2017

Midwife Provider Education and Screening Can Prevent and Decrease the Prevalence of Perinatal and Postpartum Depression: A Critical Review of the Literature

Suzanne M. Chatters
Bethel University

MIDWIFE PROVIDER EDUCATION AND SCREENING CAN PREVENT AND DECREASE THE PREVALENCE OF PERINATAL AND POST PARTUM DEPRESSION: A CRITICAL REVIEW OF THE LITERATURE

A MASTERS PROJECT

SUBMITTED TO THE GRADUATE FACULTY

OF THE GRADUATE SCHOOL

BETHEL UNIVERSITY

BY

SUZANNE M. CHATTERS

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSE-MIDWIFERY

MAY 2016

BETHEL UNIVERSITY

Midwife Provider Education and Screening Can Prevent and Decrease the Prevalence of Perinatal and Postpartum Depression: A Critical Review of the Literature

Suzanne Marie Chatters

May 2016

Approvals:

Project Advisor Name:	Krista Hoekstra
Project Advisor Signature:	
Second Reader Name:	Dr. Jane Wrede, APRN, CNM
Second Reader Signature:	
Director of Graduate Nursing Program Name:	Dr. Jane Wrede, APRN, CNM
Director of Graduate Nursing Program Signature:	

Acknowledgments

I do it for the joy it brings
Because I'm a joyful girl
Because the world owes me nothing
And we owe each other the world
Ani DiFranco

I owe my ability to create this work and walk this journey to the women before me; Adelaide Forslin, Joann Nelson and Aleta Isaacson and pass this strength forward to my purpose and joy; Amelie-Michele and Bjork Lykke. George Eugene is the reason I dreamed, began and persevered. He is my strength and the air I breathe.

For the women walking beside me, I thank you Master Peach for your artistic force, enduring love and advice seamlessly interwoven in these pages. Thank you Bethel faculty for your support, encouragement and guidance. Lastly, I owe a world of gratitude to the midwives, women and families who teach me every day how to be a better person than the day before.

Abstract

Background: Perinatal and postpartum depression (PPD) has a diagnosed prevalence of 10-20%. Experts theorize that up to 60% of women experiencing PPD do not seek help. Mental depression carries a negative stigma in western culture and medicine. It is however, both a natural occurrence and physiologic disorder. If unaddressed, depression can become a severe and dangerous condition for both women and their children. The transition to motherhood presents with multifactorial influences such as hormonal, physical, and mental changes. Pregnant women in particular, who are experiencing a change in hormonal status, sleep pattern disruption, and personal role identity are at risk for PPD. Research supports that midwifery education that includes mental health complexity and screening implementation has the ability to prevent and decrease the prevalence of PPD.

Purpose: To determine if midwife provider education and screening can decrease the prevalence of perinatal and postpartum depression.

Results: The Midwifery Partnership Model is utilized as the framework for this literature review of 25 studies. Research indicates that there is a clear understanding of risk factors associated with PPD and that when midwives are trained how to identify risks, screen for PPD and facilitate resources, the prevalence is decreased by 40%.

Conclusion: When educated about mental health complexity and trained in effective screening, midwives have the ability to partner with women during pregnancy to identify and prevent the negative influences that increase the risk for PPD. Screening tools, therapeutic communication and intervention, along with identifying social support structures for women and their families, contribute to increased mental wellness and wellbeing for women and their children.

Implications for practice and research: Research strongly supports that midwifery education curriculum should include fundamental mental health complexity, screening tool implementation, and basic person centered counseling. Universal screening for PPD is recommended as a standard of practice for all primary maternity care settings. Integrative mental health collaboration among practitioners benefits patient outcomes. Further research investigating the implementation of midwifery led counseling therapy is needed for systematic practice integration.

Keywords: Postpartum depression risk factors, maternal-infant dyad, maternal social support, perinatal and postpartum depression, provider psychiatric education and training, screening and prevalence, Postpartum Depression Screening Scale (PDSS), Edinburgh Postnatal Depression Scale (EPDS) and midwives as feminist praxis.

Table of Contents

List of Tables

Chapter I: Introduction

Depressive disorders are mental disabilities that affect the quality of an individual's life, influencing their capacity to function, impacting family, relationships and society at large. Depression is commonly untreated, affecting millions of individuals in the United States (Siu et. al, 2016). In a recommendation statement from the US Preventive Task Force (USPTF) *Screening for depression in adults.,* Siu et. al., (2016) state that depression is a leading cause of disability for individuals older than 15 years of age. It is also more prevalent among women than men with an increased risk for major depression during childbearing age (O'Connor, Rossom, Henninger, Groom & Burda, 2016). Collective clinical reports, government surveys and systematic reviews support that depression is one of the most common complications of the perinatal and postpartum periods (Gaynes et. al., 2005; Liu & Tronick, 2013; O'Connor et. al., 2016).

The term perinatal and postpartum depression (PPD) encompasses a continuum of differentiated psychological diagnoses determined by severity and onset. Perinatal depression (during pregnancy) is less common than postpartum depression respectively. Postpartum depression is categorized into minor depression, major depression and postpartum psychosis (O'Connor et.al., 2016). Clinically diagnosed postpartum depression excludes the "baby blues", a common physiological response to normal hormonal shift after delivery affecting 65% of women (Stowe, Hostetter & Newport, 2005).

The Alliance for Innovation on Maternal Health (AIM) Program supports that maternal depression and it's negative impact on bonding, attachment and newborn outcomes set the stage for public and provider awareness regarding perinatal mental health, with an understanding that it broadly impacts more than the mother alone (AIM, 2014). Rather, it is known that maternal

wellbeing determines the newborn's ability to thrive and can impact family dynamics over a lifetime (McGarry et. al., 2009). With increased access to more evidence based data and public awareness, health care will be pushed to provide better screening for factors that increase the incidence of PPD and research will need to explore effective measures for prevention and treatment (Sikorski, 2012).

According to a literature review and meta analysis by Gaynes et. al. (2005), previous theory and studies proposed that education, marital and socioeconomic status or race and ethnicity could determine the likelihood that a woman will experience Perinatal and Postpartum Depression (PPD) but produced inconsistent findings. The predominant theme of discovery in this review of evidence does not negate previous theory. Instead, it broadens the concept of demographic predictors to include a more accurate and individualized screening process that identifies women at risk for PPD. In addition, research supports the need for increased healthcare provider training and implementation of screening tools to identify women at risk for PPD in order to effectively facilitate a reduction in PPD prevalence.

Statement of Purpose/Research Question

The focus of this literature review is to determine if midwife provider education and screening have the potential to decrease the prevalence of PPD. PPD is a very broad and complex issue in global health care. To be clear, numerous research studies have discovered multiple effective measures and therapies proven to reduce and sometimes prevent the symptoms of PPD. However, the prevalence of PPD has not decreased over the past decade despite this evidence (O'Connor et. al., 2016). In the United Kingdom and Australia where midwifery practice has had a more prominent presence than in the United States, experts (Morrell et. al., 2011) suggest that the missing link and gap in health care is connecting provider education and

women experiencing PPD to the appropriate therapy. General practitioners (GP) and midwives are a primary healthcare gateway to successful identification, referral and access to treatment. Current research finds that most GP and midwives require further training on mental health complexity in order to feel competent caring for women with PPD (Reed et. al., 2014; Morrell et. al, 2011).

Need for Critical Review of a Nursing Problem

Perinatal and postpartum depression (PPD) is a significant public health concern with a diagnosed and reported prevalence of 13-19% effecting women from all races and socioeconomic status (Liu & Tronick, 2013). Additionally, qualitative studies and research surveys provide evidence that the number of women who experience depressive symptoms associated with pregnancy and postpartum can be three times greater than reported (McGarry et. al, 2009). Public awareness and provider screening is an integral component to decreasing a debilitating disorder thereby increasing maternal and family centered wellness (Siu, et. al., 2016).

Significance to Nurse Midwifery

Women seek health care and have the most opportunity for contact with care providers during their childbearing years. The role of the contemporary Nurse Midwife according to Surtees (2003) is to partner with women in their healthcare. Nurse Midwives should recognize this as an opportunity to establish a foundation of trust and praxis for each woman's wellbeing (Surtees, 2003). The "empowerment of women as partners in health care" is one of the core, *Hallmarks of Midwifery* that supports this recommendation (ACNM, 2012).

This review of evidence strongly encourages health care providers to develop a step-by-step framework approach to identifying, preventing and treating perinatal and postpartum

depression. This framework must be implemented with the right interdisciplinary collaboration in order to affect a shift in practice change that supports a partnership with women as active participants in their health care.

Due to the significant increased risk that pregnancy and childbirth impart, Sikorski et. al., (2012) state that the perinatal and postpartum periods are not the time for non-psychiatric providers to ignore depression screening. An emphasis on the prevention of depression is predominant throughout the literature, recognizing that screening is key to initiating a step-by-step approach to the process of treatment and remission (Sikorski, et. al, 2012).

Conceptual Model/Theoretical Framework

The Partnership Model, a midwifery practice theory developed by Karen Guilliland and Sally Pairman in 1995, practicing midwives from New Zealand, has been chosen as the theoretical framework for this literature review. The origin of this model of midwifery care is closely tied to the political climate that directly impacted medical obstetrical practice and women's healthcare in New Zealand in the 1980s. A large demographic of women desired and lobbied for a new healthcare model that empowered and facilitated their autonomy (Bryer & Sinclair, 2011). Women's issues were high on the political agenda at the time and maternity consumer organizations partnered with the midwifery community to reinstate midwifery as a professional autonomous practice (Pairman & McAra-Couper, 2006). The Partnership Model was created in response to and as representation of this shift in women's health care demands and respect for their autonomy.

The five inherent principles of The Partnership Model are individual negotiation, equality, shared responsibility, empowerment and informed choice & consent. These principles guide the

relationship between the midwife and the woman, respecting the individual differences that each bring to the relationship while fostering active participation (Guilliland & Pairman, 1995).

Midwifery meaning "with woman" is rooted in the art of birthing with support that empowers women. Millar (2011), describes the midwifery model of care as "the oldest partnership in human society". She eloquently refers to this support as a woven tapestry, describing the warp as "the strong supports beneath the tapestry" and the weft as "the interwoven threads of our individual experiences and lives." The Partnership Model is an interactive framework that recognizes the unique relationship that the midwifery profession and women have shared throughout human existence.

Summary

This review will explore how Nurse Midwives have the capacity to partner with women of childbearing age to prevent and reduce the prevalence of PPD. Chapter 2 describes the methods used for this literature review, the inclusion and exclusion criteria of the material as well as critical appraisal of the literature for evaluating the strength and quality of the studies. Chapter 3 provides a synthesis of the evidence with major findings and discussion of the Matrix (Table 1) in regard to the strengths and weaknesses of the studies. Chapter 4 concludes this review with an evaluation of gaps and trends in the literature, nurse midwifery practice implications and recommendations for future research.

Chapter II: Methods

This chapter will examine the process and methods utilized in the critical appraisal of literature reviewed and synthesized for the practice question of this project. Search terms and strategies identifying relevant research will be described. Exploration of inclusion and exclusion criteria will be reviewed. The total and type of studies obtained will be explained. Lastly, the appraisal method for determining the level of evidence and quality of the research studies will be discussed.

Search Strategies Used to Identify Research Studies

The leading resources for systematic reviews in health care are the Cochrane Database of Systematic Reviews (CDSR) and The U.S. Preventive Services Task Force (USPSTF). The initial search terms in these databases were perinatal and postpartum depression, education, screening and prevalence. A total of 53 reviews were found. Two systematic reviews with meta-analysis from 2016 provided the most current references with studies investigating midwife provider education and screening related to depression in general and depression in the perinatal and postnatal population. The references cited within the systematic reviews supplied relevant and practical search terms used in multiple, consecutive evidence reviews performed in major research databases including CINAHL, NCBI, PubMed, and Google Scholar. These combined searches revealed hundreds of relevant evidence based data consistent with findings that identify common risk factors associated with postpartum depression as well as a general consensus on the current understanding of PPD origin and treatment among providers. However, the majority of studies found focused on the safety of medication and treatment options for PPD.

In order to address the practice question more effectively and narrow the topic to include PPD prevalence in relation to provider education and screening, new terms such as midwife

provider psychiatric education, provider training for screening depression, Postpartum Depression Screening Scale (PDSS), Edinburgh Postnatal Depression Scale (EPDS), and midwives as feminist praxis, were utilized in an additional evidence search. The publishing date range for this search was 2011-2016. The scholarly literature review standard according to Dearholt & Dang (2012), define research evidence as current if it is within the most recent five year time period. The search continued to expand on the date range of studies referenced within references until data saturation was achieved with the most current studies for provider education and screening. This provided a total 25 studies associated with tools developed for the purpose of increasing the effectiveness of provider education and screening in relation to a decrease in PPD prevalence among women giving birth.

Criteria for Including or Excluding Research Studies

Numerous studies reviewed in this evidence search were excluded because they did not support the purpose of the practice question or were of low quality without conclusive or applicable findings. Experimental, randomized controlled trials, quasi-experimental and non-experimental (including qualitative research) studies comprise the different type of research synthesized in the matrix review (Table 1). The majority of included studies are of Level II and Level III evidence with high and good quality according to Dearholt & Dang (2012) criteria. Due to the nature of depression and it's unique and individual presentation, qualitative research (Level III evidence) provides some of the most efficacious and ethical data for health care providers caring for women with PPD. Level I evidence studies are also represented in the synthesis with high quality findings to support the practice question and further, recommend a practice change for the healthcare provider.

Number and Types of Studies Selected

Hundreds of studies were discovered. The majority of relevant studies focused on screening tools for PPD. Studies in regard to provider education were limited and more difficult to find. Research studies were selected in regard to topic relevance, level of evidence, and quality.

Criteria for Evaluating Research Studies

The *John Hopkins Nursing Evidence-Based Practice: Model and Guidelines* was used to evaluate the research studies in this literature review (Dearholt & Dang, 2012). According to the John Hopkins Model, studies are evaluated using the Evidence Level and Quality Guide. Evidence Level I research studies consist of experimental studies, which are either randomized control trials (RCT), or systematic reviews of RCTs with or without a meta-analysis. Evidence Level II research studies consist of quasi-experimental studies, which are a mixture of RCTs and quasi-experimental studies with or without meta-analysis. Evidence Level III research studies consist of non-experimental studies, qualitative studies, or a mixture of RCTs, quasi-experimental and non-experimental studies with or without meta-analysis. Evidence Level IV is literature composed of respected authority opinion such as clinical practice guidelines or consensus panels based on scientific evidence (Dearholt & Dang, 2012).

After determining the Level of Evidence for each study in the matrix, the Quality Guide is used to rank each study as either High, Good or Low quality. A research study is measured high quality if it has an adequate subject size, good control, consistent findings and conclusive results that can be generalized. Research studies are measured good quality if there is a suitable sample size, some control, with reliable outcomes and fairly definitive conclusions. Research

studies are considered low quality if there is inadequate sample size, minimal evidence and inconsistent results (Dearholt & Dang, 2012).

Summary

The inclusion of 25 research studies in the final matrix review (Table 1), provide a thorough evaluation of the evidence. Research supports that provider education entailing the complexity of mental health issues coupled with evidence based screening tools, when implemented effectively by healthcare providers can reduce the prevalence of PPD. This chapter discussed the evidence search process, study inclusion and exclusion criteria as well as the method of appraisal used to determine the level and quality of the research.

Chapter III: Literature Review and Analysis

This chapter will discuss the synthesis of major findings from this exploratory literature review. To review and clarify, a large body of research is available regarding numerous modalities and treatments that have been proven to decrease PPD after diagnosis. The purpose of this practice question is to evaluate whether midwife providers specifically, within their unique role and partnership with women, can decrease the prevalence of PPD when educated on PPD complexity and efficacious screening tools.

Synthesis of the Matrix

A total of 25 studies were synthesized in the matrix review (Table 1), which organizes the literature into the following categories: Citation, purpose, sample, design, measurement, results/conclusion, recommendations and level & quality. The Table 1 headers titled *I. Provider Education* (13 studies) and *II. Provider Screening* (12 studies) further organize the studies to support the major components of the practice question: Can midwife provider education and screening decrease the prevalence of perinatal and postpartum depression? Title *I. Provider Education* is most representative of the eleven studies in section one of the matrix review because the title Midwife Provider Education would be inaccurate. This section is comprised of studies investigating numerous provider specialties. There is limited research available that focuses on midwife provider education specifically. It is important to note that the topic of provider education crosses both sections of the studies found in this review. The eleven studies found to address this component of the practice question include research within provider groups such as general practice, family practice, psychiatry, social services, as well as midwifery. The following discussion of synthesis findings acknowledges that research about provider education overlaps both sections of the practice question. The research about provider education related to

PPD includes curriculum standards about psychiatric complexity and risk factors and discusses how to train providers to implement screening tools effectively.

Title *II. Provider Screening* of the second section of the matrix review encompasses research literature that recommends screening across different specialties within the health care system. Each study was individually appraised by the method, sample size, and level of evidence, quality and findings. All of the studies in the matrix review (Table 1) are of high or good quality. The study designs include randomized controlled trials, quasi-experimental and non-experimental design (Dearholt & Dang, 2015). The strengths and weaknesses of the studies will be addressed throughout the chapter as each is study is discussed.

Major Findings Associated with Provider Education

In a systematic review on the U.S. primary care management of depression, Gilbody, Whitty, Grimshaw & Thomas (2003) found commonly used guidelines and educational strategies to address mental health within primary care to be ineffective. This large and high quality systematic review suggested the need for a major shift in the organization and provision of care for mental health, requiring a significant investment in primary care education and policy in order to meet the growing needs of individuals living with depression.

Research investigating primary care provider education offers valuable information about effective curriculum and content as well as factors that enhance provider knowledge, confidence and ability. Leigh, Stewart & Mallios (2006) were investigating the current state of psychiatric training for numerous general practice groups among 1,365 trainers to include OB/GYN residency programs and discovered that 92% of the training directors of the OB/GYN programs believed that the mental health curriculum was suboptimal and 40% of OBGYN residencies desired more psychiatric training. The results of this study would indicate that in order for

maternal health care providers to effectively deliver mental health assessment and care, the educational training for such requires further development and standardized implementation.

Almost a decade later, numerous organizations including the Center for Disease Control (CDC), the World Health Organization (WHO) and the Institute of Mental Health (IMH) have established position statements and global goals to address the increasing prevalence of depression and PPD specifically. The WHO (2016), states that in developing countries the prevalence of women with depression is 15.6% during pregnancy and 19.8% after childbirth, significantly impacting global society.

National survey and data collection from the CDC (2014) and the *Comprehensive Mental Health Plan Agenda 2013-2020* published by the WHO after the 66th world health assembly in 2012, appear to be the start of published literature in response to large scale, public awareness of an increase in depression prevalence. The WHO position regards mental health as a human right. The mental health agenda includes targeted outcomes with action plans to address PPD on a global scale among developed and developing nations. It is recommended that national health care systems develop policies that address mental health care to include integrated information systems and increased evidence based practice, both of which require increased systematic primary care provider education. This fairly recent shift in public awareness is the presumed reason for the limited current research on midwife provider specific education and it's impact on PPD prevalence.

Education Positively Impacts PPD Prevalence

While midwifery practice around the world is as old as time itself, the British United Kingdom has had one of the largest documented bodies of trained midwives practicing for more than 600 years (Ridgeway, 2002). This long standing history of midwifery care compared with

the US history of predominant obstetrical care for women over the past century would suggest that the UK is staged and prepared to lead the field in expert research addressing midwife provider education curriculum that has been proven to decrease the prevalence of PPD. Associate Professor Jane Morrell is lead in the Health Research Department at the University of Nottingham U.K. She and her colleagues proliferate research over the last five year period addresses the practice question of this literature review with evidence in numerous, large studies (Brugha et. al., 2011; Brugha et. al., 2016; Morrell et. al., 2009 & Morell et. al., 2011).

These studies are the basis of and fundamental evidence for the curriculum and training material titled *Training Health - Care Professionals for the Assessment and Management of Perinatal Depression and Anxiety* published in 2015 for health care professionals. This body of work provides a standard of practice to be implemented in midwife provider education programs because it has proven to reduce PPD as well as decrease the cost of mental health care for health care systems by way of active partnership between midwives and women.

While counterintuitive, it is important to recognize that an increase in diagnosis and therefore incidence of PPD triggers the process and framework for decreasing its prevalence (Jardri et. al, 2010). An experimental two part study with the purpose to improve midwife proficiency in screening for PPD, Jardi et. al, (2010) found that when midwives were trained on how to use the Edinburgh Postnatal Depression Scale (EPDS), the MINI-Diagnostic and Statistic Manual of Mental Health Disorders IV (DSM-IV) and the Midwife Questionnaire (MIDQ) effectively, early detection of major depressive episodes increased by 37%. An increase of identified depression requires further assessment in order to connect clinical screening practice to the appropriate care and therapy for women experiencing PPD. Increasing the detection of depression is an important key to identifying a problem, but this study does not address the next

step, connecting women with the appropriate therapy once identified and diagnosed. Jardri et. al., (2010) recognized that further longitudinal research is necessary in order to determine the therapeutic impact this screening offers the health care model of preventing PPD and is an example of a gap in practice where connecting provider education and screening to patient treatment and reduction needs further research.

Addressing the above identified gap, a large randomized control trial by Morrell et. al., (2009) found that provider training in psychologically informed approaches can be beneficial for the provider and reduces the prevalence of postnatal depression when implemented in a multi step approach. First, providers were better prepared to identify postnatal depression earlier than the control group after training on how to use the EPDS combined with clinical assessment skills. When women were diagnosed with postnatal depression, providers then implemented the second stage of training, which included the use of cognitive behavioral therapy and or person centered counseling principles for an hour a week for eight weeks. These weekly sessions provided to patients were able to decrease the prevalence of postnatal depression significantly at six and twelve months postpartum when compared with the control group.

In addition to provider education decreasing postnatal depression prevalence, Brugha et, al., (2011) found that provider psychological training and intervention can in fact prevent the incidence of postnatal depression. This study conducted a major randomized controlled trial among 101 primary care provider teams in the U.K to determine if training primary care providers on how to recognize the signs of depression, how to develop therapeutic relationships and how to provide psychological approaches to the management of depression could prevent postnatal depression. This study found that women in the intervention group who screened negative for depression at 6 weeks postpartum continued to have no signs of depression at 18

months postpartum compared to a substantially greater number of women who developed postnatal depression in the control group. Again, provider education and training coupled with therapeutic partnership with women can have a positive impact on the prevention of postnatal depression.

Burns et. al., (2013) conducted a randomized controlled trial (RCT) and feasibility study to determine if the effectiveness of cognitive behavioral training (CBT) for providers when implemented to women diagnosed with perinatal depression could decrease perinatal depression prior to the end of pregnancy. This study sample of 154 candidates from a pool of more than 5,000 women in the Bristol UK midwifery service during a 2 year period found that when midwives implemented CBT in addition to prenatal care as usual that 81% of the intervention group did not have depression at 33 weeks gestation when compared with 31% of the control group who received care as usual during pregnancy. This study suggests that the positive findings from this research are feasible and should be re-trialed with a larger study sample.

Education Is Cost Effective

According to Brugha et. al., (2016) depression is a global burden of disease with great cost for health care systems in developing and developed countries. These experts found that historically, minimal evaluation of universal approaches for preventing depression in adulthood have been performed due to cost and the very large study sizes needed. In response to this, Brugha et. al, (2016) built upon previous supportive data findings from (Morrell et. al, 2009; Brugha et. al, 2011) and performed an external pilot test to determine the feasibility of implementing a 7-day training of CBT and person centered counseling principles for providers. In this study experts examined the curriculum needed for health care providers including midwives specifically, the cost effectiveness of implementing this education and care compared

with traditional approaches to perinatal care without mental health integration and found that PPD can be reduced as well as prevented (Brugha et. al., 2011). This provider training and implemented therapy were found to be a cost effective with clinical and economic benefit and therefore approved for health care system integration in place of nonexistent or minimal traditional therapy (Brugha et. al., 2011). Also important to note in regard to the integration of new therapeutic approaches within the primary care setting, is the fact that this study found that women welcome and want their midwife providers to actively facilitate their mental health care.

Further research is needed to determine how implementing this new care model can be accomplished. These recommendations imply the need to shift structure of provider visits and time allowed or necessary in order to deliver this therapy in existing health care systems. Keeping continuity of care would need to be considered as a factor compared with referral to outside mental health provider versus the midwife providing the CBT therapies.

Education and Training Findings

Preparing to provide quality care to women in the maternity field requires an expansive level of knowledge beyond obstetrics and gynecology. Many obstetricians, family practice and midwife providers report that maternity care involves not only caring for the woman during pregnancy but also encompasses caring for women with health conditions unrelated to pregnancy such as chronic disease and mental health conditions that may not have been previously diagnosed or treated. The following is a discussion about study findings that recommend the inclusion of psychiatric complexity in student provider curriculum as well as basic therapeutic interventions that increase provider preparedness and confidence.

Two recent studies (Higgins, Carol & Sharek 2016; Jarrett , 2014) identified specific curriculum details to consider when developing and implementing student midwife education. As

part of a psychological and mental health training course provided to students by Higgins, Carol & Sharek (2016), pre-module and post-module surveys were completed to provide students perceptions and understanding of the curriculum content. The survey findings support that student providers who receive education about the complexity of mental health in school are less likely to use stereotypes and labeling of women who might be experiencing depression and more likely to implement evidence-based evaluation. In addition to developing a better understanding of psychiatric health complexity, students were then more likely to understand that depression manifests differently in diverse populations of women (Jarrett, 2016). This in turn proved student midwives more likely to implement collaborative referral for women at risk. Limitations of these studies include a small demographic of students. A larger study with more schools from different regions would likely add more diversity to the implied necessity of increased mental health awareness for student providers.

An exploratory study describing what it's like to learn a new therapy technique as a midwife provider by Reed et. al, (2014) provides substantiated evidence that basic training on interventive counseling technique benefits both the midwife provider and the patient. A training session on counseling intervention for midwives titled Promoting Resilience in Mothers Emotions (PRIME) provides qualitative data for education development for midwives. This training builds provider skill set and confidence. The tools learned for counseling women also provide skills that prevent midwife burn out. This study suggests that skills in counseling therapy benefit both the provider and the patient.

Education Supports Integrative Collaboration

In addition to basic education and training related to psychiatric conditions, complexity and risk factors, research supports that integrative collaboration among provider types would

benefit patient outcome and decrease the prevalence of PPD by connecting women with the appropriate therapy and intervention. In Australia, a large random sample of general practitioners (GP), Maternal Child Health Nurses (MCHN) and midwives were assessed for level of knowledge about PPD prior to implementing a comprehensive screening program nationally. This study found that GPs and MCHNs had a higher awareness of mental health issues that childbearing women experience than midwives. Conversely, GPs were more likely to treat depression with prescriptions and midwives who did recognize depression among women were more likely to offer non-pharmacological treatment to women. This study found a gap between provider awareness and knowledge of safety risks associated with treatments available for women with depressive episodes and suggests that collaborative integrative standard education among providers would benefit patients (Buist et. al., 2006).

Maternal and Perinatal Partnerships in Mental Health (MAPPIM) is an example of collaborative efforts to recognize and prevent PPD. Ross-Davie, Elliott & Green (2007) found that a study evaluating a training day program for midwives and obstetricians improved midwifery skills and promotes the integrative collaboration between midwives and obstetricians. British collaborative perinatal mental health initiative was created in response to the national report that maternal psychiatric disorders were the leading cause in maternal death according to the Confidential Enquiry in Maternal and Child Death (CEMCD) 2004 report. A study day training program was developed for the purpose of enhancing provider skills and awareness of perinatal mental health in effort to decrease maternal mortality rates. This program proved to benefit midwives knowledge and promote interdisciplinary collaboration.

Major Findings Related to Provider Screening

Several screening instruments have been developed worldwide to facilitate obstetrical professionals in the triage of mental disorders during pregnancy (Quispel et. al., 2015). Most instruments show limitations in diagnostic coverage. A commonly used instrument like the EPDS has a narrow focus on the most common mental disorders such as depression and anxiety. These instruments fail to triage potential mental disorders beyond depression in pregnancy as well as comorbid conditions such as insufficient social support and substance use both of which are claimed to be strong independent co-predictors for mental disorders but are rarely incorporated in screening or triage. In a large validation study with a diverse demographic of urban women, Quispel et. al., (2015) determined that two forms of screening are recommended for effectively triaging a woman's risk for both mental disorders and comorbid conditions in addition to depression during pregnancy.

For valid detection of the full spectrum of common mental disorders during pregnancy, at least the intermediate set of five psychiatric items should be implemented in routine obstetric care. In addition to the EPDS, five psychiatric factors should be asked and evaluated in order to determine mental disorders beyond depression that can be exacerbated during pregnancy to include ever experiencing a traumatic experience, a depressed mood, panic attacks and current psychiatric symptoms such as depression or anxiety.

For a brief yet comprehensive triage, three high impact psychosocial items should be added as independent contributors to assess for a comorbid disorder with depression. In addition to the EPDS, providers should ask the patient about alcohol consumption, history or present physical or sexual abuse and whether the pregnancy was planned or unplanned. The researchers of this study suggest that despite the valid and discriminating triage tools proven effective, 23

women with current mental disorders were missed. Quispel et. al., (2015) theorize that these women are likely to have limited insight into their illness, because all 23 responded negatively to the question about having current psychiatric symptoms. According to Quispel et. al., (2015):

> Three out of five women with a current eating disorder, and two out of eight women with a current psychotic disorder were missed by the triage model, indicating a low sensitivity for these types of disorders. Seven out of the 23 missed cases included first onset of psychiatric disorders in women of moderate to high education from a Western origin, without a psychiatric history and without any psychosocial stressors. Two of these women reported fetal loss or previous miscarriages as reasons for their anxiety disorder. This stresses the importance of special awareness of the psychiatric consequence of previous adverse pregnancy outcomes.

Most of the major findings related to provider screening in this synthesis review are well summarized in the above study. Efficacious screening requires the provider to have the ability to clinically assess which screening tool is going to be the most effective for the patient being triaged, keeping in mind that sensitivity is more important that specificity as further developed in the following section. Lastly, providers who partner with women have the potential to identify unique role transitions for women as they enter motherhood. For example, the first time mother or mother with a previous loss would require different levels of support and resources based upon their individual strengths and experience. When midwives deliver person centered support, it has been proven to increase the woman's coping skills and decrease PPD (DelGrande, 2014).

Screening Sensitivity is More Important than Specificity

According to the American Psychological Association (2015), sensitivity refers to a screening tool's capacity to correctly detect patients who have the condition screened for. The sensitivity of a test is the proportion of people who test positive for the disease among those who have the disease. Specificity relates to the screening tool's capacity to correctly detect patients without a condition. Specificity of a test is the proportion of healthy patients known not to have the disease, who will test negative for it.

The following three studies by Chaudron et. al., (2010); Connelly et. al., (2013), and Tandon et. al., (2012) support the importance and effectiveness of sensitivity screening for depression among Latina, African American, and low-income, urban women. In the study by Connelly et. al., (2013) when postpartum depression was identified, the co-occurrence of intimate partner violence (IPV) or substance abuse was found to be 37% among a large random sample of Latina women from 10 different community clinics in San Diego. These findings suggest that women who screen positive for depression should then be screened for the co-occurrence of IPV and substance abuse in order to facilitate efficacious resources and treatment. Tandon et. al., (2012) report that the EPDS, Center for Epidemiologic Studies Depression Scale (CES-D) and the Beck Depression Inventory II (BDI-II) tools were highly accurate in identifying minor and major depression among African American women and discovered that with proficient sensitivity, 28.4% of African American women in this study were experiencing major depression. The EPDS, BDI-II and PDSS have also been proven as accurate and sensitive measurement tools to the demographic of low-income urban women (Chaudron et. al., 2010).

Screening Tools Proven Effective

The most commonly used screening tools utilized in the studies throughout this literature review include the Edinburgh Postnatal Depression Scale (EPDS) and Beck Depression Inventory II (BDI-II). Additional research by Bicking Kinsey, Baptiste-Roberts, Zhu & Kjerulff (2014) has investigated the modification of the postpartum bonding questionnaire (PBQ) for repurpose because it is very long and time consuming. In a two part, cross sectional study interviewing more than 3,000 women it was determined that a (S)hortened SPBQ-10 was just as effective as the older and longer version. The SPBQ-10 effectively identified emotional and

psychosocial factors that impact maternal infant bonding and was found to be less cumbersome to administer for the provider and patient.

Tebbe, Terluin & Koelewijn, (2013) found that a primary care psychological evaluation tool is valid for midwifery practice assessment of pregnant women. This was a cross sectional study among 15 primary midwifery practice in the Netherlands. The Four-Dimensional Symptom Questionnaire (4DSQ) is a commonly used instrument in Dutch practice to assess for level of distress, somatization, depression and anxiety. The narrow demographic of participants in this study presents a limitation, but the significance of this tool is that it evaluates for anxiety as well as depression unlike many traditional tools such as the EPDs and PPDS that do not account for the co-occurrence of anxiety.

Screening Identifies Modifiable Risk Factors

The following studies provide evidence to recommend that providers assess for modifiable risk factors in the antenatal period. Identifying risk factors that can be addressed with education, accessible resources and behavior during pregnancy, has proven to prevent and reduce the occurrence of perinatal and postpartum depression. Examples of modifiable risk factors include diet, personal behavior and lifestyle choices and social support structures.

A large, prospective, randomized-control trial found a strong association between iron deficiency anemia (IDA), depression, stress and cognitive functioning in postnatal women living in low-income communities. Beard et.al., (2005) strongly recommend routine postpartum screening for iron deficiency anemia (IDA) in low-income populations. This screening is associated with increased identification of women at risk for PPD and can be prevented when supplemental iron is prescribed and provided for the patient and fetus.

Goyal, Gay & Lee, (2009) found that sleep deprivation accounted for 13-16% of PPD and that 28% of these women had depressive symptoms during the third trimester. This study discusses the significance of sleep hygiene and the importance of healthy sleep habits. Goyal, Gay & Lee, (2009) recommend that providers screen for sleep assessment during the antenatal period because earlier screening was found to positively impact the prevalence of PPD. Teaching directed toward the correction of sleep deprivation supports pregnant women to learn how to modify sleep habits and develop effective coping skills.

According to McGarry et. al., (2009), 14.7 % of women in this study reported experiencing symptoms of PPD and 60% of these women did not seek help. Socio-economic demographics do not predict likelihood to seek treatment for PPD. Nonwhite women and women with history of abuse were least likely to seek help. A call for public health awareness and collaborative effort among providers is needed. Establishing referral services and resources for women is a key element in screening and treatment for PPD.

Social support has been studied extensively and is well known to have a direct impact on a pregnant woman's experience. A lack of social support is associated with poor outcomes for the mother and the baby (Goyal, Gay & Lee, 2009). Poor marital satisfaction identified in the antenatal period is a significant predictor of PPD. In addition to assessing each woman's relationship satisfaction, Anding et. al., (2015) have found cause to explore any history of depression in the pregnant woman's partner. Midwives in community practice in Germany have begun to routinely assess for a history of depression and potential for depression in each woman's partner because they found a significant association between the mother's experience of postnatal depression and their partners experience of depression as well. Intimacy and sexual functioning are significantly affected by the physiologic, hormonal and emotional changes that

pregnancy entails. Yee et. al., (2013) found that depression and exclusive breastfeeding are associated with poor and decreased postpartum sexual functioning. The research from this study recommends that providers routinely offer counseling and education about anticipated changes that will challenge couples to find ways to be intimate and supportive in the postnatal period.

According to DelGrande (2014) providers can minimize the negative impact of depression by increasing maternal "hardiness" and coping skills. This study suggests that women transition through stages in the postnatal period as they acclimate to balancing the newborn's needs with their own needs. When providers in this study effectively assessed how women were coping with these changes, they were better able to positively impact the maternal-infant dyad and promote effective parenting behaviors by providing education, counseling and resources.

Summary

Four core measures were discovered in this literature review for preventing and reducing PPD; Provider education and screening promotes early detection and facilitates interdisciplinary collaboration. These key factors are theorized to bridge the gap between screening and treatment, so that women can receive individualized, person-centered care. Education about psychological conditions during pregnancy builds provider confidence in screening women for associated risk. This ability facilitates interdisciplinary collaboration bridging women with needs to appropriate care. Non-psychiatric primary care providers cannot ignore screening for risks associated with depression. Together, provider education and screening benefit patient outcomes.

Chapter IV: Discussion, Trends, Gaps and Future Implication

The purpose of this chapter is to discuss this literature synthesis with regard to current trends in perinatal and postpartum depression, gaps in research and future implications for midwifery practice and education. This discussion is based on the studies presented in the matrix (Table 1). The purpose of this critical review of literature is to determine if provider education and screening can decrease the prevalence of perinatal and postpartum depression. Midwife providers are an integral gate way component of primary health care with respect to identifying, preventing and facilitating the treatment of women with PPD. Non-psychiatric providers with proficient knowledge of the complexity of perinatal and postpartum depression and its associated risk factors, have the capacity to decrease the prevalence of postpartum depression. When midwife providers enhance their skill set of patient qualitative assessment and knowledge of effective screening, women have an increased likelihood to find the appropriate support for PPD, thereby decreasing the prevalence of PPD.

Trends in the Literature

Mental health awareness campaigns have emerged during the last triennial among international public health coalitions to include position statements and achievement goals from the World Health Organization (WHO), Integrative Mental Health (IMH), Alliance for Innovation on Maternal Health (AIM), U.S. Preventive Task Force (USPTF), and the Center for Disease Control (CDC).

Depression causes enormous suffering and disability and reduced response to a child's needs. Evidence indicates that treating the depression of mother's leads to improved growth and development of the newborn (Burns et. al., 2013). Globally, maternal mental health problems are considered as a major public health challenge (WHO, 2013). Maternal mortality still lies at the

heart of maternal health indicators. WHO is considering Universal Health Coverage (UHC) and proposing Healthy Life Expectancy (HLE) related indicators as well. This implies stronger focus on mental health conditions in the integrated delivery of services for maternal and child health. In fact, some academic and public health institutions in low and middle-income countries have already initiated integrated maternal mental health programs. These have been low cost interventions with the involvement of non-specialized or community health providers. Impact has been demonstrated not only on mothers but also on growth and development of children (WHO, 2013).

Preventive treatment is a strong trend found in this literature review. Preventive treatment requires foundational basic training for non-psychiatric primary health care providers to assess, screen and diagnosis PPD early. Studies by Morrell et. al., (2011) and Brugha et. al., (2016) support that prevention is more feasible than the cost of not identifying and not treating PPD. These treatments include CBT with person-centered focus counseling. The partnership model of care that midwifery provides support patient's to trust, engage and seek care and is the found to be the most productive approach to fostering identification and potential treatment when necessary.

Gaps/ Future Research

It is important to note that the connection between provider education and decreased PPD prevalence involves the implementation of multiple factors in an algorithmic approach in order to get to the final result of decreased PPD prevalence. While the studies in this literature review support this practice connection, this finding is also referred to as a gap in most health care systems. Experts Morrell et.al., (2011), provide the most comprehensive areas for further research to from their national PoNDER study to include; the identification of affected women,

women's preferences, cost-effectiveness of different intervention models and the relationship between depressive symptoms in women and partners. Recognition of depression in partners as part of the birth "triad" is now being studied in some areas in respect to the known impact that social support has on preventing PPD (Liu et. al., 2016, Anding et. al., 2016). Financial resources are currently being designated and spent on mental health infrastructures and institutions that do not promote better outcomes. There is a legislative-financial allocation gap between funding programs with research proven to reduce mental health disorders versus maintaining the status quo. According to the WHO's Mental Health Atlas 2011, the scarcity of resources within countries to meet mental health needs underlines the inequitable distribution and inefficient use of such resources. Globally, for instance, annual spending on mental health is less than US $2 per person and less than US $0.25 per person in low-income countries. 67% of these financial resources are allocated to stand-alone mental hospitals, despite their association with poor health outcomes and human rights violations. Redirecting this funding toward community-based services, including the integration of mental health into maternal health care settings would allow access to better and more cost-effective interventions for many more people (WHO, 2011).

Implications for Nurse Midwifery

The studies in this literature review provide consensus that early detection and increased diagnosis of PPD lead to earlier intervention, which substantially reduces the prevalence of PPD. The ability to detect and diagnose PPD is directly correlated to the provider's level of education and ability to clinically assess women at risk for depression or those experiencing depression while in the primary care setting. The implications for midwifery practice include; mental health education, training on the implementation of screening assessment tools, training on how to

provide person-centered counseling, and development of care model infrastructure that will facilitate midwives to provide the proven counseling techniques that women desire and need.

Recommendations

The primary recommendations found in this literature review addressing the practice question specifically are the implementation of midwife provider education curriculum development and screening implementation for maternal mental health.

The WHO (2015) strongly encourages nations to strengthen effective leadership and governance for mental health. This involves major transition for health care systems in order to implement strategies for promotion and prevention in mental health. Depression causes enormous suffering and disability and reduced response to a child's need. Evidence indicates that treating the depression of mother's leads to improved growth and development of the newborn. Globally maternal mental health problems are considered as a major public health challenge (WHO, 2013). Maternal mortality still lies at the heart of maternal health indicators. WHO is considering Universal Health Coverage (UHC) and proposing Healthy Life Expectancy (HLE) related indicators as well. This implies stronger focus on mental health conditions in the integrated delivery of services for maternal and child health. The need is not just felt in high-income countries. In fact, some academic and public health institutions in low and middle-income countries have already initiated integrated maternal mental health programs. These have been low cost interventions with the involvement of non-specialized or community health providers. Impact has been demonstrated not only on mothers but also on growth and development of children (WHO, 2010).

Application and Integration of Theoretical Framework

In a qualitative study by Seefat-van Teeffelen, Nieuwenhuijze, & Korstjens (2011), women expressed a strong desire to be responsible for their health and well being during pregnancy. In addition, they explicitly expressed a need for professional midwife support to help them sift through information about becoming a mother, offering emotional support and evidenced based information on how to best prepare for the physical and psychological role transition unique to motherhood. In support of this desired relationship, the randomized control trial of feasibility by Brugha et.al., (2016), discovered that the active engagement and invaluable role that the midwife plays in antenatal partnership with pregnant women, can prevent episodes of depression. This evidence supports that the Partnership Model of midwifery care is an efficacious framework for empowering women experiencing pregnancy, childbirth and motherhood. The Partnership Model was created in response to what women want from their health care providers.

Conclusion

Women explicitly and reliably report that they are capable and want to be in control of their health, pregnancy and motherhood experience. The major transitions that these experiences require of women, call for professional support that encompasses evidence, experiential wisdom and emotional intelligence. This literature review supports that midwifery education and training that incorporates fundamental mental health complexity can positively impact the prevalence of PPD. Together, midwives along side women have the ability to identify, assess and facilitate interventions and therapies that promote mental health and well being for the greater good.

Table 1

1.) PROVIDER EDUCATION

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Brugha, T. S., Morrell, C. J., Slade, P., & Walters, S. J. (2011). Universal prevention of depression in women postnatally: cluster randomized trial evidence in primary care. Psychological Medicine, 41(04), 739-748. doi:10.1017/S0033291710001467	To determine if intervention and psychological training of health providers can prevent depression from 6-18mos for postnatal women who are not depressed at 6wk pp	Prospective cluster trial, randomized by GP practice, with follow-up for 18 months in 101 primary care teams in the Trent area of England. The participants were women scoring <12 on the EPDS at 6 weeks pp. (1474 intervention and 767 control women)	The study was a prospective cluster trial, randomized by GP practice. Training in identifying depressive symptoms with EPDS, face-face clinical assessment and in providing CBT therapy with person centered care.	The provider control group (n=49, 37 clusters) providing care as usual. Primary outcome measure was the proportion of women scoring >12 on the EPDS at 6 months pp. Secondary outcomes were mean EPDS score, Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM) score, State–Trait Anxiety Inventory (STAI), 12-item Short Form Health Survey (SF-12) and Parenting Stress Index Short Form (PSI-SF) scores at 6, 12 and 18 months	This study provides new evidence of a universal, enduring preventive effect for depression in women who screen negative for depression pp. Receiving care from a trained primary care provider in identification and psychological intervention methods prevents depression 6-18mos pp in women who are not depressed at the routine 6wk pp visit.	Midwives as primary health care providers should be trained to identify and intervene in counseling therapies proven to prevent PPD in women.	Level I Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Brugha, T. S., Smith, J., Austin, J., Bankart, J., Patterson, M., Lovett, C., ... & Slade, P. (2016). Can community midwives prevent antenatal depression? An external pilot study to test the feasibility of a cluster randomized controlled universal prevention trial. *Psychological medicine*, *46*(02), 345-356. doi:10.1017/S00332917150 0183X	The main focus was to understand women's perspectives on midwives assessing the presence of depressive symptoms in pregnancy and the offer of psychologically informed input within routine midwifery care. This feasibility study was conducted to determine is midwife led interventive therapy can be cost effective in the prenatal setting. One study within routine postnatal healthcare suggested risk of pp depression could be reduced in non-depressed women from 11% to 8% by giving primary care providers psychological intervention training. Feasibility and effectiveness in midwifery primary care settings, most notably antenatal is unknown.	Recruitment of 8 randomly selected clusters of community midwife groups. Recruitment of 298 pregnant women of all levels of risk of depression, collection of baseline and outcome data prior to childbirth, allowing time for women "at increased risk" to complete midwife provided psychological support sessions	An external pilot study using a cluster trial design consisting of recruitment of randomly selected clusters of community midwives. Recruitment of pregnant women of all levels of risk of depression, collection of baseline and outcome data prior to childbirth, allowing time for women "at increased risk" to complete midwife provided psychological support sessions	Enhanced psychological training of randomly selected clusters of community midwives.	A fully powered trial testing universal prevention of depression in pregnancy is feasible, acceptable and worth undertaking. Women felt it was important for the midwife to consider emotional as well as physical health and valued the availability of support. All midwives reported utilizing the new application with clients beyond research.	The studied midwives felt all women should have equivalent access to this intervention. Midwifery training in health care intervention is recommended and desired by the women they serve.	Level II Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Buist, A., Bilszta, J., Milgrom, J., Barnett, B., Hayes, B., & Austin, M. P. (2006). Health professional's knowledge and awareness of perinatal depression: Results of a national survey. *Women and Birth*, *19*(1), 11-16.m. doi:10.1016/j.wombi.2005.12.001	To examine knowledge and awareness of perinatal depression in health professionals involved in perinatal care throughout Australia prior to the implementation of a comprehensive screening program, aimed at improving detection and access to appropriate management.	246 GPs 23% response 338 MCHNs 55% response 569 midwives 57% response	Non-experimental Random national survey	Items sent to practitioners: Hypothetical vignette Knowledge questionnaire Details of experience	Knowledge levels among all practitioners were similar. Depression was more likely to be considered Postnatally than antenatally. GP were more likely to Dx and Rx medication, midwives were less likely to dx and chose non-pharmacologic al tx.	All groups require further education r/t PPD in particular the safety risks and alternatives to Tx with Rx given the preference for most women to use non-pharmacological intervention	Level II Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Burns, A., O'Mahen, H., Baxter, H., Bennert, K., Wiles, N., Ramchandani, P., ... & Evans, J. (2013). A pilot randomised controlled trial of cognitive behavioural therapy for antenatal depression. *BMC psychiatry*, *13*(1), 1. DOI: 10.1186/1471-244X-13-33	This is the first pilot randomized controlled trial (RCT) of individual cognitive behavioral therapy (CBT) looking at treating depression by the end of pregnancy. Our aim was to assess the feasibility of delivering a CBT intervention modified for antenatal depression during pregnancy.	Women in North Bristol, UK between 8–18 weeks pregnant were recruited through routine contact with midwives and randomized to receive up to 12 sessions of individual CBT in addition to usual care or to continue with usual care only.	A pilot randomized controlled trial (RCT)	Women were eligible for randomization if they screened positive on a 3-question depression screen used routinely by midwives and met ICD-10 criteria for depression assessed using the clinical interview schedule-revised version (CIS-R). Two CBT therapists delivered the intervention. Follow-up was at 15 and 33 wks post randomization when assessments were made using the CIS-R	This pilot trial shows the feasibility of conducting a large RCT to assess the effectiveness of CBT for treating antenatal depression before the end of pregnancy. The intervention could be delivered during the antenatal period and there was some evidence to suggest that it could be effective.	Further research is recommended in trial	Level I Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Higgins, A., Carroll, M., & Sharek, D. (2016). Impact of perinatal mental health education on student midwives' knowledge, skills and attitudes: A pre/post evaluation of a module of study. *Nurse education today*, *36*, 364-369. doi:10.1016/j.nedt.2015.09.007	To examine the impact of the perinatal mental health module on student midwives' knowledge, skills, and attitudes in addressing mental health issues with women.	28 midwife students in Ireland	Pre-module and Post-module Surveys were Used	Data were analyzed using SPSS Version 21.0. Descriptive, frequencies and paired sample t-tests were calculated. Qualitative data were analyzed thematically.	Curriculum for perinatal mental health is effective at improving the self-reported knowledge, skills, and attitudes of student midwives towards women with mental health issues This program mental health module statistically increased participants' knowledge and skills as well as increased positive attitude toward mental health	It is recommended that midwife education programs consider the opportunity of including a similar module in their curriculum.	Level III Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Jardri, R., Maron, M., Pelta, J., Thomas, P., Codaccioni, X., Goudemand, M., & Delion, P. (2010). Impact of midwives' training on postnatal depression screening in the first week post delivery: a quality improvement report. *Midwifery*, *26*(6), 622-629. doi:10.1016/j.midw.2008.12.006	To improve CNM proficiency for PPD screening.	Random selection: Maternity ward in France. Phase 1 (pre-training) 463 women day 3-5 postpartum. Phase 2 (post-training) 584 women day 3-5 postpartum. Inclusion criteria Delivered a baby Spoke/read French Exclusion criteria Schizophrenia	Experimental design, Two phase study with quantitative and qualitative design.	Edinburgh Postnatal Depression Scale (EPDS) MINI-DSM-IV MIDQ, midwife Questionnaire/screening	Early detection of major depressive episodes increased by 37.7% after screening training was employed.	Future research should continue to use this model of step-by-step clinical research approach that facilitated optimal screening, referral and management. Further longitudinal assessment is necessary to determine the therapeutic impact this screening offers this health care model.	Level II A quality

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Jarrett, P. (2014). Attitudes of student midwives caring for women with perinatal mental health problems. *British Journal of Midwifery*, *22*(10). Retrieved from: http://web.b.ebscohost.com.ezproxy.bethel.edu/chc/pdf?vid=2&sid=f2e769fa-0b8c-44ba-a40f-67b68c37f54a%40sessionmgr198&hid=124	To explore the attitudes of student midwives near completion of their midwifery training, in the care of women with mental health problems in the East end of London	7 midwife students	Exploratory study with qualitative method	Questionnaires with thematic analysis	The study has size and generalizability limitations, but offers a lens into the perspective of the "soon-to-be" practitioner. Students neglected evidence-based practice when assessing women with emotional distress and depression, relying on cultural stereotypes.	Implications of these findings suggest the need for training student midwives in regard to the complexity of mental illness including specific risk factors among diverse populations.	Level III Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Leigh, H., Stewart, D., & Mallios, R. (2006). Mental health and psychiatry training in primary care residency programs: Part I. Who teaches, where, when and how satisfied?. *General hospital psychiatry*, *28*(3), 189-194.	40% of patients treated by primary care physicians have significant mental health problems. Only about half eventually receive mental health care, usually by the primary care physicians, often inadequately. Recently, there has been an increased attempt to incorporate psychiatry in primary care training programs. The authors sought to assess the current status of psychiatry training in Internal Medicine (IM), Family Practice (FP), Pediatrics (Peds) and Obstetrics and Gynecology (Ob/Gyn) residency programs.	1365 directors of accredited residency training programs in IM, FP, Ob/Gyn and Peds	Questionnaire	A 16-item anonymous questionnaire in 2001–2002, collecting descriptive data concerning their psychiatry training.	A majority of primary care training programs are dissatisfied with the current status of their psychiatric training except for FP programs. Family Practice programs have the most variety in training formats, venues and teachers. There are some specialty-specific differences in perceived needs and desires in psychiatric training.	No recommendations were offered.	Level II Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Morrell, C. J., Ricketts, T., Tudor, K., Williams, C., Curran, J., & Barkham, M. (2011). Training health visitors in cognitive behavioral and person-centered approaches for depression in postnatal women as part of a cluster randomized trial and economic evaluation in primary care: the PoNDER trial. *Primary health care research & development*, *12*(01), 11-20. DOI: 10.1017/S1463423610000344	What are the clinical and economic benefits of two contrasting psychologically informed interventions: based on cognitive behavioral principles or person-centered principles in primary care.	4084 women consented • 138 providers in 101 GP clusters • Cluster allocation 1:1:1 • 3 sub groups: At-risk women EPDS >=12 All women Lower risk women EPDS <12	Trial RCT and economic evaluation	Training health visitors in cognitive behavioral and person-centered approaches for depression in postnatal women as part of a cluster randomized trial and economic evaluation in primary	Economic evaluation: • Training costs £1,398 per provider. Training associated with: • lower mean costs - £35 • higher mean quality adjusted life years (QALYs) • 79% chance that training was cost effective at a funding threshold of £20,000 per QALY • 0.86 probability that training was cost effective at a £30,000 per QALY	Conclusion • Training providers to assess women for depressive symptoms and deliver psychologically informed support is cost-effective compared to usual care at 6 and 12 months post partum. The brief health visitor training intervention combined was associated with better postnatal health, than health visitor usual care, as measured by 6-m EPDS scores. The health visitor training intervention was more cost-effective than health visitor usual care.	Level I Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Morrell, C. J., Slade, P., Warner, R., Paley, G., Dixon, S., Walters, S. J., ... & Nicholl, J. (2009). Clinical effectiveness of health visitor training in psychologically informed approaches for depression in postnatal women: pragmatic cluster randomised trial in primary care. *Bmj*, *338*, a3045. doi:10.1136/bmj.a3045	To evaluate benefits for postnatal women of two psychologically informed interventions by health visitors	101 general practices in Trent, England 2749 women allocated to intervention, 1335 to control	Prospective cluster randomized trial with 18mo follow up	Providers were trained to use: Edinburgh postnatal depression scale (EPDS) at 6-8 wks pp with clinical assessment and provide psychologically informed sessions based on cognitive behavioral or person centered principles for an hour a week for eight weeks	Training providers to assess women, identify symptoms of postnatal depression, and deliver psychologicall y informed sessions was clinically effective at 6 and12 mos pp compared with care as usual.	This trial contributes new evidence to indicate that training in psychologically informed approaches can be beneficial for the provider and help to them identify postnatal depression early, reducing the prevalence.	Level I Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Reed, M., Fenwick, J., Hauck, Y., Gamble, J., & Creedy, D. K. (2014). Australian midwives' experience of delivering a counseling intervention for women reporting a traumatic birth. *Midwifery, 30*(2), 269-275. doi:10.1016/j.midw.2013.07.009	To describe the midwife's experience learning and implementing a new directive counseling technique.	20 Australian midwives with hospital and tertiary experience with an average of 15 years experience.	Qualitative Descriptive Exploratory research study	Manual thematic method was used to analyze semi-structured interview, diary entries and web posting discussions	Themes discovered: 1. Challenging to learn a new counseling style of directive therapy 2. Listen to women. Do not be afraid of silence. Do not try to "fix"-"work with the mother" 3. Enhanced skill develops midwife confidence, decreases emotional burn out and benefits the mother	PRIME Directed interventive counseling therapy builds provider skill set, confidence and prevents burnout while benefitting the woman's well being.	Level III Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Ross-Davie, M., Elliott, S., & Green, L. (2007). Planning and implementing health training. *British Journal of Midwifery*, *15*(4). Retrieved from: http://web.a.ebscohost.com.ezproxy.bethel.edu/chc/detail?sid=e6c9f24f-e890-4f78-9870-02cf0c4f67bb%40sessionmgr4004&vid=4&hid=4104&bdata=JnNpdGU9Y2hjLWxpdmU%3d#AN=24806656&db=cmh	The training day aims to facilitate improvements in knowledge, attitudes and skills of midwives and obstetricians in relation to mental health	Large group of numerous Obstetrician and midwife practices in collaboration with mental health specialists	MAPIMM: Maternity and Perinatal Partnerships in Mental health	Pre and Post training questionnaire	Study day training program improved midwife skill level and confidence Curriculum established key factors important for comprehensive patient care to include thorough history for risk assessment, shared information and collaboration between providers	MAPIMM is an example of collaborative healthcare efforts to recognize and prevent PPD to be replicated across maternal and child health	Level III Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Weeks, W. B., Robinson, J. L., Brooks, W. B., & Batalden, P. B. (2000). Using early clinical experiences to integrate quality- improvement learning into medical education. *Academic Medicine*, *75*(1), 81-84. Retrieved from: http://journals.lww.com/academicmedicine/Fulltext/2000/01000/Using_Early_Clinical_Experiences_to_Integrate.20.aspx	Determine factors that facilitate the integration of quality improvement education within medical curriculum for student physicians.	Two curriculum designs offered to Dartmouth Medical students. Quality improvement curriculum for ALL students And Special curriculum for highly motived students	Qualitative thematic design without meta-analysis	Personal feedback from both students and preceptors	Methods for quality integration need to be evaluated in a process that adds to effective practice.	Quality improvement is a necessity in the ever changing and complex medical field. In order for education and practice to be current, methods for quality integration need to be evaluated in a process that adds to effective practice.	Level III Quality C

II.) PROVIDER SCREENING

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Anding, J., Röhrle, B., Grieshop, M., Schücking, B., & Christiansen, H. (2015). Early detection of postpartum depressive symptoms in mothers and fathers and its relation to midwives' evaluation and service provision: a community-based study. *Frontiers in pediatrics*, *3*. doi:10.3389/fped.2015.00062	Investigate the presence of postpartum emotional distress in both parents Determine the detection of distressed parents by midwives in a primary care setting Investigate the provision of midwife referrals to other professional health- and social-care providers	104 midwives 325 mothers 285 fathers Inclusion criteria: 18yo delivered a live singleton in Germany	Quasi-experimental with intervention group and control group	Questionnaires	There is a major need for better identification of distressed parents so that support can be provided to enhance positive family and child development.	Future research investigating the role of the partners experience and history of depression is recommended.	Level II Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Beard, J. L., Hendricks, M. K., Perez, E. M., Murray-Kolb, L. E., Berg, A., Vernon-Feagans, L., ... & Tomlinson, M. (2005). Maternal iron deficiency anemia affects postpartum emotions and cognition. *The Journal of nutrition*, *135*(2), 267-272. Retrieved from: http://jn.nutrition.org/content/135/2/267.short	To determine if Iron Deficiency Anemia (IDA) alters maternal cognition and behavioral performance, the maternal-infant interaction and the infant's development	500 sample 280 screened 130 Dx IDA 106 criteria Inclusion Criteria: 18-30yo, primary caregiver, breastfeeding for duration of study, no chronic disease. Infants >38wk ga, BW >2500g with no hospitalizations during neonatal period IDA: Hb between 90 and 115 g/L, and at least 2 of the following iron deficiency parameters: mean corpuscular volume (MCV) 80 fL, transferrin saturation (TSAT) 15%, serum ferritin (Ft) 12g/L. Exclusion; Any woman with a Hb 90 g/L was excluded from the study as being too anemic and referred for immediate Tx	Prospective Randomized Control Trial	Edinburgh Postnatal Depression Scale (EPDS) Ravens Colored Progressive Matrices test 2 Perceived Stress Scales 3 food records Socioeconomic status questionnaire Lab values These clinical criteria were in accordance with diagnostic evaluations established by the Hematology Department at the Cape Town University Hospital	There is a strong association between IDA with depression, stress and cognitive functioning. The identified depression/stress respond to Iron therapy Unexpected finding: above association was accumulative and more evident @ 9mos than 10wk	PP screening for IDA should be routine especially in low-income populations. This South African population has a 21% IDA prevalence. Further, larger studies evaluating maternal nutritional status should be investigated to include biological and non-biological maternal IDA in association with infant growth and development.	Level I A quality

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Bicking Kinsey, C., Baptiste-Roberts, K., Zhu, J., & Kjerulff, K. H. (2014). Birth-related, psychosocial, and emotional correlates of positive maternal–infant bonding in a cohort of first-time mothers. *Midwifery, 30*(5), e188-e194. Doi:10.1016/j.midw.2014.02.006	Examine the relationship between birth-related, psychosocial, emotional factors and maternal–infant bonding. Develop a shortened 10-item version of the Postpartum Bonding Questionnaire (S-PBQ) Previous measures were either too long or too short for this volume of study	Interviewed 3005 women in their third trimester and at one month post partum who were enrolled in the First Baby Study	Cross-sectional interview study.	Education, poverty, marital status, age, race/ethnicity, mode of birth, NB complications, amount of rooming-in time, infant colic, breastfeeding status, quality of relationship with partner, physical pain were all measured with the following tools: Psychosocial Hassles Scale Edinburgh Postnatal Depression Scale MOS Social Support Survey Partner Baby Support scale 10 item PBSQ	Maternal–infant bonding was significantly negatively correlated with maternal stress, maternal pain, and postpartum depression, and positively correlated with partner support with the infant, and social support.	The shortened 10 SPBQ is a reliable measurement of maternal-infant bonding when socioeconomic bias is factored in. Clinicians should be aware of life stressors that may impact the maternal–infant relationship, in order that intervention may be provided to improve health outcomes for mothers, infants, and families.	Level III B Quality

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Chaudron, L. H., Szilagyi, P. G., Tang, W., Anson, E., Talbot, N. L., Wadkins, H. I., ... & Wisner, K. L. (2010). Accuracy of depression screening tools for identifying postpartum depression among urban mothers. *Pediatrics*, *125*(3), e609-e617. DOI http://dx.doi.org/10.1542/peds.2008-3261	Determine the accuracy of multiple depression screening tools for low income urban women between 0-14months postpartum	200 women attending Well Child Care (WCC) in urban setting	Non-experimental survey with screening instruments	Edinburgh Postnatal Depression Scale (EPDS), Beck Depression Inventory II (BDI-II) Postpartum Depression Screening Scale (PDSS) Are accurate in identifying major and minor depressive disorder (MDD) among low-income, urban mothers attending WCC visits during the postpartum year.	Three measurement tools have high sensitivity and accuracy for identifying depression in this population. More than half of low-income, urban mothers attending WCC visits experience MDD during the postpartum year.	No recommendations were made	Level III Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Connelly, C., D., Hazen, A., L., Baker-Ericzén, M., J., Landsverk, J., & Horwitz, S., McCue. (2013). Is screening for depression in the perinatal period enough? The co-occurrence of depression, substance abuse, and intimate partner violence in culturally diverse pregnant women. *Journal of Women's Health (15409996), 22*(10), 844-852. Doi: 10.1089/jwh.2012.4121	To demonstrate the multifactorial co-occurrence of depression during pregnancy related to substance abuse and intimate partner violence (IVP)	Random selection screening performed while women waited for their prenatal visits. 1868 pregnant women, 82% Latina from 10 community based clinics in the San Diego metropolitan area. Participants were reimbursed for their time. Inclusion Criteria: Pregnant and reachable by phone Exclusion Criteria: Surrogate mothers and cognitive impairment.	Bilingual and bicultural research assistants performed Battery screening with technological software for computing analyses.	Edinburgh Postnatal Depression Scale. (EPDS) Abuse Assessment Screen (AAS) Tolerance, Worried, Eye-opener, Amnesia, and K/Cut down on consumption. (TWEAK) Drug Abuse Screening Test. (DAST-10) PSF Health Survey for New Moms—Tobacco Use Questionnaire	20% of women screened positive for depressive disorder. The co-occurrence of two or more of these issues: depressive symptoms, IVP, and substance abuse were reported by 36.7% of the women positively screened for depressive disorder.	Screening for multiple risk factors beyond depression will help clinicians tailor interventions to address psychosocial issues.	Level III B quality

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
DelGrande, A. L. (2014). Role discrepancy, maternal hardiness and depression in mothers of toddlers: A qualitative exploration. University of New Mexico). *Role Discrepancy, Maternal Hardiness & Depression in Mothers of Toddlers: A Qualitative Exploration,* 200 p-200 p 1p. (UMI Order AAI3682076)	To discover the thematic experience of depressed and non depressed mothers within the framework of Becoming A Mother (BAM, Mercer Theory), beyond the initial PP phase and into the developmental stages of having a toddler	Sample Size: 200 individuals screened with a total of 30 final participants for a recruitment of %15 Inclusion Criteria: 18-35yo uncomplicated perinatal course uncomplicated vaginal or c-birth delivery Full term neonate without complications Participant with stable socioeconomic and living conditions Both self and clinically Dx mothers with depression Mothers reportedly non-depressed Exclusion Criteria: Dx psychotic or bipolar history	Qualitative Study	PDSS, reliable depression screening tool up to 1 year PP. This may be a limitation of the study, but was used to stratify depressed and non-depressed participants Control group Depressed mothers of children12-24mos Non-depressed mothers of children 12-24 mos	The findings reflect that becoming a mother of a toddler is transformative, with identifiable phases of role transition and adaptation which continue beyond the first year postpartum, in step with the transitions associated with toddler development.	Providers can minimize the negative impact of depression on the maternal-infant dyad and promote effective parenting behaviors by recognizing the stages and transitions of motherhood into the toddler age, as well as facilitate resources that help increase maternal "hardiness" and coping skills.	Level III B quality

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Goyal, D., Gay, C., & Lee, K. (2009). Fragmented maternal sleep is more strongly correlated with depressive symptoms than infant temperament at three months postpartum. *Archives of women's mental health*, *12*(4), 229-237.	1) Investigate the relationship between infant temperament and maternal depressive symptoms at 3 months postpartum 2) Are depressive symptoms associated with sleep disturbance after controlling for other risk factors such as socioeconomic status (age, income, education), history of prenatal	A convenience sample of 112 couples recruited from childbirth education classes Inclusion Criteria 18 yo, primipara, partnered, willing, read English. Exclusion Criteria Hiring a nanny One partner works the night shift If the mother had a hx spontaneous pregnancy loss	Longitudinal RCT Prospective design Contextual environment framework	Demographic report Relationship satisfaction scale (RSAT) Depression Scale (CES-D) General sleep disturbance scale (GSDS) Wrist actigraphy coupled with sleep diary Infant Temperament tool	28% women in study had depressive symptoms in the third trimester. Sleep deprivation accounted for 13-16% PPD Null hypothesis: Unexpected finding, no correlation between infant temperament and maternal depressive symptoms at 3 mos. pp. Results of this study support a meta-analysis that concludes poor prenatal marital satisfaction is a significant predictor of PPD.	Providers should screen for sleep assessment during postpartum visits and direct measures/teaching toward correction of sleep deprivation to prevent PPD. Further research should use alternative measures for determining infant temperament including ankle actigraphy, and longitudinal data collection further into the first year of infancy.	Level I Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
McGarry, J., Kim, H., Sheng, X., Egger, M., & Baksh, L. (2009). Postpartum depression and help-seeking behavior. *Journal of Midwifery & Women's Health, 54*(1), 50-56. Retrieved from: http://dx.doi.org.ezproxy.bethel.edu/10.1016/j.jmwh.2008.07.003	To investigate demographic differences among women who report PPDS and seek treatment vs. those who report PPDS do not seek Tx.	1970 Utah women with 88% response rate to PRAMS mailed survey. Inclusion criteria 2-6mos pp. that had a live birth (including infants that died after birth). Exclusion criteria Mothers who died pp. Mother's unidentifiable r/t adopted infant.	Retrospective cohort study to uncover quantitative data among demographic characteristics	2004 Utah, Pregnancy Risk Assessment Management System (PRAMS)	14.7 % of women in Utah reported experiencing symptoms of PPD. 60% of these women did not seek help. Socio-economic demographics do not predict likelihood to seek Tx for PPD. Nonwhite women and women with Hx of abuse were least likely to seek help.	A call for public health awareness and collaborative effort among providers is needed. Establishing referral services and resources for women is a key element in screening and tx PPD.	Level III B quality

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Tandon, S. D., Cluxton-Keller, F., Leis, J., Le, H. N., & Perry, D. F. (2012). A comparison of three screening tools to identify perinatal depression among low-income African American women. *Journal of affective disorders*, *136*(1), 155-162. doi:10.1016/j.jad.2011.07.014	To determine the sensitivity, specificity, and positive predictive value of three depression screening tools among a low-income African American population of pregnant and recently delivered women enrolled in home visitation programs in a low-income urban community	95 low-income African American women enrolled in a home-visitation program. 32 pregnant 63 with child < 6mos	Structured clinical interview and three depression screening tools	Edinburgh Postnatal Depression Scale (EPDS) Center for Epidemiologic Studies Depression Scale (CES-D) Beck Depression Inventory II (BDI-II)	All 3 screening tools were highly accurate in identifying minor and major depression. Sensitivity was increased with lower cutoff than tool developers recommend. 28.4% were experiencing major depression	Providers using these tools should consider using lower cutoff scores to most effectively identify women in need of depression treatment.	Level III Quality B

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Tebbe, B. B., Terluin, B., & Koelewijn, J. M. (2013). Assessing psychological health in midwifery practice: a validation study of the four-dimensional symptom questionnaire (4DSQ), a Dutch primary care instrument. *Midwifery*, *29*(6), 608-615. Doi: 10.1016/j.midw.2012.05.004	This study evaluated the validity of the Four-Dimensional Symptom Questionnaire (4DSQ) for midwifery practice by differential item functioning analysis	478 Dutch female primary care patients, matched for age among 15 midwifery practices	Cross-sectional. By differential item functioning analysis		4DSQ is a valid instrument for case finding of psychological disease in midwifery practice, provided cut-off scores of the distress, anxiety and somatization scale be adapted.		Level II Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Quispel, C., Schneider, T. A., Hoogendijk, W. J., Bonsel, G. J., & Lambregtse-van den Berg, M. P. (2015). Successful five-item triage for the broad spectrum of mental disorders in pregnancy–a validation study. *BMC pregnancy and childbirth*, *15*(1), 1. DOI: 10.1186/s12884-015-0480-9	To improve triage of a broad spectrum of mental disorders, we investigated the decision impact validity of: 1) a short set of currently used psychiatric triage items, 2) this set with the inclusion of some more specific psychiatric items (intermediate set), 3) this new set with the addition of the 10-item Edinburgh Depression Scale (extended set), and 4) the final set with the addition of common psychosocial co-predictors (comprehensive set).	330 urban pregnant women	A validation study	A questionnaire including 20 psychiatric and 10 psychosocial items. Psychiatric diagnosis (gold standard) was obtained through Structured Interviews of DSM-IV axis I and II disorders. The outcome measure of our analysis was presence (yes/no) of current mental disorder. The short, intermediate, extended, and comprehensive triage models was evaluated by multiple logistic regression analysis, by analysis of the area under the ROC curve (AUC) and through associated performance measures, including, for example, sensitivity, specificity and the number of missed cases	The short triage model (1) was acceptable The intermediate model (2) performed better. Including the five items Or the 10-items to the EPDS (models 3 and 4) further increased R^2 and AUC	For a valid detection of the full spectrum of common mental disorders during pregnancy, at least the intermediate set of five psychiatric items should be implemented in routine obstetric care. For a brief yet comprehensive triage, three high impact psychosocial items should be added as independent contributors.	Level I Quality A

Citation	Purpose	Sample	Design	Measurement	Results/ Conclusions	Recommendations	Level & Quality
Yee, L. M., Kaimal, A. J., Nakagawa, S., Houston, K., & Kuppermann, M. (2013). Predictors of postpartum sexual activity and function in a diverse population of women. *Journal of Midwifery & Women's Health, 58*(6), 654-661. Doi: 10.1111/jmwh.12068	To identify predictors of postpartum sexual activity and functioning	160 pp women 6-8mos postpartum	Prospective study using telephone questionnaire	Sexual Health Outcomes in Women Questionnaire (SHOW-Q)	Multiparity and younger age is associated with resuming sexual activity 8-10wk pp. Depression and exclusive breastfeeding are associated with poorer pp sexual functioning. Mode of delivery was not statistically significant	Highly recommends antenatal counseling r/t choice of contraception, breastfeeding impact on hormone, fatigue and sexual desire. Most importantly providers need to employ post partum discussion that routinely covers sexual postpartum functioning	Level III B quality

References:

Alliance for Innovation on Maternal Health (AIM) Program. (2014). MATERNAL MENTAL HEALTH: PERINATAL DEPRESSION AND ANXIETY. Retrieved from: http://www.safehealthcareforeverywoman.org/secure/maternal-mental-health.php

American Psychological Association, (2015). Mental Health Screening and Assessment Tools for Primary Care. Retrieved from: https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Documents/MH_ScreeningChart.pdf

American College of Nurse-Midwives (2012). *Core competencies for basic midwifery practice*. Retrieved from: http://midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/000000000050/Core%20Comptencies%20Dec%202012.pdf

Anding, J. E., Röhrle, B., Grieshop, M., Schücking, B., & Christiansen, H. (2016). Couple comorbidity and correlates of postnatal depressive symptoms in mothers and fathers in the first two weeks following delivery. *Journal of affective disorders*, *190*, 300-309.

Anding, J., Röhrle, B., Grieshop, M., Schücking, B., & Christiansen, H. (2015). Early detection of postpartum depressive symptoms in mothers and fathers and its relation to midwives' evaluation and service provision: a community-based study. *Frontiers in pediatrics*, *3*. doi: 10.3389/fped.2015.00062

Beard, J. L., Hendricks, M. K., Perez, E. M., Murray-Kolb, L. E., Berg, A., Vernon-Feagans, L., ... & Tomlinson, M. (2005). Maternal iron deficiency anemia affects postpartum emotions and cognition. *The Journal of nutrition*, *135*(2), 267-272. Retrieved from: http://jn.nutrition.org/content/135/2/267.short

Bicking Kinsey, C., Baptiste-Roberts, K., Zhu, J., & Kjerulff, K. H. (2014). Birth-related, psychosocial, and emotional correlates of positive maternal–infant bonding in a cohort of first-time mothers. *Midwifery, 30*(5), e188-e194. Doi:10.1016/j.midw.2014.02.006

Buist, A., Bilszta, J., Milgrom, J., Barnett, B., Hayes, B., & Austin, M. P. (2006). Health professional's knowledge and awareness of perinatal depression: Results of a national survey. *Women and Birth*, *19*(1), 11-16.m. doi:10.1016/j.wombi.2005.12.001

Burns, A., O'Mahen, H., Baxter, H., Bennert, K., Wiles, N., Ramchandani, P., ... & Evans, J. (2013). A pilot randomised controlled trial of cognitive behavioural therapy for antenatal depression. *BMC psychiatry*, *13*(1), 1**.** DOI: 10.1186/1471-244X-13-33

Brugha, T. S., Morrell, C. J., Slade, P., & Walters, S. J. (2011). Universal prevention of depression in women postnatally: cluster randomized trial evidence in primary care. Psychological Medicine, 41(04), 739-748. doi:10.1017/S0033291710001467

Brugha, T. S., Smith, J., Austin, J., Bankart, J., Patterson, M., Lovett, C., ... & Slade, P. (2016). Can community midwives prevent antenatal depression? An external pilot study to test the feasibility of a cluster randomized controlled universal prevention trial. *Psychological medicine*, *46*(02), 345-356. doi:10.1017/S003329171500183X

Bryar, R., & Sinclair, M. (Eds.). (2011). *Theory for midwifery practice*. Palgrave Macmillan.

Byrne, J., Hauck, Y., Fisher, C., Bayes, S., & Schutze, R. (2014). Effectiveness of a mindfulness-based childbirth education pilot study on maternal self-efficacy and fear of childbirth. *Journal of Midwifery & Women's Health, 59*(2), 192-197. Doi: 10.1111/jmwh.12075

CDSR (n.d.), (2015). Cochrane Database of Systematic Reviews. Retrieved from: http://community-archive.cochrane.org/editorial-and-publishing-policy-resource/cochrane-database-systematic-reviews-cdsr

CDC (n.d.), (2014). Health, United States, 2014-Mental Health. Retrieved from: http://www.cdc.gov/nchs/data/databriefs/db172.htm

Chaudron, L. H., Szilagyi, P. G., Tang, W., Anson, E., Talbot, N. L., Wadkins, H. I., ... & Wisner, K. L. (2010). Accuracy of depression screening tools for identifying postpartum depression among urban mothers. *Pediatrics*, *125*(3), e609-e617. Doi: http://dx.doi.org/10.1542/peds.2008-3261

Connelly, C., D., Hazen, A., L., Baker-Ericzén, M., J., Landsverk, J., & Horwitz, S., McCue. (2013). Is screening for depression in the perinatal period enough? The co-occurrence of depression, substance abuse, and intimate partner violence in culturally diverse pregnant women. *Journal of Women's Health (15409996), 22*(10), 844-852. Doi: 10.1089/jwh.2012.4121

Dearholt, S. L. & Dang, D. (2012). Johns Hopkins nursing evidence-based practice model and guidelines. Indianapolis, IN: Sigma Theta Tau International.

DelGrande, A. L. (2014). Role discrepancy, maternal hardiness and depression in mothers of toddlers: A qualitative exploration. University of New Mexico). *Role Discrepancy, Maternal Hardiness & Depression in Mothers of Toddlers: A Qualitative Exploration,* , 200 p-200 p 1p. (UMI Order AAI3682076)

Gaynes, B. N., Gavin, N., Meltzer-Brody, S., Lohr, K. N., Swinson, T., Gartlehner, G., ...

& Miller, W. C. (2005). Perinatal depression: Prevalence, screening accuracy, and screening outcomes: Summary. Retrieved from: http://www.ncbi.nlm.nih.gov/books/NBK11838/

Gilbody, S., Whitty, P., Grimshaw, J., & Thomas, R. (2003). Educational and organizational interventions to improve the management of depression in primary care: a systematic review. *Jama*, *289*(23), 3145-3151. doi:10.1001/jama.289.23.3145

Goyal, D., Gay, C., & Lee, K. (2009). Fragmented maternal sleep is more strongly correlated with depressive symptoms than infant temperament at three months postpartum. *Archives of women's mental health*, *12*(4), 229-237. Doi: 10.1007/s00737-009-0079

Guilliland, K., & Pairman, S. (1995). The midwifery partnership: A model for practice. Wellington: Department of Nursing & Midwifery. Victorian University of Wellington

Higgins, A., Carroll, M., & Sharek, D. (2016). Impact of perinatal mental health education on student midwives' knowledge, skills and attitudes: A pre/post evaluation of a module of study. *Nurse education today*, *36*, 364-369. doi:10.1016/j.nedt.2015.09.007

Jarrett, P. (2014). Attitudes of student midwives caring for women with perinatal mental health problems. *British Journal of Midwifery*, *22*(10). Retrieved from: http://web.b.ebscohost.com.ezproxy.bethel.edu/chc/pdf?vid=2&sid=f2e769fa-0b8c-44ba-a40f-67b68c37f54a%40sessionmgr198&hid=124

Jardri, R., Maron, M., Pelta, J., Thomas, P., Codaccioni, X., Goudemand, M., & Delion, P. (2010). Impact of midwives' training on postnatal depression screening in the first week post delivery: A quality improvement report. *Midwifery, 26*(6), 622-629. doi:http://dx.doi.org.ezproxy.bethel.edu/10.1016/j.midw.2008.12.006

Jardri, R., Maron, M., Pelta, J., Thomas, P., Codaccioni, X., Goudemand, M., & Delion, P. (2010). Impact of midwives' training on postnatal depression screening in the first week post delivery: a quality improvement report. *Midwifery*, *26*(6), 622-629. doi:10.1016/j.midw.2008.12.006

Leigh, H., Stewart, D., & Mallios, R. (2006). Mental health and psychiatry training in primary care residency programs: Part I. Who teaches, where, when and how satisfied?. *General hospital psychiatry*, *28*(3), 189-194.

Liu, C., & Tronick, E. (2013). Rates and Predictors of Postpartum Depression by Race and Ethnicity: Results from the 2004 to 2007 New York City PRAMS Survey (Pregnancy Risk Assessment Monitoring System). *Maternal & Child Health Journal*, *17*(9), 1599-1610. doi:10.1007/s10995-012-1171-z

Liu, C., Cnattingius, S., Bergström, M., Östberg, V., & Hjern, A. (2016). Prenatal parental depression and preterm birth: a national cohort study. *BJOG: an international journal of obstetrics and gynaecology*. DOI: 10.1111/1471-0528.13891

McGarry, J., Kim, H., Sheng, X., Egger, M., & Baksh, L. (2009). Postpartum depression and help-seeking behavior. *Journal of Midwifery & Women's Health, 54*(1), 50-56. doi: 10.1016/j.jmwh.2008.07.003

Millar, S. (2011). Woman and Midwife: Exploring the Partnership. Retrieved from: aimsireland.ie/wp-content/uploads/ppt

Morrell, C. J., Ricketts, T., Tudor, K., Williams, C., Curran, J., & Barkham, M. (2011). Training health visitors in cognitive behavioral and person-centered approaches for depression in postnatal women as part of a cluster randomized trial and economic evaluation in primary

care: the PoNDER trial. *Primary health care research & development*, *12*(01), 11-20. DOI: 10.1017/S1463423610000344

Morrell, C. J., Slade, P., Warner, R., Paley, G., Dixon, S., Walters, S. J., ... & Nicholl, J. (2009). Clinical effectiveness of health visitor training in psychologically informed approaches for depression in postnatal women: pragmatic cluster randomized trial in primary care. *Bmj*, *338*, a3045. doi:10.1136/bmj.a3045

Morrell, C. J., Cubison, J., Ricketts, T., Williams, A. S., & Hall, P. (2015). Training Health‐Care Professionals for the Assessment and Management of Perinatal Depression and Anxiety. *Identifying Perinatal Depression and Anxiety: Evidence-based Practice in Screening, Psychosocial Assessment and Management*, 210. Retrieved from: https://books.google.com/books?hl=en&lr=&id=BgmeCAAAQBAJ&oi=fnd&pg=PA210&dq=training+midwives+to+screen+for+depression&ots=y2VYiWO9lt&sig=cQICVBOYxYy63zesA17QlkG52Dk#v=onepage&q=training%20midwives%20to%20screen%20for%20depression&f=false

O'Connor, E., Rossom, R. C., Henninger, M., Groom, H. C., & Burda, B. U. (2016). Primary care screening for and treatment of depression in pregnant and postpartum women: evidence report and systematic review for the US Preventive Services Task Force. *JAMA*, *315*(4), 388-406. doi:10.1001/jama.2015.18948

O"Hara, M., Stuart, S., Gorman, L., & Wenzel, A. (2000). Efficacy of interpersonal psychotherapy for postpartum depression. *Archives of General Psychiatry, 57*, 1039-1045. doi:10.1001/archpsyc.57.11.1039

Pairman, S., & McAra-Couper, J. (2006). Theoretical frameworks for midwifery practice. *Midwifery: Preparation for practice*, 237-257.

Park, E. M., Meltzer-Brody, S., & Stickgold, R. (2013). Poor sleep maintenance and subjective sleep quality are associated with postpartum maternal depression symptom severity. *Archives Of Women's Mental Health*, *16*(6), 539-547 9p. doi:10.1007/s00737-013-0356-9

Quispel, C., Schneider, T. A., Hoogendijk, W. J., Bonsel, G. J., & Lambregtse-van den Berg, M. P. (2015). Successful five-item triage for the broad spectrum of mental disorders in pregnancy–a validation study. *BMC pregnancy and childbirth*, *15*(1), DOI: 10.1186/s12884-015-0480-9

Reed, M., Fenwick, J., Hauck, Y., Gamble, J., & Creedy, D. K. (2014). Australian midwives' experience of delivering a counseling intervention for women reporting a traumatic birth. *Midwifery, 30*(2), 269-275. doi:10.1016/j.midw.2013.07.009

Ridgway, S. (2002). The birth of the midwifery profession. *British Journal of Midwifery*, *10*(12), 756-760. DOI: http://dx.doi.org/10.12968/bjom.2002.10.12.756

Ross-Davie, M., Elliott, S., & Green, L. (2007). Planning and implementing health training. *British Journal of Midwifery*, *15*(4). Retrieved from: http://web.a.ebscohost.com.ezproxy.bethel.edu/chc/detail?sid=e6c9f24f-e890-4f78-9870-02cf0c4f67bb%40sessionmgr4004&vid=4&hid=4104&bdata=JnNpdGU9Y2hjLWxpdmU%3d#AN=24806656&db=cmh

Sarris, J., Glick, R., Hoenders, R., Duffy, J., & Lake, J. (2014). Integrative mental healthcare White Paper: Establishing a new paradigm through research, education, and clinical guidelines. *Advances in Integrative Medicine*, *1*(1), 9-16. Retrieved from: http://www.aimedjournal.com/article/S2212-9626%2813%2900003-5/pdf

Seefat-van Teeffelen, A., Nieuwenhuijze, M., & Korstjens, I. (2011). Women want proactive psychosocial support from midwives during transition to motherhood: a qualitative study. *Midwifery*, *27*(1), e122-e127. doi:10.1016/j.midw.2009.09.006

Sikorski, C., Luppa, M., König, H. H., van den Bussche, H., & Riedel-Heller, S. G. (2012). Does GP training in depression care affect patient outcome?-A systematic review and meta-analysis. *BMC health services research*, *12*(1), 1. DOI: 10.1186/1472-6963-12-10

Siu, A. L., Bibbins-Domingo, K., Grossman, D. C., Baumann, L. C., Davidson, K. W., Ebell, M., ... & Krist, A. H. (2016). Screening for depression in adults: US Preventive Services Task Force recommendation statement. *JAMA*, *315*(4), 380-387. doi:10.1001/jama.2015.18392.

Stowe, Z. N., Hostetter, A. L., & Newport, D. J. (2005). The onset of postpartum depression: Implications for clinical screening in obstetrical and primary care. *American journal of obstetrics and gynecology*, *192*(2), 522-526. DOI: http://dx.doi.org/10.1016/j.ajog.2004.07.054

Surtees, R. J. (2003). Midwifery as feminist praxis in Aotearoa/New Zealand. Retrieved from: http://ir.canterbury.ac.nz/handle/10092/1662

Tandon, S. D., Cluxton-Keller, F., Leis, J., Le, H. N., & Perry, D. F. (2012). A comparison of three screening tools to identify perinatal depression among low-income African American women. *Journal of affective disorders*, *136*(1), 155-162. doi:10.1016/j.jad.2011.07.014

Tebbe, B. B., Terluin, B., & Koelewijn, J. M. (2013). Assessing psychological health in midwifery practice: a validation study of the four-dimensional symptom questionnaire (4DSQ), a Dutch primary care instrument. *Midwifery*, *29*(6), 608-615. Doi: 10.1016/j.midw.2012.05.004

Weeks, W. B., Robinson, J. L., Brooks, W. B., & Batalden, P. B. (2000). Using early clinical experiences to integrate quality‐improvement learning into medical education. *Academic Medicine*, *75*(1), 81-84. Retrieved from: http://journals.lww.com/academicmedicine/Fulltext/2000/01000/Using_Early_Clinical_Experiences_to_Integrate.20.aspx

Yee, L. M., Kaimal, A. J., Nakagawa, S., Houston, K., & Kuppermann, M. (2013). Predictors of postpartum sexual activity and function in a diverse population of women. *Journal of Midwifery & Women's Health, 58*(6), 654-661. Doi: 10.1111/jmwh.12068

WHO, (2015). Mental Health Atlas. Retrieved from: http://www.who.int/mental_health/maternal-child/maternal_mental_health/en/

WHO, (2010). mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings. Retrieved from: http://www.who.int/mental_health/publications/mhGAP_intervention_guide/en/