"Asthma, Depression, Problems with Your Heart or Lungs?": How Obstetric Providers Screen for Mental Health Issues During the First Prenatal Visits

by

Amy Marie Molitoris

Submitted to the Faculty of the

University of Pittsburgh in partial fulfillment

of the requirements for the degree of

Bachelor of Philosophy

University of Pittsburgh

2014

UNIVERSITY OF PITTSBURGH

THE KENNETH P. DIETRICH SCHOOL OF ARTS AND SCIENCES

This thesis was presented

by

Amy Marie Molitoris

It was defended on

March 31, 2014

and approved by

Judy Chang, MD, Department of Obstetrics, Gynecology, and Reproductive Sciences, University of Pittsburgh

Michele Levine, PhD, Department of Psychiatry, University of Pittsburgh

Kathryn Pollak, PhD, Department of Community and Family Medicine, Duke University

Thesis Director: Barbara Kucinski, PhD, Department of Psychology, University of Pittsburgh

"Asthma, Depression, Problems with Your Heart or Lungs?": How Obstetric Providers Screen for Mental Health Issues During the First Prenatal Visits

Amy Marie Molitoris

University of Pittsburgh, 2014

Mental health disorders frequently affect pregnant women and have potential serious side effects for the mother and her unborn child. However, mental illness is often undetected and untreated. Even though mental illness screening is recommended for all pregnant women, limited research exists on how frequently this topic is addressed, the method in which providers address this subject, and what patient and provider factors are associated with the mental health assessment. This study was conducted to determine the manner and frequency of obstetric provider screenings of pregnant patients for mental health issues and to determine what patient and provider factors may influence the occurrence of screening for mental health problems during first obstetric visits. Patient and provider participants were recruited from a culturally diverse population attending visits in a large urban outpatient hospital-based clinic. First obstetric visit conversations between obstetric care providers and pregnant patients were audio recorded and transcribed verbatim. Transcripts were then coded and analyzed for factors related to mental health screening. Among 103 audio recorded appointments, providers asked about mental health in 43 visits (41.7%). Type of provider was significantly associated with whether he/she asked the patient about mental health, with nurse midwives most likely to ask ($X^2 = 28.8521$, $p < 0.0001$). Of the 43 patients who were asked about mental health, 36 (83.7%) were asked with specific terms (e.g. depression, anxiety, bipolar disorder) and 20 (46.5%) had the screening question grouped with an inquiry into various other health issues. Providers frequently miss the opportunity to screen for mental illness during a patient's first obstetric visit. Additionally,

grouping the mental health screening with a variety of other questionings may increase the possibility the topic may be lost or forgotten among the other listed health issues.

TABLE OF CONTENTS

LIST OF TABLES

PREFACE

No words can adequately express my deep gratitude and appreciation for those that helped and supported me throughout this process. Thank you to Dr. Judy Chang and Cyndi Holland for providing me with a wonderful research experience for the past three and a half years and for your unwavering kindness, patience, and encouragement. I would also like to greatly thank Dr. Barbara Kucinski for acting as my thesis advisor and for always believing in me. I owe many thanks to Dr. Kathryn Pollak for serving as my external examiner and allotting time out of her busy schedule to travel to Pittsburgh from North Carolina for my defense. Thank you to Dr. Michele Levine for happily becoming a member of my committee, even though I was an unknown undergraduate who had not had any interactions with her prior to my proposal. Last, but certainly not least, I would like to thank my family and friends for listening to my complaints and offering understanding, support, and advice.

This study was funded the National Institute of Drug Abuse (NIDA) Grant 1R01DA026410-01A1 and a University of Pittsburgh Honors College Chancellor's Undergraduate Research Fellowship.

1.0 INTRODUCTION

Mental illness during pregnancy has potential serious side effects for the mother and her unborn baby.[1] Antenatal depression represents the strongest risk factor for the development of postpartum depression and increases the chances of premature delivery, low fetal birth weights, and a more complicated birth.[2–8] Even after adjusting for mother's age and tobacco use, persistent depression in pregnancy is associated with a fifty percent increase in the chances of having a child with a developmental delay.[7] Additionally, women with depression have higher risks of smoking, drinking, and using illegal drugs. Use of any of these substances during pregnancy increases the risk for the mother to have an unhealthy child.[3,9] Anxiety and depression in pregnancy are also associated with preeclampsia and changes in uterine blood flow, and increased levels of anxiety and stress during the prenatal period are linked to prolonged labor, preterm delivery, and spontaneous abortion.[7,8,10] Further, high levels of anxiety during pregnancy are associated with a variety of behavioral, emotional, and cognitive problems in infancy and childhood.[8,11]

Even though mental disorders frequently affect pregnant women and are associated with poor birth outcomes, the illnesses go underdetected and undertreated.[4,6,12–15] Between 10 and 27% of women experience depressive symptoms during pregnancy, and yet depression detection rates by providers in obstetric settings are less than 25%.[4,6] This percentage is less than that of

primary care setting (35 – 56%), and many women may suffer silently from mental illness during pregnancy.[6] Suicide is one of the leading causes of death during the antenatal period, and between 18 - 30% of pregnant women with undetected depression experience suicidal thoughts.[6,12]

The American College of Obstetricians and Gynecologists recognizes how common depression can be during pregnancy and that screening for depression can be beneficial to pregnant women, their families, and their unborn babies. Although ACOG supports provider screening for depression, they recognize that not enough evidence exists to support a firm recommendation for the manner in which and how often antepartum screening should occur.[16] However, ACOG advocates for the screening of psychosocial risk factors, which includes depression and other mood disorders, at least once a trimester. In their committee opinion on these factors, ACOG states that this screening may improve birth outcomes and help women increase their attentiveness to their wellbeing and use of prenatal services. The opinion includes strategies for assessing mood disorders and delivering interventions.[17]

The current study was undertaken to determine the manner and frequency of obstetric provider screenings of their pregnant patients for mental health issues and to determine what patient and provider factors may influence the occurrence of screening for mental health issues during first obstetric visits.

2.0 MATERIALS AND METHODS

2.1 METHODS

Data for this analysis came from an ongoing patient-provider communication study that began in February 2011 and currently has recruited a total of 416 patients. This smaller analysis is of 103 of the 416 audio recorded first obstetric visits. The study was observation only; no interventions were tested. The study is being conducted at a hospital-based obstetrics and gynecologic outpatient clinic in an urban academic medical center in Pittsburgh, Pennsylvania.

2.2 PARTICIPANTS

Both patient and provider participants were recruited for the study. Providers were eligible to participant in the study if they conducted first obstetric visits for patients in the study setting. Patients were eligible to participate in the study if they spoke English and were 18 years of age or older. Participants were informed that they were participating in a study regarding patient-provider communication and both provider and patient participants signed informed consent forms prior to participation. The University of Pittsburgh Institutional Review Board approved the project (IRB # PRO08090530). Patient participants provided socio-demographic information prior to the audio recording of the visits. Provider participants provided information on gender, race, training level, and years of practice.

2.3 DATA COLLECTION

First obstetric visits were audio recorded and transcribed verbatim. Digital voice recorders were placed in the clinic exam room at the beginning of the appointment and collected after the visit was completed. Since this project was part of a larger study, we selected the first 103 transcripts to code. Two coders reviewed and qualitatively analyzed the recordings to identify visits in which discussions regarding mental health occurred.

Each of the 103 selected audio recorded visits was reviewed for provider screening or patient disclosure of mental health. The discussions were identified by the presence of phrases or words such as mental health, psychiatric issues, feeling, and depression. Recordings that included a mental health conversation were qualitatively coded for factors associated with provider mental health screening. A codebook (Appendix A) was developed based on common words and questions associated with mental health. Codes were created for provider screening for mental health, patient disclosure of information about mental health issues in response to the provider screening, and patient self-disclosure of mental health issues without provider screening. Frequencies were conducted on the appearance of the established codes.

Visits in which mental health conversations occurred were analyzed for how the provider inquired about mental health issues in pregnancy. Codes were generated for when the provider framed the screening question using specific words versus general words and when the provider grouped the inquiry with other medical problems as opposed to asking about the issue individually. If broad mental health terms such as psychiatric illness were utilized, the conversation was coded as including general words. If the provider addressed mental health using words such as depression, anxiety, or bipolar disorder, the discussion was coded as including specific words. In instances where the provider used both general and specific terms

(e.g. “Any psychiatric problems like depression?”), the phrase was solely coded as containing specific terms. Coders also noted whether the provider asked about mental health issues individually (e.g. “Any history of depression or anxiety?”), which would allow the patient to respond to the mental health question separately. This was in contrast to the provider grouping the mental health screening with other medical problems (e.g. “How about any major medical problems that you had? This would be like heart problems, asthma, diabetes, psychiatric issues?”).

A coder (AM) independently analyzed the audio recordings; twenty percent of the conversations were double-coded (AM and CH) to assess inter-rater reliability. Disagreements were discussed and final decisions made by consensus.

2.4 Statistical Analyses

All statistical analyses were conducted in SPSS (Ver 20)®. Descriptive statistics were summarized for demographic data and mental health screening variables. Qualitative analyses were organized and managed in Atlas.ti.

3.0 RESULTS

3.1 PATIENT AND PROVIDER CHARACTERISTICS

Most patients were single (46%), African American (51%), low-income (43%), and on medical assistance or had no health insurance. The mean age was 25 years of age. Thirty-two providers had a visit audio recorded; almost all were women (94%), Caucasian (82%), and obstetric and gynecology resident physicians (72%). Characteristics for both patient and provider participants are given in Tables 1 and 2, respectively.

Table 1
Socio-demographic characteristics of patient participants (n = 103)

Characteristic	n (%)
Age (years)	Mean = 25, Range = 18 – 39
Pregnancy history	
Gravida	Mean = 2.99, Range = 1 – 14
Para	Mean = 1.24, Range = 0 – 8
Martial Status	
Single (never married)	47 (45.6)
Married	8 (7.8)
Separated	2 (1.9)
Divorced	2 (1.9)
Living with partner	44 (42.7)
Race/Ethnicity	
White/Caucasian	43 (41.7)
Black/African American	52 (50.5)
Hispanic/Latina	1 (1.0)
Other	7 (6.8)
Highest Level of Education Completed	
Grade school	21 (20.4)
High school or GED	37 (35.9)
Some college	34 (33.0)
Finished college degree	6 (5.8)
Associates degree	5 (4.9)
Current Yearly Income	
$0 - $4,999	44 (42.7)
$5,000 – $9,999	13 (12.6)
$10,000 - $14,999	16 (15.5)
$15,000 - $19,999	12 (11.7)
$20,000 - above	12 (11.7)
Refused	6 (5.8)

Table 2
Socio-demographic characteristics of provider participants (n = 32)

Characteristic	n (%)
Provider Type	
1st Year Resident	8 (25.0)
2nd Year Resident	6 (18.8)
3rd Year Resident	8 (25.0)
4th Year Resident	1 (3.1)
Nurse Midwife	5 (15.6)
Nurse Practitioner	4 (12.5)
Gender	
Male	2 (6.3)
Female	30 (93.8)
Race/Ethnicity	
White/Caucasian	26 (81.3)
Black/African American	3 (9.4)
Other	3 (9.4)

3.2 Mental Health Coding:

All codes had an overall kappa agreement of 80%. Of the 103 analyzed audio recorded visits, 43 (41.7%) included obstetric provider screening about mental health. In 9 (20.9%) of these appointments, the patient disclosed mental health issues after the provider asked. Ten (9.7%) out of the 103 patients self-disclosed psychiatric problems before the provider inquired about their mental health. Among the various types of providers, nurse midwives were significantly more likely to ask about mental health ($X^2 = 28.8521$, $p < 0.0001$).

In 20 (46.5%) of the 43 mental health conversations, the provider grouped the screening question with an inquiry into various other health issues.

How about any major medical problems that you had? This would be like heart problems, asthma, diabetes, psychiatric issues?

And any major medical problems with you? Any problems with depression, psychiatric illness, problems with your heart, lungs, guts?

Medical issues like asthma, anxiety, depression, high blood pressure?

Psychiatric or behavioral problems at all? Stroke, thyroid disease, cancer?

In contrast to grouping the mental health question with other ailments, some providers asked about mental health in a statement devoted solely to the topic.

And have you ever had any mental health problems like depression, bipolar disorder?

How about emotional issues, depression or anxiety?

In addition to either grouping the mental health question with other conditions or focusing on it solely, a host of providers framed the inquiry in a leading way.

Never had a blood clot or bleeding disorder? No depression or anxiety or anything like that?

No mental health problems like depression or bipolar?

Nothing like asthma, diabetes, depression? Nothing like that?

And do you have any problems other than, I'm assuming a little bit of depression or something going on with the Celexa.

In 36 (83.7%) out of the 43 mental health conversations, mental health questions were asked with specific terms. In other words, providers focused on specific mental health diagnoses, such as depression or anxiety disorder, as opposed to inquiring about psychiatric disorders in general.

Any psychiatric problems like depression, anxiety disorder, panic disorder, bipolar disorder? Nothing like that?

Any history of depression or anxiety?

Asthma, depression, bipolar disorder?

Another way in which the provider framed the mental health conversation was in terms of how the patient was feeling.

Do you feel depressed?

In 13 (12.6%) of the first obstetric visits, providers informed the patient where they could receive help for mental health issues. Out of 103 transcripts, in only one visit did a provider explain the importance of discussing mental health in pregnancy.

> *Pregnancy and the hormones of pregnancy can exaggerate symptoms like that and it puts you at a high risk for postpartum depression which can be pretty dangerous. So I might just have you kind of get some information from our social worker about if you feel like you need to talk to anybody and if you feel it is getting to that point. It is not something that is abnormal by any means. A lot of our patients have issues with depression. And there are things we can do to help you through that in pregnancy.*

4.0 CONCLUSION

Obstetric appointments may be viewed as an optimal time to screen, diagnose, and treat mental health disorders since most pregnant women will seek prenatal care and thus have frequent contact with health care providers.[14,18] The antenatal period is also an ideal time for mental health screening since a high risk exists for the emergence of depressive symptoms during this time.[14] However, providers frequently miss the opportunity to screen for mental illness during the first obstetric visit. In this study, providers did not screen for mental health 58% of the time. Several factors may account for this. Providers may feel like they lack the resources and knowledge needed to educate and help women with mental health issues and refer them for further treatment.[18] Additionally, a majority of obstetric/gynecological residents in one referenced study cohort did not receive training about clinical depression during their residency, and the absence of education may lead to uncertainty about how to address mental health. Lack of screening may also be due to time constraints and insurance limitations.[6] Women have reported that they were hesitant to disclose mental health issues in obstetric visits because they were afraid of stigma, losing their parental rights, and being judged as an unfit mother.[9] This is evidenced by the fact that pregnant women are less likely than non-pregnant women to receive either inpatient or outpatient psychological treatment.[19] Furthermore, many women have stated

that they find obstetric providers and staff unsupportive and not adequately trained in depression assessment and treatment.[18]

Even though many barriers exist to performing a mental health screening during obstetric visits, many women feel that when they discuss mental health during their appointment that the conversation helped to lessen their distress. Empathic screening processes may encourage mental health discussions. Training providers in motivational interviewing and providing them with education and resources may also increase the frequency of mental health screening.[1] Further, various factors are significantly associated with depression during pregnancy. Some have suggested flagging these factors, which include unemployment, lower educational attainment, past history of depression, poorer overall health, greater alcohol use, tobacco use, being unmarried, history of traumatic experiences, and intimate partner violence, and using them as possible markers of depression, thus facilitating the screening process. [12,14,15,20] Screening can also be tailored to the obstetric setting.[20]

Nurse midwives were significantly more likely to inquire about mental health than the other types of providers in this study. This may be due to the American College of Nurse-Midwives' (ACNM) recommendation that all certified midwives perform depression screenings and provide treatment options and referrals.[21]

5.0 LIMITATIONS

The data were collected at a single clinical location, and thus the results may not be generalizable to other settings. A majority of the providers who participated were resident physicians and thus may lack the communication skills/training to conduct mental health discussions. The recorded interviews only captured the discussion between the clinician and the patient and not other conversations that may have occurred with additional healthcare providers, such as nurses, social workers, and other support staff. Additionally, since the only the first obstetric visit was analyzed, it is possible that the mental health conversation is taking place at a later time.

6.0 IMPLICATIONS

Despite these limitations we feel that there are important implications from the study. First, grouping the mental health screening with a variety of other questionings may increase the possibility the topic may be lost or forgotten among other health issues. Secondly, providers need to prioritize mental health assessments during the first OB visit. Symptoms of depression in pregnancy might not raise provider or even patient concerns because some of the signs mimic those of pregnancy, such as disturbances in appetite, sleep, and energy levels.[6] However, mental health disorders during the antenatal period have a host of negative effects on the woman and her unborn baby. Depression or anxiety during pregnancy increases the chances of postpartum depression, premature delivery, low fetal birth weights, a more complicated birth, and a variety of behavioral, emotional, and cognitive problems in infancy and childhood.[2–8,11] Mental health issues in pregnancy also pose costs to society, for perinatal depression is associated with increased sick leave, hospitalizations, and medical visits during pregnancy.[3] It is of utmost important to screen for and monitor psychological problems due to the host of problems that can result from not detecting and treating mental health disorders during pregnancy.

APPENDIX A

Patient - Provider Communication: Mental Health Conversation Codebook

Question	Response	Notes
Previous Pregnancies	☐ Nulliparous ☐ Primiparous ☐ Multiparous	
Does the provider ask about mental health?	☐ Yes ☐ No	
Does the provider group the mental health question with a variety of other illnesses/diseases? (e.g. Asthma, depression, cardiac problems?)	☐ Yes ☐ No	
Does the provider ask about mental health in a question by itself? (e.g. Do you have any problems with depression or anxiety?)	☐ Yes ☐ No	
Does the provider ask about mental health using specific terminology? (e.g. depression, anxiety, bipolar disorder)	☐ Yes ☐ No	
Does the provider ask about mental health using general terminology? (e.g. psychiatric disorder)	☐ Yes ☐ No	
Does the provider ask if the patient has a history of mental health disorders or issues?	☐ Yes ☐ No	

Does the patient disclose to the provider that she has had a history of mental health disorders or issues?	☐ Yes ☐ No	
Does the provider ask if the patient is currently experiencing mental health problems?	☐ Yes ☐ No	
Does the patient disclose to the provider that she is currently having mental health issues?	☐ Yes ☐ No	
Does the patient disclose that she has a history or current mental health issues prior to the provider asking the patient?	☐ Yes ☐ No	
Is the timing for the provider questions regarding mental health issues undetermined? (i.e. They do not specify if they are asking about current/past mental health issues.)	☐ Yes ☐ No	
Does the provider ask the patient if she has been hospitalized for mental health issues or treatment?	☐ Yes ☐ No	
Does the patient disclose that she was ever hospitalized for mental health issues prior to the provider asking the patient?	☐ Yes ☐ No	
Does the provider ask the patient if she is currently on any medications?	☐ Yes ☐ No	
Does the provider ask if the patient previously took medications for mental health issues?	☐ Yes ☐ No	

Does the provider ask if the patient is currently taking medications for mental health issues?	☐ Yes ☐ No	
Does the patient disclose that she is taking/ has previously taken medications for mental health issues?	☐ Yes ☐ No	
Does the mental health conversation stem off the discussion of medications?	☐ Yes ☐ No	
Does the provider ask the patient if she is currently having suicidal thoughts?	☐ Yes ☐ No	
Does the provider explain why they ask questions concerning mental health? (e.g. postpartum depression, depression's potential effects on pregnancy outcomes)	☐ Yes ☐ No	
Does the provider offer assistance to the patient regarding mental health issues? (e.g. speaking to a social worker, referral to mental health program, etc.)	☐ Yes ☐ No	

BIBLIOGRAPHY

1. Furber CM, Garrod D, Maloney E, Lovell K, McGowan L. A qualitative study of mild to moderate psychological distress during pregnancy. *Int J Nurs Stud*. 2009; 46: 669–677.

2. Field T, Diego M, Dieter J, et al. Prenatal depression effects on the fetus and the newborn. *Infant Behav Dev*. 2004; 27(2): 216–229.

3. Gold KJ, Marcus SM. Effect of maternal mental illness on pregnancy outcomes. *Expert Rev Obstet Gynecol*. 2008; 3: 391–401.

4. Flynn HA, Blow FC, Marcus SM. Rates and predictors of depression treatment among pregnant women in hospital-affiliated obstetrics practices. *Gen Hosp Psychiatry*. 2006; 28(4): 289–95.

5. Andersson L, Sundström-Poromaa I, Wulff M, Aström M, Bixo M. Neonatal outcome following maternal antenatal depression and anxiety: a population-based study. *Am J Epidemiol*. 2004; 159: 872–881.

6. Smith MV, Rosenheck RA, Cavaleri MA, Howell HB, Poschman K, Yonkers KA. Screening for and Detection of Depression, Panic Disorder, and PTSD in Public-Sector Obstetric Clinics. *Psychiatr Serv*. 2004; 55(4): 407–414.

7. Brand SR, Brennan PA. Impact of antenatal and postpartum maternal mental illness: how are the children? *Clin Obstet Gynecol*. 2009; 52(3): 441–55.

8. Deave T, Heron J, Evans J, Emond A. The impact of maternal depression in pregnancy on early child development. *BJOG*. 2008; 115(8): 1043–51.

9. Hay DF, Pawlby S, Waters CS, Sharp D. Antepartum and postpartum exposure to maternal depression: different effects on different adolescent outcomes. *J Child Psychol Psychiatry*. 2008; 49(10): 1079–88.

10. Kurki T, Hiilesmaa V, Raitasalo R, Mattila H, Ylikorkala O. Depression and anxiety in early pregnancy and risk for preeclampsia. *Obstet Gynecol*. 2000; 95(4): 487–490.

11. Van den Bergh BRH, Marcoen A. High antenatal maternal anxiety is related to ADHD symptoms, externalizing problems, and anxiety in 8- and 9-year-olds. *Child Dev*. 2014; 75(4): 1085–97.

12. Melville JL, Gavin A, Guo Y, Fan M-Y, Katon WJ. Depressive disorders during pregnancy: prevalence and risk factors in a large urban sample. *Obstet Gynecol*. 2010; 116(5): 1064–70.

13. Kelly RH, Zatzick DF, Anders TF. The Detection and Treatment of Psychiatric Disorders and Substance Use Among Pregnant Women Cared for in Obstetrics. *Am J Psychiatry*. 2001; 158(2): 213 – 219.

14. Marcus SM, Flynn HA, Blow FC, Barry KL. Depressive symptoms among pregnant women screened in obstetrics settings. *J Womens Health (Larchmt)*. 2003; 12(4): 373–80.

15. Vesga-López O, Blanco C, Keyes K, Olfson M, Grant BF, Hasin DS. Psychiatric disorders in pregnant and postpartum women in the United States. *Arch Gen Psychiatry*. 2008; 65(7): 805–15.

16. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 453: Screening for Depression During and After Pregnancy. *Obstet Gynecol*. 2010; 115: 394–395.

17. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 343: Psychosocial Risk factors: Perinatal Screening and Intervention. *Obstet Gynecol*. 2006; 108(2): 469–77.

18. Byatt N, Biebel K, Friedman L, Debordes-Jackson G, Ziedonis D, Pbert L. Patient's views on depression care in obstetric settings: how do they compare to the views of perinatal health car professionals? *Gen Hosp Psychiatry*. 2013; 35(6): 598–604.

19. Munk-Olsen T, Laursen TM, Pedersen CB, Mors O, Mortensen PB. New parents and mental disorders: a population-based register study. *JAMA*. 2006; 296: 2582–2589.

20. Pajulo M, Savonlahti E, Sourander A, Helenius H, Piha J. Antenatal depression, substance dependency and social support. *J Affect Disord*. 2001; 65: 9–17.

21. American College of Nurse-Midwives. ACNM Position Statement: Depression in Women. 2013.