterion	Study Purpose	Population Size and Setting	Design/ Level of Evidence	Variables Instruments	Interventions	Findings	Implications
Asper, M. M., Hallén, N., Lindberg, L., Månsdotter, A., Carlberg, M., & Wells, M. B. (2018). Screening fathers for postpartum depression can be cost-effective: An example from Sweden. <i>Journal of Affective Disorders, 241</i> , 154-163. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2018.07.044">http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2018.07.044</a>	To determine if screening for PPD in fathers in Stockholm County, Sweden could be cost-effective.	Fathers in Postpartum period, defined as up to 12-months postpartum.	V	N/A	Data from 5 research studies, including methods of screening, were included. This was applied to fathers in Stockholm County, Sweden. This was compared to those who were not screened.	Screening for PPD is a cost-effective measure.	More research is needed to determine if these findings are universal. I.e., is screening for PPD universally cost effective?
Bruno, A., Celebre, L., Mento, C., Rizzo, A., Silvestri, M. C., De Stefano, R., Zoccali, R. A., & Muscatello, M. (2020). When fathers begin to falter: A comprehensive review on paternal perinatal depression. <i>International Journal of Environmental Research and Public Health, 17</i> (4), 1139. <a href="https://doi.org/10.3390/ijerph17041139">https://doi.org/10.3390/ijerph17041139</a>	To identify current knowledge related to the prevalence and epidemiology of PPD as well as potential screening, prevention, and treatment options.	Fathers in Postpartum period (time not defined).	V	N/A	Literature review was completed to help narrow clinical features of male PPD as well as identify knowledge and implementation of treatment modalities specific to the disorder.	Compared to maternal PPD, male PPD clinical features are less defined. DSM-V criteria does not exist, despite it being recognized by many clinicians. There is a broad range of prevalence estimates.	Standardized definition of male PPD is lacking. There is a paucity of screening recommendations and treatment guidelines.
Carlberg, M., Edhborg, M., & Lindberg, L. (2018). Paternal perinatal depression assessed by the Edinburgh Postnatal Depression Scale and the Gotland Male Depression Scale: Prevalence and possible risk factors. <i>American Journal of Men's Health, 720-729</i> . <a href="https://doi.org/10.1177/1557988317749071">https://doi.org/10.1177/1557988317749071</a>	To compare the EPDS and Gotland Male Depression Scale (GMDS) for use in screening men for PPD.	3,656 fathers in the postpartum period assessed at 3 months and 6 months postpartum.	IV	EPDS and the Gotland Male Depression Scale (GMDS)	Surveys that included the EPDS and GMDS with cut off points of 10 and 12 respectively, were sent out to men at 3 months and 6 months postpartum. Socioeconomic (SES) data was included in the survey as well. The study compared screening results of each tool and the	EPDS and the GMDS are partially overlapping in their ability to detect postpartum depression in men. Using both together may increase detection. Also, a cut off score of 10 instead of 12 on EPDS is more effective for detecting PPD.	Screening using the EPDS, which was designed to assess for postpartum depression in women, may need to be supplemented by another screening tool to effectively identify men experiencing PPD.

					results of combining both. SES factors associated with PPD were identified.		
Da Costa, D., Danieli, C., Abrahamowicz, M., Dasgupta, K., Sewitch, M., Lowensteyn, I., & Zelkowitz, P. (2019). A prospective study of postnatal depressive symptoms and associated risk factors in first-time fathers. <i>Journal of Affective Disorders</i> , 249, 371-377. doi: <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2019.02.033">http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.jad.2019.02.033</a>	To determine the prevalence of depressive symptoms in men at 2 and 6 months postpartum.	622 men recruited from clinics and 3 teaching hospitals in the Montreal area.	IV	Edinburgh Postnatal Depression Scale (EPDS)	Sociodemographic and psychosocial questionnaires along with EPDS was completed during the partner's 3 <sup>rd</sup> trimester of pregnancy, then again at 2 and 6 months postpartum.	Prevalence of PPD in men was 13.76% and 13.6% at 2 and 6 months, respectively.	Incidence of PPD in men is greater than 10%, which is much higher than suggested by some other studies. Screening for PPD in men using a clinically valid tool is efficacious.
Edmondson, O. J., Psychogiou, L., Vlachos, H., Netsi, E., & Ramchandani, P. G. (2010). Depression in fathers in the postnatal period: Assessment of the Edinburgh Postnatal Depression Scale as a screening measure. <i>Journal of Affective Disorders</i> , 125(1-3), 365-368. <a href="https://doi.org/10.1016/j.jad.2010.01.069">https://doi.org/10.1016/j.jad.2010.01.069</a>	To determine whether a reliable cut off point on the Edinburgh Postnatal Depression Scale (EPDS) can be used to identify fathers with PPD.	192 fathers of infants at 7 weeks postpartum.	III	Edinburgh Postnatal Depression Scale (EPDS)	EPDS was administered to fathers with infants at 7 weeks postpartum. Follow up with structured interview was completed to determine if fathers were suffering from clinical depression.	A score of 10 was found to be the optimal cut off point to identify fathers with potential PPD. Sensitivity: 89.5%. Specificity 78.2%.	Compared to women, a different cutoff on the EPDS is needed to accurately detect PPD depression in men during the immediate postpartum period.
Edward, K., Castle, D., Mills, C., Davis, L., & Casey, J. (2015). An integrative review of paternal depression. <i>American Journal of Men's Health</i> , 9(1), 26-34. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1557988314526614">http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1557988314526614</a>	"To review current research regarding postnatal depression in fathers and to present potential screening and referral options."	Fathers in postpartum period (time not defined).	V	N/A	Integrative review of 63 research studies exploring screening options, impact of PPD on the family unit, and interventions related to PPD.	Screening for PPD in fathers rarely happens in practice and EPDS results need to be linked with referral guidelines.	Screening for PPD needs to be completed in women as well as men at regular intervals throughout the partners pregnancy and at regular intervals thereafter. Men who screen positive for PPD need to be treated or referred based on defined clinical guidelines.
Lai, B., Tang, A., Lee, D., Yip, A., & Chung, T. (2010). Detecting postnatal depression in Chinese men: A comparison of three instruments. <i>Psychiatry Research</i> , 180(2), 80-85. <a href="https://doi.org/10.1016/j.psychres.2009.07.015">https://doi.org/10.1016/j.psychres.2009.07.015</a>	Compares the psychometric properties of the Edinburgh Postnatal	551 men with infants who are 8 weeks postpartum	III	EPDS, BDI, and PHQ-9.	Clinical diagnosis of depression is established through a structured clinical interview. Results	EPDS with a cutoff point of 10, had higher sensitivity (91%) and specificity	Postpartum depression specific screening tools are more effective in detecting PPD in



	Depression Scale (EPDS), the Beck Depression Inventory (BDI), and the Patient Health Questionnaire — Depression Module (PHQ-9) for use in screening fathers for PPD.	living in Hong Kong.			of EPDS, BDI and PHQ-9 are compared.	(97%) compared to the other 2 screening tools.	men than traditional depression screening tools.
Massoudi, P., Hwang, C. P., & Wickberg, B. (2016). Fathers' depressive symptoms in the postnatal period: Prevalence and correlates in a population-based Swedish study. <i>Scandinavian Journal of Public Health, 44</i> (7), 688-694. <a href="http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1403494816661652">http://dx.doi.org.ezproxy.mnsu.edu/10.1177/1403494816661652</a>	“To investigate the prevalence and correlates of depression in new fathers.”	885 Swedish fathers at 3 months postpartum.	IV	Edinburgh Postnatal Depression Scale (EPDS)	Questionnaire about age, current occupational status, educational level, native language, and number of children for each parent was completed and returned, along with EPDS. Note: Cutoff point for EPDS was 12.	Predictors of depressive symptoms in fathers included problems related to their relationship with their partner, a low educational level, previous depression, stressful life events, and low partner support.	Factors associated with PPD in fathers is similar to those found in mothers.
Musser, A. K., Ahmed, A. H., Foli, K. J., & Coddington, J. A. (2013). Paternal postpartum depression: What health care providers should know. <i>Journal of Pediatric Health Care, 27</i> (6), 479–485. <a href="https://doi.org/10.1016/j.pedhc.2012.10.001">https://doi.org/10.1016/j.pedhc.2012.10.001</a>	To demonstrate the need for better screening, treatment, and research related to male PPD.	Fathers in the first 12 postpartum months.	VI	N/A	N/A	Primary care providers miss opportunities to screen and treat PPD in men.	There is a need to screen both parents for postpartum depression at each visit. There is a paucity of diagnostic criteria for PPD, and no male specific PPD screening tool or clinical practice guideline.
O'Brien, A. P., McNeil, K. A., Fletcher, R., Conrad, A., Wilson, A. J., Jones, D., & Chan, S. W. (2017). New fathers' perinatal depression and anxiety-treatment options: An integrative review. <i>American Journal of Men's Health, 11</i> (4), 863–876. <a href="https://doi.org/10.1177/1557988316669047">https://doi.org/10.1177/1557988316669047</a>	To summarize current understanding of PPD in men and what validated male PPD treatment program are available.	Fathers in Postpartum period (time not defined).	V	N/A	Literature review completed to assess availability of therapy options for men experiencing PPD.	Although PPD in men is an increasingly recognized phenomenon, there is little data on effective treatment options.	There is a need for screening and treatment options that are specific to the unique experiences and needs of fathers at risk for PPD.

<p>Psouni, E., Agebjörn, J., &amp; Linder, H. (2017). Symptoms of depression in Swedish fathers in the postnatal period and development of a screening tool. <i>Scandinavian Journal of Psychology</i>, 58(6), 485–496. <a href="https://doi-org.ezproxy.mnsu.edu/10.1111/sjop.1239">https://doi-org.ezproxy.mnsu.edu/10.1111/sjop.1239</a></p>	<p>To compare the efficacy of The Beck Depression Inventory-II (BDI-II), EPDS, and Gotland Male Depression Scale (GMDS) for detecting PPD.</p>	<p>447 fathers of infants birth-18 months.</p>	<p>III</p>	<p>Beck Depression Inventory-II (BDI-II), EPDS, and Gotland Male Depression Scale (GMDS), Likert scale.</p>	<p>Swedish fathers that met criteria were recruited and screened using 3 scales via mail in survey. Results were statistically analyzed, and the sensitivity of each scale was determined.</p>	<p>An instrument that combines items from both PPD screening tools and traditional depression screening tools achieves the best sensitivity and specificity in screening for PPD in men.</p>	<p>There is a need for a specific tool to screen fathers for PPD.</p>
<p>Scarff J. R. (2019). Postpartum depression in men. <i>Innovations in Clinical Neuroscience</i>, 16(5-6), 11–14.</p>	<p>Discusses specific inadequacies of current screening and treatment methods for paternal PPD.</p>	<p>N/A</p>	<p>VII</p>	<p>N/A</p>	<p>N/A</p>	<p>Adapting current screening tools used to assess for postpartum depression in women to screen men has not been validated and may lead to under-detection and undertreatment.</p>	<p>More randomized control trials are needed related to screening and treatment of PPD.</p>