

A mother–baby psychiatric day hospital: History, rationale, and why perinatal mental health is important for obstetric medicine

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Abstract

Background: Women frequently experience depression, anxiety, or other mental health concerns during pregnancy and postpartum, impacting her and her infant's health. Patients who require management of medical conditions during the perinatal period are even more likely to experience depression and anxiety compared to those without comorbid medical issues. Despite the availability of effective treatments, perinatal mental health utilization rates are strikingly low.

Methods: To address common treatment barriers, we developed a specialized mother–baby day hospital for women with psychiatric distress during the peripartum. In this report, we summarize findings from 800 patient satisfaction surveys collected from women treated at the program between 2007 and 2012.

Results: Findings suggest that women are highly satisfied with the treatment received, often noting that the inclusion of the baby in their treatment is a highly valued feature of care.

Conclusion: The relevance of perinatal mental health services for patients who are followed by obstetrical medicine specialists is discussed.

Keywords

Depression, anxiety, mental health, treatment, mother–baby unit

Introduction

Depression and anxiety are common during the perinatal period, with major depression recognized as the most prevalent and impairing of all medical complications following childbirth.¹ Elevations in depression, anxiety, and stress during pregnancy and postpartum not only lead to functional impairment for the mother but can also lead to a host of adverse outcomes for the infant.^{2,3} For example, compared to women who are not depressed, depressed pregnant women have significantly higher rates of preterm birth, intrauterine growth retardation, and operative delivery, and longer pre-delivery hospital stays.² Depressed women are also more likely to engage in risky prenatal behaviors such as hazardous use of alcohol and drugs, and inadequate nutrition.^{4,5} After delivery, depressed mothers tend to be less responsive to infants' needs⁶ and are significantly less likely to bring their infants to recommended well-baby check-ups.⁷ Long-term effects on the child associated with both maternal depression and anxiety have been documented, including cognitive deficits and behavioral problems later in childhood.⁸

Notably, psychiatric patients in the general population are at significantly heightened risk for experiencing numerous medical conditions such as diabetes,⁹ asthma,¹⁰ and heart disease.¹¹ Similarly, recent research has documented associations between perinatal depression and anxiety and medical conditions that occur during pregnancy, such as prenatal hypertension,¹² gestational diabetes,¹³ pre-eclampsia,¹⁴ and hemolysis, elevated liver enzymes, low platelet (HELLP) syndrome.¹⁴ As one recent example, a large-scale retrospective cohort study of 11,024 perinatal women found that even after adjusting for relevant demographic characteristics, women with pre-pregnancy or gestational diabetes had nearly double the odds of experiencing perinatal depression, compared to women in the sample without diabetes.¹⁵ These and other findings suggest that women who are followed for medical conditions across the perinatal period may be more likely to experience anxiety or depression than women without medical conditions.

While the need for adequate treatment of perinatal mental health conditions is clear, evidence suggests that the majority of women with these conditions do not engage in treatment.¹⁶ A variety of barriers

have been identified that prevent pregnant and postpartum women from accessing mental health care.^{17,18} In addition to reticence to take antidepressants prenatally,¹⁹ women may have trouble recognizing depression or other mental health symptoms in the context of the normative changes in sleep, energy, and appetite that take place during pregnancy.²⁰ Even when symptoms are recognized, women may not disclose them openly to providers due to embarrassment or stigma.^{21,22} In addition, for postpartum women, logistical demands of newborn care present an additional challenging barrier to accessing treatment. In light of these problems with engagement, experts have emphasized the need to develop innovative, tailored mental health services to successfully engage pregnant and postpartum women in care.^{23,24}

A central issue in promoting access to perinatal mental health services is locating and integrating services within familiar systems of care that already serve maternity patients.²⁵ By structuring services in or near existing prenatal clinics or obstetrical hospital settings, major barriers to care are reduced. Co-location further emphasizes that mental health care can be part of the obstetrical continuum of care and ready, convenient access communicates the frequency with which these disorders occur during the peripartum, thus reducing stigma, a common barrier in accessing services.²⁶

A second critical issue in providing specialized perinatal mental health services is structuring services such that the infant may be included in the care of the mother, as appropriate. As noted in prior

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reports,^{27,28} there are distinct advantages of incorporating the infant into the mother's care. From a practical perspective, having infants accompany their mothers eliminates a major barrier to treatment engagement, which is particularly relevant for mothers who solely breastfeed, and for mothers who may be reluctant to leave their newborn in the care of others. In addition, inclusion of the infant allows the treatment team to work directly on difficulties that may be present within the mother–infant relationship, and to model effective infant care and interaction behaviors. Numerous mothers who suffer from postpartum depression or anxiety experience disruptions in attachment to the infant—either lack of attachment or an overly anxious attachment. Incorporating the infant into the mother's care allows clinicians to directly observe and assess the relationship and use strategies to intervene when mother–infant attachment is disrupted. For example, this model of care can be used to help anxiously attached mothers develop comfort with others temporarily caring for the infant, while remaining in close proximity. Equally important, clinicians in a mother–baby setting are well positioned to teach mothers who are detached from their infants strategies to connect with their infants, including helping mothers interpret subtle infant cues, and how to use tools such as infant massage to build a stronger connection. While adopting a mother–baby model of service necessitates specialized space and staffing and procedures, the potential for clinical gains in maternal symptoms and functioning are substantial.

For postpartum women, a mother–baby model of care has long been established in hospital settings across Europe, the United Kingdom, Australia, and New Zealand.^{29,30} Although the approach is newer to North America, there has been a mother–baby day hospital (DH) in operation since 2000 at a Brown University-affiliated hospital in Providence, RI,²⁷ the site of the current study. More recently, a perinatal inpatient unit has provided services at a University of North Carolina-Chapel Hill-affiliated hospital since 2011, and other mother–baby units are being developed elsewhere in North America.

In spite of growing attention to the mental health needs of perinatal women, a critical gap continues to exist in the United States with regard to engaging pregnant and postpartum women in care. In light of the pressing need for innovative services to meet the needs of this population, we detail an approach that has been successful for over 10 years in treating perinatal women in a specialized mother–baby partial hospitalization program. Details regarding the initial development, history, and structure of the DH program have been described previously.²⁷ In this report, we present an updated description of the program and a rationale for why this type of mental health service is particularly relevant to obstetric medicine providers. Moreover, we present compiled patient satisfaction data collected from women who received services at the program between 2007 and 2012, highlighting perceived benefits of this model of care.

Description of clinical service and patient population

The Women & Infants' Hospital (WIH) mother–baby postpartum depression DH was established in 2000, located adjacent to WIH's main obstetrical hospital. As the ninth largest obstetrical service in the country, WIH is the primary teaching affiliate of Alpert Medical School of Brown University for obstetrics, gynecology, and newborn pediatrics, as well as a number of specialized programs in women's health including an Obstetric Medicine fellowship. More than 8500 deliveries take place at the hospital each year. The DH utilizes a partial hospital model of care and thus provides intensive services during the day to patients who require a higher level of care than traditional outpatient services, due to high level of symptoms and/or substantial functional impairment interfering with their daily activities. At the WIH DH, the treatment day takes place from 8:30 a.m. to 2:30 p.m. and includes group, individual, and milieu treatment, as well as consultation with psychiatrists, nutritionists, social workers, lactation specialists, and other affiliated providers as needed. Women who pose an immediate risk to themselves or someone else are not appropriate for

partial hospital level of care and are referred for admission to an inpatient psychiatric unit. Postpartum women are expected to bring their infants with them during the treatment day, and women may either keep their infants with them during group and individual sessions, or they may have the infant attended to in a professionally staffed onsite nursery. The DH is a frequent training site for medical students, residents in psychiatry, obstetrics, and primary care and clinical psychology, as well as other specialties. The primary theoretical model utilized by the program is interpersonal psychotherapy (IPT), with essential elements of the program incorporating cognitive behavioral therapy (CBT), and experiential strategies (e.g., mindfulness, breathing, progressive muscle relaxation) to improve self-care and relaxation skills. Staffing includes an interdisciplinary team of psychologists, psychiatrists, social workers, nurse specialists, and other mental health providers.

The DH program is housed within the hospital's Department of Medicine and is closely integrated with the hospital's existing obstetric medicine team such that perinatal patients in need of psychiatric services can be quickly assessed and admitted for care as needed. Other referrals come from numerous prenatal care practices in the surrounding community, mental health providers caring for perinatal patients, other hospital-based services (social work, psychiatric consultation-liaison), as well as pediatricians, and primary care physicians in the community. Of the patients admitted to the DH, 57% have private insurance that covers the cost of their admission, and 43% are covered through state or federal. The service is frequently booked to capacity with an average census of six to seven patients per day. For those patients who can be appropriately treated in outpatient mental health care and do not require partial hospital treatment, the hospital provides a women's behavioral health outpatient service that offers perinatal mental health treatment. These specialized outpatient services are also utilized for follow-up aftercare for women admitted to the DH.

As detailed in prior reports^{31,32} approximately two-thirds of women treated at the DH are postpartum, and the remainder pregnant. Slightly over half of DH patients (51%) are single at admission and 44% report being either married or partnered. About 40% of women present for care with their first pregnancy or first baby. The DH serves a wide range of racial, ethnic, and socio-economic groups: in terms of race/ethnicity approximately half identify as white or Caucasian (54%); with regard to education, 14% report completion of a BA degree. The most common psychiatric diagnosis among pregnant and postpartum patients is major depressive disorder, experienced by 78% of women; however, many women also self-report heightened symptoms of generalized anxiety (62%) or panic disorder (58%), with panic disorder being the most common psychiatric diagnosis comorbid with major depression in this population.³¹ Symptom severity and functional impairment is significant: at intake, patients score an average of 50 on the clinician-rated Global Assessment of Functioning (GAF) scale, with 45% of DH patients reporting suicidal ideation. On average, Edinburgh Postnatal Depression Scale severity scores are 20.1 at DH intake and a mean of 11.8 at DH discharge, representing a statistically and clinically significant reduction in symptoms.³²

Methods

As part of ongoing quality assessment and improvement, the DH staff members routinely distribute a brief, anonymous patient satisfaction survey to each patient at the end of their treatment stay. Patients are asked to not identify themselves on the form and to respond openly and honestly, in an effort to assess strengths of the program and areas in need of improvement. A nine-item survey was developed by for use at this clinical site. Although not a measure that has been validated in other settings, the survey consisted of several questions that are commonly used to assess general satisfaction with clinical services, e.g., "The program was helpful to me," "I would recommend this program to others" as well as more specific questions that assess unique elements of this program, e.g., "I was satisfied with the care given

Table 1. Perinatal patients' acceptability ratings of a mother–baby day hospital program.

Patient satisfaction item	Number of patients endorsing item (Valid %)						Mean (SD)
	Strongly agree (5)	Agree (4)	Unsure (3)	Disagree (2)	Strongly disagree (1)	Missing or N/A	
This program was helpful to me.	578 (72.3%)	197 (24.7%)	21 (2.6%)	2 (0.3%)	1 (0.1%)	1	4.69 (0.55)
Staff respected my wishes and needs.	665 (83.2%)	129 (16.1%)	4 (0.5%)	1 (0.1%)	0 (0%)	1	4.82 (0.40)
The contact made to my family member was helpful.	257 (54.4%)	163 (34.5%)	43 (9.1%)	6 (1.3%)	3 (0.6%)	326	4.41 (0.76)
I was satisfied with the care given to my child.	435 (85.6%)	68 (13.4%)	4 (0.8%)	1 (0.2%)	0 (0%)	292	4.84 (0.39)
I would recommend this program to others.	695 (87.1%)	97 (12.2%)	6 (0.8%)	0 (0%)	0 (0%)	2	4.86 (0.37)
I am currently using skills learned in the day program.	489 (61.3%)	266 (33.3%)	36 (4.5%)	6 (0.8%)	1 (0.1%)	2	4.55 (0.63)

Table 2. Perinatal patients' ratings of specific group offerings at the day hospital program.

Patient satisfaction item	Number of patients endorsing item (Valid %)				Missing or N/A	Mean (SD)
	Very helpful (4)	Helpful (3)	Slightly helpful (2)	Not helpful (1)		
Morning interpersonal psychotherapy group	507 (63.7%)	232 (29.0%)	50 (6.3%)	7 (0.9%)	4	3.56 (0.65)
Relaxation/mindfulness group	342 (47.4%)	197 (27.3%)	143 (19.8%)	39 (5.4%)	79	3.17 (0.93)
Afternoon CBT/interpersonal skills group	504 (64%)	236 (29.9%)	41 (5.2%)	7 (0.9%)	12	3.57 (0.64)

my child.” Each of the nine core items were followed by Likert-type response choices, which, for most items, consisted of a five-point scale from “strongly disagree” (1) to “strongly agree” (5). In addition, the survey included several open-ended questions that provided an opportunity for patients to share views on strengths of the program as well as suggestions for improvement. The survey was designed to be brief, typically taking no more than 5–10 min to complete. The majority of DH patients complete the survey. Responses are systematically shared with all DH clinicians, support staff, and the director upon receipt, and then coded and entered into a secure database. For the present report, we compiled patient satisfaction data obtained from consecutive DH admissions between January 2007 and December 2012, checked the database for completion and accuracy, and transferred data to SPSS version 21 for data analysis and summarization, including calculation of frequencies, means, and standard deviations.

Results

During the most recent six years that the DH program has been in operation (2007–2012), 800 patients completed the program and returned a patient satisfaction survey; given that 1505 patients were served during this period, this represents a 53% response rate. Table 1 displays mean responses as well as the proportion of women who endorsed agreement with the first six statements on the survey. In terms of overall satisfaction with the program, 97% of respondents noted agreement or strong agreement with the statement that the program had been helpful to them, 99% reported that staff respected their wishes and needs, and 99% noted that they would recommend the program to others. Eighty-nine percent noted that the contact with their family member was helpful, and nearly all postpartum women who brought their infant to the program (99%) expressed satisfaction with the care given to their child. Finally, 95% of respondents

indicated that they were currently using skills that they had learned in the DH.

Table 2 displays ratings for the remaining three items on the survey, which assess the DH's three primary therapy groups: (1) the morning IPT group, (2) the relaxation/mindfulness skills group, and (3) the Afternoon CBT/interpersonal skills group. We found that 93% of women reported finding the interpersonal therapy group helpful or very helpful, 75% reported that the relaxation/mindfulness skills group was helpful or very helpful, and 94% reported that the CBT/interpersonal skills group, to be helpful or very helpful. In addition to ratings, many women noted comments on the form regarding specific aspects of the program perceived to be helpful or unhelpful. Frequent remarks regarding positive aspects of the program included appreciation for support received as a result of the group format with other new mothers, gaining useful skills during individual and group sessions, appreciating having infants attend the program with them, and expressing gratitude towards specific staff members. Suggestions for improvement included building in additional structure to some aspects of the program and altering the relaxation skills training. DH programming is being modified as a result, such that additional structure is being built into periods of time between group sessions; in addition, relaxation sessions are shorter and more focused.

Conclusion

The mental health needs of perinatal women are frequently unmet, at a high cost to women, their infants, and often other family members. In recognition of the need for specialized services for this population, our team has developed and worked to refine a mother–baby DH program that is integrated within a large university-affiliated obstetrical hospital. This treatment model has proven to be successful and financially sustainable for over a decade, with steady referrals from a range of providers including obstetrical medicine specialists, consult-liaison

physicians, perinatal care providers, and others based at community sites. This report presents patient satisfaction data from 800 perinatal women served between 2007 and 2012. Results indicate that the program is highly acceptable to patients: nearly all patients endorse a high degree of satisfaction with their care and indicate that they would readily refer others to the program. Moreover, women often remarked that having the ability bring their infant with them to treatment was a welcomed feature of the program and that being surrounded by women experiencing similar concerns provides much-needed support and reduces isolation. Based on available data, the program appears to be highly acceptable to both patients and providers. The current data are limited in its focus and do not address effectiveness of services but rather only acceptability of the approach to care. However, prior analyses have found significant pre-post reductions in symptom levels over the course of DH treatment.^{27,32}

Given the prevalence of perinatal depression and anxiety disorders, and the known adverse outcomes for mothers and infants, treatment is critical. While it is clearly important for all perinatal care providers to recognize and refer perinatal women for mental health services, obstetric medicine specialists are likely to encounter a substantially higher proportion of perinatal women in need of these services, due to high rates of comorbidity between mental and physical conditions—in particular depression. Emerging data suggest that pregnant women receiving treatment for common medical conditions—asthma, diabetes, cardiovascular disorders, obesity, pre-eclampsia—are at elevated risk for depression and anxiety. Heightened awareness and active referral practices among obstetric medicine providers, with acknowledgment of mental health as a key aspect of a woman's overall perinatal health, can help ensure that patients recognize the importance of attending to their psychiatric needs as well as their other medical needs. Although barriers exist to effective mental health treatment engagement, we have found that referring providers can make a notable difference in the likelihood that their patients follow through with care by engaging in open communication with their patients regarding emotional well-being and de-stigmatizing the need for mental health care.

Locating and integrating perinatal mental health care in close proximity to obstetrical services is one effective strategy for promoting successful engagement in care. It should be noted that it is not always possible to develop onsite mother–baby psychiatric services, as additional resources and space are required, in addition to a sufficiently large obstetrical population. Moreover, obtaining the necessary funding to support a specialized perinatal psychiatric service can also be an issue.³³ However, even in the absence of a specialized program, we believe careful attention to screening and active referral to community providers, paired with open communication and psycho-education with patients, can play a critical role in ensuring that perinatal women in need of psychiatric services get the help they need. As women's mental health care needs during pregnancy and postpartum are increasingly recognized, innovative interventions and models of care will be needed to establish sustainable, integrated services that will promote optimal health outcomes for both mothers and infants.

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Declaration of conflicting interests

None declared.

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Ethical approval

This study was exempt from IRB review as it involved retrospective analysis of anonymous patient satisfaction data, unlinked to any patient identifiers.

Guarantor

CLB

Contributorship

CLB and MH reviewed literature and conceived of the idea for this report. CLB compiled and analyzed data and prepared the initial manuscript draft. Both authors edited the manuscript.

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