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What does it mean when we screen? A closer examination of perinatal depression and psychosocial risk screening within one MCH home visiting program

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Abstract

Purpose—Perinatal depression screening has become an imperative for maternal and child health (MCH) home visitation programs. However, contextual life experiences and situational life stress may be equally important in determining program response.

Description—As one component of a larger research study with an urban MCH home visitation program, we examined the results from multiple measures of depression and anxiety symptoms, social support and stressful life events in a sample of 30 newly enrolled program participants. We compared commonly used tools in identifying women who were “at risk” for perinatal depression. The analysis used published and agency practice cut-off scores, examined correlations between measures, and reflected on the role of stressful life events in this assessment.

Assessment—In this low-income, predominantly African-American sample, the assessed tools were inconsistent in identifying “at risk” women for perinatal depression, ranging from 22% (EPDS) to 75% (CES-D) depending on the instrument. Depression and anxiety were correlated across most measures, although provider-collected data did not correlate as anticipated with other measures. The combination of screening for perinatal depression and stressful life events offered an additional perspective on possible symptom alleviation and psychosocial intervention that could occur within the home visiting program.

Conclusion—Our experience suggests that introducing a brief inventory of stressful life events accompanying perinatal depression screening allowed for a more comprehensive understanding of women's experiences than perinatal depression screening alone. We encourage psychosocial risk screening which integrates assessment of social support, stressful life events and perinatal depression symptoms.

Keywords

perinatal depression; maternal depression; depression screening; home visiting; mental health services; psychosocial risk

The past decade has brought widespread awareness of the need to integrate perinatal depression screening into maternal and child health (MCH) home visiting programs. At the same time, extensive effort has been put forth to create community-based approaches to depression screening,¹⁻³ culturally inform and modify screening instruments,^{4,5} and epidemiologically document the prevalence of depression (and/or depressive symptoms) for specific groups of women at elevated risk.⁶⁻¹¹

The literature has also documented the elevated risk for depression occurring during and around the time of pregnancy among low-income and ethnic minority women and described the consequences of untreated maternal depression on child health and development.¹²⁻¹⁴ As a result, both policy and practice in maternal and child health has expanded to encompass mental health during and around the time of pregnancy. Maternal and child health home visiting programs clearly have an imperative to respond to perinatal mental health, and as a result, perinatal depression screening has been widely implemented across the United States.

Several validated measures are widely used for perinatal depression screening. Depression screening is intended to measure the frequency, intensity and duration of depressive symptoms, but does not generally provide information regarding the contextual life experiences of the people experiencing these symptoms. Although depression and stress are distinct constructs, the literature informs us that experiencing stressful life events may increase the risk for elevated symptoms of depression and/or anxiety often detected during depression screening.¹⁵ Thus, a challenging question emerges for public health professionals: if we screen and detect elevated symptoms of depression in women with concurrent major stressors in their lives (e.g. economic hardship, grief and loss, relationship stressors), then is *perinatal depression* the construct that we are actually measuring when we screen?

Maternal and child health programs may benefit from a contextual approach to perinatal depression identification, which involves both validated screening instruments and descriptive knowledge of the life stressors which may accompany depressive symptoms. Context is important, because women with stressful life events may benefit from supportive interventions which alleviate the burden of the life stressor (i.e. improve coping, increase social support, minimize the impact of the stress, and build interpersonal capacity related to a specific concern). Elevated or persistent levels of depressive symptoms certainly warrant additional mental health assessment and perhaps more intensive intervention. But, our ability to identify symptoms within the context of stressful life experiences may offer a more immediate and responsive starting point for alleviating symptom severity through engagement with MCH home visiting.

Stressful life events

Our research included a Life Events Checklist that identified experiences of grief/loss, relationship conflict, and financial hardship recently experienced by home visitation participants. While home visiting programs often address stressful life experiences informally in the course of services, we wish to clearly identify the correspondence between the occurrence of stressful life events and prenatal depression in the lives of program participants.

Depression Screening Instruments

Both the literature and practice experience assert that no “perfect” screening instrument exists to detect perinatal depression, particularly among low-income ethnic minority women.^{5,16} Several studies have reviewed the psychometric properties of common perinatal depression screening instruments with regard to sensitivity, specificity, and construct validity.¹⁷⁻¹⁹ Determining the best instrument to use involves a trade-off between how wide to cast the net: broad, highly sensitive instruments that may over-detect symptoms as suggestive of depression, or more specific instruments with high predictive validity for clinical, major depression which help triage those most in need of services but could result in under-detection of those with more moderate risk.

Several standardized measures widely used and/or recommended for perinatal depression screening include the Edinburgh Perinatal Depression Scale (EPDS),²⁰ the Patient Health Questionnaire (PHQ-9),²¹ the Center for Epidemiological Studies, Depression Scale (CES-D),²² and the Beck Depression Inventory (BDI-II).²³ While substantial research has been conducted to support the psychometric validity of screening instruments in general, an ongoing concern has been the relevance of the “cut off score” to assess for major depression, particularly among lower socioeconomic and ethnic minority populations.^{5,18,24,25}

Therefore, we argue that the fundamental purpose of community-based perinatal depression screening in maternal and child health programs should not simply be to identify elevated symptoms through a cut-off score as a basis for intervention and/or referral, but to open a door to awareness and discussion of situational life event stressors and depressive symptoms. This discussion can inform the home visiting program's immediate response to the participant's needs, which ultimately can facilitate linkage into the appropriate sector(s) of mental health and/or community based support services.

In this report, we take a closer look at perinatal depression and psychosocial risk screening conducted in partnership with a community-based maternal and child health home visiting program. Our experience emanates from within a community-based participatory research partnership which developed and tested a brief intervention and service delivery model targeting perinatal depression. The program assessed both symptom severity and presence of specific, stressful life events to guide interventions offered both in the home visiting program and through subsequent community referrals. A focus on psychometrics was intended to help our research and program staff members thoughtfully consider what screening instruments were selected, the similarity of their respective “cut off scores” and how the constructs of depression, anxiety, social support and stressful life events were intertwined within the lived experiences of research participants. In this field note, we discuss what we learned about the interplay of symptoms, standardized screening, and the assessment of overall psychosocial risk in our sample of low-income, predominantly African-American women enrolled in this research study (N=30).

Study participants were screened following the protocol of the agency: the EPDS for pregnant/postpartum women (cut off score = 13) and the CES-D for interconceptual women (cut off score = 16). In addition, the research study staff administered the PHQ-9 and the BDI-II, along with the Beck Anxiety Inventory (BAI),²⁶ the Duke-UNC Functional Social Support Questionnaire (FSSQ),²⁷ Sarason's Social Support Questionnaire, Revised (SSQ-R)²⁸ and a community-informed Life Events Checklist developed by the first author, which was used to highlight specific, stressful life events the participant had experienced within the past two years (Table 1). We examined cut-off scores comparatively, but also examined the measures as continuous constructs when conducting correlational analyses between measures.

While we anticipated some variability between depression measures in our study based on our literature review, an *a priori* assumption was that we could assume a null hypothesis (no difference) between outcomes from depression screening measures that were administered in the course of routine home visiting services, vs. those administered by research staff during a separate interview. Administration by both agency staff and research staff was directed to be performed in person, within the client's home with the instrument items read out loud (to address differential reading levels) and with the participant responding either verbally or in writing (her choice) to each item.

MCH Program Characteristics and Participant Demographics

The home visiting program used a nurse, outreach worker (paraprofessional), and social work team approach to service delivery, integrating the evidence-based Parents as Teachers home visitation parenting curriculum. The 30 pregnant and postpartum women enrolled in this study represent newly enrolled urban home visiting program participants over an eight month period of time. The mean age of participants was 29 (SD 4.0, range 18 -33), 97% were African-American, and 100% had annual income below poverty level. In this sample, 23% of women were partnered living with children, 57% were single with one or more children in the household, 10% were partnered and currently pregnant for the first time while 10% were single and currently pregnant for the first time. While 10% had not finished high school nor earned a GED, the majority had finished high school either without any college (40%) or with some college/vocational training after high school (47%); only 3% had earned a college degree.

The percentage of women in the sample categorized as “at risk” for perinatal depression was determined for each measure using either published cut-off scores (research instruments) or the community agency's protocol (CES-D and EPDS). Table 2 includes the percentage of women determined to be “at risk” based on the cut-off score used for each instrument. Using these criteria, the sub-group of women identified through screening as “at risk” for perinatal depression in this sample included 22% of participants meeting the EPDS criteria, 40% of participants when using the PHQ-9 criteria, 57% of participants when using the BDI-II criteria, and 75% of participants meeting the CES-D criteria. This discrepancy among “at risk” groups was surprising; the authors completed a second set of analyses in order to verify the results were not related to data entry, inverse coding, or other extraneous sources of error. Table 2 also references the Cronbach's alpha, which suggests a good internal consistency for each instrument in the study sample (.80 - .90 range) although the CES-D performed least consistently with a marginal alpha (.64).

We then considered correlations among the total scores of all depression, anxiety, social support instruments, and the total number of stressful life events (Table 3). We detected a significant direct correlation between depression and anxiety symptoms (PHQ-9, BDI-II, and BAI) as anticipated in the literature²⁹ but no significant correlations were noted between the EPDS and CES-D with any of the other depression, anxiety, or social support measures, as would also have been anticipated. The data revealed significant inverse correlations between elevated depression and anxiety symptoms (PHQ-9, BDI-II, and BAI) and low levels of social support measured on the FSSQ and the SSQ-R. The mean number of stressful life events endorsed was also directly correlated with depression and anxiety symptoms (BAI, BDI-II and PHQ-9) and inversely correlated with social support measured on the FSSQ and SSQ-R. The EPDS and CES-D, which were collected by the local home visitation program, did not correlate significantly with any of the other instruments used in our study.

Our specific experience offers several important points of discussion. First of all, the percentage of women identified “at risk” for depression varied greatly between instruments, ranging from 22% - 75% of women depending on the measure selected and using the cut-off scores from the literature, and/or which were employed at the community agency at the time of this study. Despite the small sample size in this study, the relative internal consistency of the individual instruments is not consistent with each measure's prediction of women “at risk” for depression using published cut-off scores. This echoes concerns in recent empirical studies suggesting that cut-off scores for perinatal depression, particularly in the urban and low-income settings served by MCH home visiting programs, may be contextually dependent indicators of risk which require alternative cut-off scores for some population

groups.^{5,30} Our findings raise the concern that in any given home visiting program, the determination by the program of who is “at risk” for depression could vary greatly depending on the type of instrument selected and/or the cut-off score used to assess risk.

Significant correlations within our data reinforce the anecdotal client profiles observed within many home visiting programs and prior research studies: symptoms of depression and anxiety are highly correlated with each other and simultaneously correlated with having experienced multiple, stressful life events and a lack of social support.¹⁵ When we strive to provide parenting, health and behavioral health interventions to women in the course of MCH home visiting, we are often confronted by the psychosocial complexity of their lives which may impede full engagement in home visiting services. Referring to outside community resources beyond the scope of home visiting to independently assess and treat for depression (particularly if referrals are solely for anti-depressant medication) also may not adequately address the symptom complexity in low-income mothers, nor enhance their engagement in program activities.

The Life Events Checklist used in our study quickly identifies domains of grief/loss, relationship conflict, and financial hardship recently experienced by home visitation participants. We assert that psychosocial experiences in these domains can potentially benefit from psychosocial interventions infused within the home visiting program itself. Understanding the life event context and clustering of symptoms experienced by pregnant and postpartum women is an essential initial component to increasing the capacity of MCH home visiting programs to respond to the psychosocial needs of women and families. The psychosocial support, case management, and empowerment strategies which are already key components of many home visiting programs located in high risk communities through the United States may provide an excellent foundation for brief interventions that alleviate the symptoms of depression that co-occur with these specific, stressful life events.

Screening jointly for perinatal depression and psychosocial risk allows for conversation, social support and/or mental health promotion around identified areas of psychosocial concern, all of which may be provided within MCH home visiting programs. However, there must be adequate and appropriate resources available to public maternal and child health programs to meaningfully screen, assess, and respond to women's mental health during and around the time of pregnancy. A community-wide response to mental health promotion involves, but does not fully depend on, the specialty mental health provider system. Particularly in light of systematic barriers and challenges to accessing mental health services for many women and families, we need to focus on collecting the best possible information that will allow for meaningful and nuanced discussions around perinatal depression, stressful life events, and psychosocial support during and around the time of pregnancy.

In our experience, introducing a brief inventory of stressful life events accompanying perinatal depression screening allowed for a more comprehensive understanding of women's experiences than perinatal depression screening alone. Assessing for functional and perceived social support further enhanced our understanding of strengths and challenges, and provided impetus for home visitation workers to focus on social support enhancement in their interactions with women and families. Integration of social support and brief mental health promotion interventions, including referrals for community-based mental health treatment, are essential to effectively address the mental health and psychosocial well-being of pregnant and postpartum women. Our experience suggests that further research is warranted regarding the role of psychosocial risk assessment as a gateway to developing tiered, collaborative interventions that may be more affordable, acceptable, and relevant to the lives of women supported through public maternal and child health promotion programs in the United States.

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Life Events Checklist

Table 1

This series of questions asks about some life events that you may have experienced. You will be asked to answer whether you have experienced any of the following in the past two years:

Experienced a conflict or disagreement in a significant relationship that creates stress in your life	☐ No ☐ Yes
Experienced the death of a close family member or friend	☐ No ☐ Yes
Experienced the loss of a relationship due to break-up, divorce, or separation	☐ No ☐ Yes
Experienced a pregnancy loss such as a miscarriage	☐ No ☐ Yes
Experienced the death of a baby, such as a stillbirth or infant death	☐ No ☐ Yes
Experienced difficulty getting pregnant, or infertility	☐ No ☐ Yes
Experienced a move or relocation that separated you from your support system	☐ No ☐ Yes
Experienced a loss of housing or homelessness	☐ No ☐ Yes
Experienced the loss of a job or inability to find work when you wanted to	☐ No ☐ Yes
Experienced having a significant other Incarcerated (prompts: sent to jail or prison)	☐ No ☐ Yes
Experienced having a child removed from your home due to adoption, custody, or legal issues	☐ No ☐ Yes
Experienced a serious health or disability issue in your life	☐ No ☐ Yes
How many total items were endorsed?	

Table 2
Total Mean Score, Percentage Predicted “At Risk” and Cronbach's Alpha for Individual Instruments

	Mean	Standard Deviation	% “At Risk” by cut-off*	Cronbach's α
BAI	14.3	9.7	27.3% moderate (16-25) 12.7% severe (26+)	.87
PHQ-9	10.5	6.3	40% Major Depression using algorithm	.88
BDI	21.9	12.9	30% moderate (20-28) 27% severe (29+)	.93
CES-D (N=12)	27.9	10.6	40% (16)	.64
EPDS (N=23)	9.3	6.7	22% (13)	.88
FSSQ	42.6	14.3	n/a	.91
SSQR	29.3	7.8	n/a	.80
Life Events Checklist	4.6	2.0	n/a	n/a

* Cut off Score Guidelines:

BAI: Score 16-25 indicated moderate depression; score 26 indicated severe depression

PHQ-9: Algorithm matching DSM-IV criteria used to assess major depression (one or both of first two items at “more than half the days” in combination with a total of five or more elevated symptoms; see, http://www.depression-primarycare.org/clinicians/toolkits/materials/forms/phq9/tentative_diagnosis/, for thorough description)

CES-D: Score of 16 indicative of probable depression (community agency protocol)

EPDS: Score of 13 indicative of probable depression (community agency protocol)

Table 3
Between Measures Correlation Matrix for Depression, Anxiety, Life Events and Social Support Measures

	BAI	PHQ9	BDI	Life Event Checklist (LEC)	FSSQ	SSQR	CESD 20	EPDS
BAI Total Score (higher more anxious)								
Pearson Correlation	1	.718**	.675**	.556**	-.371*	-.501**	-.119	-.351
Sig. (2-tailed)		.000	.000	.001	.044	.005	.672	.101
N	30	29	30	30	30	30	15	23
PHQ9 Enter Total Score (higher more depressed)								
Pearson Correlation	.718**	1	.892**	.610**	-.663**	-.351	.130	-.368
Sig. (2-tailed)	.000		.000	.000	.000	.062	.657	.092
N	29	29	29	29	29	29	14	22
Total score BDI (higher more depressed)								
Pearson Correlation	.675**	.892**	1	.571**	-.650**	-.497**	.232	-.354
Sig. (2-tailed)	.000	.000		.001	.000	.005	.406	.097
N	30	29	30	30	30	30	15	23
How many total life event checklist items were endorsed? (mean total)								
Pearson Correlation	.556**	.610**	.571**	1	-.435*	-.511**	.145	-.029
Sig. (2-tailed)	.001	.000	.001		.016	.004	.606	.894
N	30	29	30	30	30	30	15	23
Total FSSQ score (higher more support)								
Pearson Correlation	-.371*	-.663**	-.650**	-.435*	1	.516**	-.170	.150
Sig. (2-tailed)	.044	.000	.000	.016		.004	.546	.493
N	30	29	30	30	30	30	15	23
Total SSQR Satisfaction Scale Score (higher is more support)								
Pearson Correlation	-.501**	-.351	-.497**	-.511**	.516**	1	-.007	.058
Sig. (2-tailed)	.005	.062	.005	.004	.004		.981	.794
N	30	29	30	30	30	30	15	23
Total CESD 20 score (higher more depressed)								
Pearson Correlation	-.119	.130	.232	.145	-.170	-.007	1	.177
Sig. (2-tailed)	.672	.657	.406	.606	.546	.981		.529
N	15	14	15	15	15	15	15	15
total EPDS score (higher more depressed)								
Pearson Correlation	-.351	-.368	-.354	-.029	.150	.058	.177	1
Sig. (2-tailed)	.101	.092	.097	.894	.493	.794	.529	

	BAI	PHQ9	BDI	Life Event Checklist (LEC)	FSSQ	SSQR	CESD 20	EPDS
N	23	22	23	23	23	23	15	23

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).