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ORIGINAL RESEARCH

A Community-Based Intervention for Mental Health and Wellbeing in Pregnancy and Postpartum: One Healthy Start Site's Story

McClain Sampson[1], Wen Xu[2], Felicia N York[3], Jerry Roberson[4]

[1]Graduate College of Social Work, University of Houston, Houston, TX, USA; [2]Department of Innovative Social Work, Faculty of Health and Wellbeing, City University of Macau, Macao, SAR, People's Republic of China; [3]Texas A&M University, College Station, TX, USA; [4]United Associates, Dallas, TX, USA

Correspondence: McClain Sampson, Graduate College of Social Work, University of Houston, Houston, TX, USA, Email mmsampson@uh.edu

Purpose: Perinatal mood and anxiety disorders (PMADs) are the leading cause for maternal morbidity and are associated with underlying causes of pregnancy-related death. Healthy Start (HS) programs around the country seek to lower the risk of maternal mortality through services that screen for and address social determinants of health, including mental health. This study used secondary data from the University of Houston Healthy Start (UHHS) to examine postpartum depression screening and referral rates among program participants and feedback from participating mothers about the program's mental health services.

Patient and Methods: Secondary quantitative data from the program's administration of services (n = 164) and secondary qualitative data from a sub-set of program participants (n = 23) were analyzed. Using data from the standardized HS tools (required for all sites), aggregate demographic data and screening results of depression and interpersonal violence were assessed. Anonymous qualitative data from focus groups were analyzed for themes related to mental health.

Results: Screening for postpartum depression was 97% with a 78% referral rate. Screening for interpersonal violence (IPV), a known correlate of PMADs, was 98% with a 100% referral rate for the 4 women who screened positive for IPV. Qualitative themes revealed close-knit relationships with case managers and doulas that encouraged disclosure of symptoms, honest discussions, and an increased desire to ask for help when needed. Emergent themes revealed that Persistence and authenticity were critical to gain participant trust; a culture of sisterhood positively participants' mental health; and case managers were proactive with emotional support and resource referral.

Conclusion: High rates of mental health screening and referral at the UHHS site were documented and participant stories revealed that trust with case managers was instrumental to their wellbeing. More robust data is needed to allow statistical comparisons are needed in future research.

Plain Language Summary: In this study, we wanted to know how well a strengths-based program, the University of Houston Healthy Start (UHHS), screened and referred mothers for postpartum depression needs. We also want to explore how mothers in the program perceived and experienced mental health services provided by UHHS. We used existing data from the program evaluation to answer both questions.

We analyzed administrative data from 164 mothers in the program and analyzed anonymous qualitative data from focus groups (n=). We found that nearly all mothers (97%) were screened for postpartum depression, and among high-risk moms, the majority (78%) got referrals for further care. From the group interviews, we learned that mothers formed strong, trusting relationships with case managers. This close bond encouraged them to open up about their struggles and seek help. Positive stories shared in focus groups convey the importance of the relationship between case manager and program participant.

Keywords: perinatal, community home-visiting, depression

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Introduction

Perinatal mood and anxiety disorders (PMADs) describe a spectrum of mental health conditions that occur during pregnancy and up to one year after childbirth. [1] PMADs include depression, anxiety, pregnancy or postpartum obsessive-compulsive-disorder (OCD), postpartum post-traumatic stress disorder (PTSD), bipolar and postpartum psychosis.[1] Research indicates that 14% of mothers suffer from postpartum depression (PPD),[2] 13 to 40% experience postpartum anxiety,[3] 11% screen positive for OCD,[4] and 18% has elevated levels of PTSD following childbirth.[5] Moreover, there has been an increase in mental health disorders, severe mental illness and mortality and morbidity in the last 20 years.[6]

Certain groups of women are at higher risk of PMADS. Women with a history of mental health issues prior to or during pregnancy are at an increased risk for PMADs.[2,7–9] The prevalence rate of PPD doubles among mothers living in poverty.[10,11] PPD is also notably more common among mothers experiencing significant stress[12] and those with poor support systems.[13] While postpartum anxiety shares risk factors with depression, such as high stress levels and low maternal self-efficacy, it also has unique risks.[14] It is particularly prevalent among women with lower education levels and those who have negative birthing and immediate postpartum experiences.[14] Additionally, women whose pregnancies were covered by Medicaid were found to be more vulnerable to severe mental illness.[15] Urban women residing in neighborhoods with homogeneous land use, reduced walkability, lower air pollutant concentrations, and lower retail floor area ratios experienced higher diagnose rates of PPD.[16] As the research shows, the context within which the mother lives during pregnancy and postpartum matters.

Mental health during pregnancy is inextricably linked to physical health during pregnancy and postpartum. Prenatal stress is associated with increased risk of pre-term birth, gestational diabetes management and pre-eclampsia.[17] Women with PMADs and Serious Mental Illness (SMI) showed a higher incidence of severe maternal morbidity and mortality, as well as increased hospital transfers, longer hospital stays, and higher delivery-related costs in comparison to other deliveries.[15] PMADs are the leading cause for maternal morbidity[18] and are associated with underlying causes of pregnancy related death.[19]

Neglecting to address mental health during the perinatal period harms mothers, families and society at large. Specific to societal cost, a recent study highlighted the economic burden of untreated PMADs, estimating costs at 14 billion dollars in terms of maternal and child health expenses.[20] Mothers suffering from PMADs are more likely to experience a decline in workplace productivity and increase their reliance on public sector funds, such as Medicaid and the Supplemental Nutrition Assistance Program (SNAP), as well as incurring higher out-of-pocket healthcare costs.[20] Furthermore, PMADs are linked with adverse outcomes for children, including increased use of acute care services, lower rates of age-appropriate vaccinations and well-child visits, and even a heightened risk of infant mortality in the first year of life.[21,22]

According to the Policy Center for Maternal Mental Health,[23] less than 20% of women nationwide are screened for postpartum depression. Among mothers who score positive for depression during the perinatal period, only 22% receive mental health treatment.[24] The most common barriers to screening for PMADs include stigma associated with mental health issues — such as the belief that these are "normal" feelings or they can manage mental health problems on their own — and low trust in medical and mental health providers, stemming from fear of judgment and a preference for confiding only in close friends or family.[25–27] However, when healthcare providers demonstrate caring and sensitivity, and reassure patients that mental healthcare is a part of routine care, women are more likely to be open and discuss their mental health needs.[26]

Home visiting programs that support mothers from the prenatal through the postpartum period, hold significant potential for screening and mitigating risk factors associated with PMADs,[28] especially for those living in disadvantaged families with limited resources.[29] Considering the significant impact of prenatal mental health on birth outcomes,[30] it is crucial to address the physical and mental health of mothers concurrently. With 53% of maternal deaths occurring after the woman leaves the hospital and up to one year post-delivery,[31] and given the impact of contextual stressors, maternal mental health interventions require a community-level approach. This study used a mixed-method secondary data analysis of the University of Houston Healthy Start program (UHHS) to explore the physical and mental health characteristics, PPD and IPV screening rates and birth outcomes of participants to gain a better understanding of

a diverse, community-based sample at risk for maternal mortality and PMADs. The study gathers insights on participant experiences with health and mental health services during their involvement in the program.

Strengths Based Approach Applied to Maternal Health

For this paper and based on our own training, we draw from scholarship by Pulla & Francis[32] to frame our study. They detail the purpose, objectives and activities for a strengths-based approach to mental health social work. Whereas the typical model of assessment in medical and social services focuses on pathology, solving dysfunction by identifying symptoms, curing illness and overcoming obstacles a strengths-based approach re-frames behaviors as strengths that have helped the person to survive.[33] According to the Saleebey,[33] individuals and communities have untapped and under-utilized resources and competencies that can and should be highlighted and considered for intervention.

The Healthy Start program uses a life course approach and is a strengths-based intervention that helps to promote maternal mental health and wellbeing by providing long-term, robust case management and coordinated care of social, medical and mental health services to mothers at risk. Building and disseminating knowledge at the community level is paramount for equity in perinatal outcomes. Eliminating barriers to accessible, affordable, and equitable care is necessary. The Healthy Start program began as a community-based demonstration project in 1991 to direct federal funds to localities with infant mortality rates at least 1.5 times the national average. The program's main goal is guided by the assumption that communities are important and valuable stakeholders with the strengths to offer solutions. Below, we outline how Healthy Start, nationally and locally, is implemented in alignment with the 7 principles of strengths-based practice.

Social Justice. According to the National Association of Social Workers (NASW),[34] social workers advocate for social change, particularly in collaboration with marginalized and vulnerable populations. To achieve social justice, it is essential to address issues such as poverty, unemployment, and discrimination, while ensuring equal opportunities, access to services and resources, and meaningful participation in decision-making processes.

All Healthy Start programs center social justice by addressing racial disparities in pregnancy and birth outcomes. Given the vast racial disparities in infant mortality, and that the service area is defined by zipcodes with infant mortality rates higher than 1.5 the national average, the participants of UHHS are, in general, women who are in marginalized communities.

Transparency. At each intake session, case managers explain the purpose of the program, the requirements of time and personal data and obtain verbal consent to participate in the program. The participant is presented with the informed consent and it is explained verbally.

Power with not Power over. Direct service providers (case managers, doulas, nurse) respect participant self-determination and do not force goals or outcomes.

Respect is conveyed by proactive communication from the first point of contact (usually done by an outreach staff person) to the last point of contact (exit surveys conducted via telephone by the Program Director). Respect for starting where the participant is and tailoring the case management approach to individual and family circumstances is common practice.

Self-determination by community. Community, as defined by UHHS participants and alumni, is asked for feedback continually so that the topics of education are driven by local community needs, not prescribed by Healthy Start, the national organization. This is done through quarterly focus groups and qualitative exit surveys.

Focus on Strengths is achieved primarily through our training of case managers. All case managers are trained in Motivational Interviewing to build rapport and assess readiness for change. An evidence-based curriculum that is trauma informed and strengths based is used. UHHS participants are asked to define their own goals in the first session to ensure client-centered work that elicits and builds upon participant strengths.

Collaborative partnerships. Collaboration occurs on an individual level through case management and at a macro level through the Community Action Network (CAN). Case managers collaborate with the UHHS participant to help them create their own goals based on their values. The CAN is led by a Healthy Start staff who convenes external stakeholders in quarterly meetings and goal setting to address root causes of racial disparities in birth and pregnancy outcomes.

Box 1 Shamika's Story with Health Start

Shamika was referred to Healthy Start 8/2022 at 17 years of age. This was her 1st pregnancy and she enrolled at 5 weeks pregnant. She was currently in Highschool and experienced challenges during her educational career but was determined to be the best mother that she can be. Upon enrolling into the program, the participant stepped on a bridge with many gaps and faced several challenges. Being enrolled in Healthy Start participant received mental health service along with consistent care from Healthy Start's Coordinated Care Team she received education during 1st, 2nd, and 3rd trimester and modules on how to care for baby from 1-16 months. Shamika had over 60 encounters and health educational sessions combined with her Case Manager and no interruptions in service. She delivered a healthy baby at full term despite her environmental adversities. With continued care from Healthy Start this mom has continued her educational path and single handled secured 2 jobs to support her family. The participant has begun her career with the Texas Department of Correction. Shamika's baby is now 17 months and will soon be graduating from Healthy Start's program successfully.

See Box 1 for participant vignette that was provided to us in 2023. A pseudonym is used to protect her identity.

Methods

Research Design

The study design is a mixed-methods secondary data analysis based on the UHHS program data between the years of 2019–2024.[35] Approval by the University of Houston, Human Subjects committee was granted in 2020 for the evaluation of the UHHS program, assigning it to "non-human subjects" research with minimal risk. During the delivery of services, UHHS shared a cover letter and informed consent with all participants, the consent included a statement about de-identified and aggregate data being used for research purposes.

The analytic sample for both quantitative and qualitative analysis was limited only to women who had entered the UHHS program pregnant and had delivered babies while in the program. The primary research questions guiding this study were as follows: 1) What are the social determinants of health (SDOH) characteristics, mental health, and birth outcomes of the sample? 2) How did those screened at risk of postpartum depression receive referral services from HS? 3) How do participants experience UHHS services related to mental health?

The quantitative component involved a retrospective analysis involved data was collected by UHHS program staff at the individual level during home visits using the National Healthy Start standardized intake tools.[36] The qualitative component involved analysis of de-identified transcripts from four focus groups to explore participants experiences of mental health assessment, referrals while in the program. The sample for the qualitative component (n = 23) included UHHS participants who were either pregnant at the time of focus groups or postpartum (up to 18 months). There was no matching of quantitative and qualitative data.

Quantitative Data Source

The quantitative data used in this study were observational data collected by case managers during home visiting services. Case managers were trained to use the standard issue Healthy Start screening tools[36] to screen mothers at the initial home visit and at certain time points such as when the baby was born, turned six months, and every calendar year, etc. All pregnant women, mothers of children less than 18 months old living in the target zip code areas were eligible for HS services but only women who enrolled as pregnant and received services after delivery were included in our analytic sample. Mothers' background data were collected during enrollment, and the children's data were collected after birth. From 2019 to 2023, the program served 164 mothers who enrolled prenatally and 170 infants who were born into the program.

Quantitative Data Analysis

SPSS 26.0 was used to conduct descriptive analyses. Available data that were key variables of social determinants of health (SDOH), were included: 1) Race and ethnicity for mothers and babies; 2) Maternal age; 3) Maternal Education levels; 4) Household income; 5) Insurance types and whether there were coverage gaps in past year; and 6) Usual source of care ("Where do you USUALLY go first when you are sick or need advice about your health?").

Because of Healthy Start's primary focus on fostering healthy birth outcomes, the quantitative analysis also included: 1) preterm birth, born 36 weeks or earlier in pregnancy; 2) low birth weight, those born less than 5 lb. 8 oz. were considered low birth weight; and 3) postpartum visit attendance, and per American College of Obstetricians and Gynecologists' recommendation, postpartum visit within six weeks following delivery were considered best practice.

The mental-health-related program outcomes we examined are: 1) Postpartum depression, which is measured by the Patient Health Questionnaire (PHQ2)[37] –

> Over the past two weeks, how often have you been bothered by the following problems? a. Little interest or pleasure in doing things; b. Feeling down, depressed, or hopeless

and answers are 0="Not at all", 1="Several days", 2="more than half days" and 3="Nearly every day". PHQ2 was a brief screening tool that was widely used to detect depression, with a score above 3 would be considered as high risk for depression and required further assessment and referral;[37] 2) Referral for depression services. If someone screened 3 or higher on PHQ2, case managers were instructed to provide appropriate referral services. This question asked case managers "Was participant referred for additional screening/follow-up services related to depression?" and answers were "screened score less than 3 no need for referral", "score higher than 3 and referral provided" and "score higher than 3 and did not provide referral because" (specific reasons were listed). 3) Intimate partner violence (IPV), which was measured by a five-item five-point Likert scale, example questions are

> During the past 12 months, has anyone.a. Threatened you or made you feel unsafe in some way? b. Made you feel frightened for your safety or your family's safety because of their anger or threats?

The whole screening tool can be found on National Healthy Start support center.[36] If participants indicated any form of IPV happening now, the case managers were required to provide referral resources.

The initial purpose of the focus groups was to gather feedback about services. Two questions from the semi-structured interview guide inquired about being screen and referred for mental health. Information in the transcripts relevant to mental health was extracted and examined for patterns and themes.

Qualitative Data Source

During the time period of Feb. 2023-Feb. 2024, all pregnant and postpartum Healthy Start participants were invited by case managers to participate in virtually based focus groups to hear their feedback. Each focus group lasted about 90 to 120 minutes. These focus groups were integral to the program's process evaluation, aiming to examine participants' perceptions regarding health, mental health, access to resources, and knowledge of infant health. The facilitator, an external consultant to the program, conducted focus groups via Zoom. The facilitator asked permission to record all sessions and allowed women to use pseudonyms and keep their cameras off if they desire. The Otter AI Voice Notes software was used to transcribe the recordings.

The original IRB protocol for the UHHS program evaluation included general qualitative data collection. However, another protocol was submitted in 2023, after obtaining all the semi-structured interview guide and recruitment procedures that had been used to collect the data. IRB approval for the use of de-identified focus group data was obtained from University of Houston in 2024.

Qualitative Data Analysis

Thematic analysis was systematically applied to search for patterns of meaning (Braun & Clark, 2006). The First and second authors, who are researchers at the University of Houston and were not involved with data collection, oversaw the qualitative data analysis process. They first separately read and re-read the transcripts to become familiar

with them. They then separately coded the data, identifying codes relevant to participants' perceptions and experience of depression and receiving HS services. The third step was the comparison of coding and search for themes, where they compared their codes to ensure agreement between them, and then collated codes into potential themes that capture different aspects of maintaining perinatal mental well-being. This is followed by reviewing themes, where they reviewed themes together and refined them to ensure they accurately captured the essence of the original data. They then further reviewed the themes to develop informative names for them. Finally, the first author took the lead in selecting vivid quotes and writing coherent initial findings.

Findings

Quantitative Results

The study encompassed a final sample of 164 mothers who enrolled in HS prenatally and stayed until postpartum. They had given birth to 170 infants (six women had twins). As shown in Table 1, most of the mothers were non-Hispanic Black (131, 79.9%) and Hispanic (29, 17.7%). More than half of them were aged between 25 to 34 years old (90, 54.9%). About one-third had less than a high school education (52, 31.7%), and another one-third had high school diplomas or GED (52, 31.7%). Nearly three-fourths of them had a household income of less than $16,000 (122, 74.4%). In terms of health insurance coverage, most of the mothers were insured through Medicaid or the Children's Health Insurance Program (CHIP) (142, 84.1%), and 14.6% (24) had gaps in insurance coverage in the past 12 months. More than half of

Table 1 Demographic and Social Determinants of Health of UHHS[a] Mothers (n=164)

Variables	n	%	Variables	n	%
Race and Ethnicity			**Age**		
Non-Hispanic Black	131	79.9	10–14 years	1	0.6
Hispanic	29	17.7	15–19 years	18	11.0
Non-Hispanic White	2	1.2	20–24 years	40	24.4
Other	2	1.2	25–34 years	90	54.9
			35–44 years	15	9.1
Education			**Household Income**		
Less than high school	52	31.7	$0 to $16,000	122	74.4
High school /GED	52	31.7	$16,001 to $24,000	24	14.6
Some or 2 year college	45	27.4	$24,001 to $40,000	9	5.5
Bachelor's Degree	14	8.5	$40,001 to $73,000	7	4.3
Unknown	1	0.6	Unknown	2	1.2
Insurance types			**The usual source of healthcare**		
Medicaid or the CHIP	138	84.1	Doctor's office or hospital outpatient	96	58.5
Private	20	12.2	Clinic or health center	22	13.4
Uninsured	2	1.2	Emergency room or urgent care	41	25.0
Insurance gaps in the past 12 months			Other	2	1.2
Yes	24	14.6	Unknown	3	1.8
No	140	85.4			

Abbreviation: [a]UHHS, University of Houston Healthy Start.

Table 2 Physical Health Outcomes of UHHS[a] Mothers (n=164) and Babies (n=170)

Variables	Categories	n	%
Gestational age	36 weeks or earlier	23	13.6
	37 weeks or after	147	86.4
Birth weight	Very low birth weight (<3 lb. and 4 oz)	4	2.3
	Low birth weight (<5 lb. and 8 oz)	18	10.6
	Normal weight range	142	87.0
Postpartum visits (n=164)	Within the first 3 weeks	40	24.4
	Between 4–6 weeks	47	28.7
	Not yet but scheduled	12	7.3
	No	60	36.6
	Declined to answer	4	24.4

Abbreviation: [a]UHHS, University of Houston Healthy Start.

the mothers went to a regular healthcare place like a doctor's office (96, 58.5%) or clinic (22, 13.4%) for healthcare, while one-fourth of them went to emergency room or urgent care (41, 25%).

As shown in Table 2, in terms of physical health outcomes, HS mothers had relatively good birth outcomes compared to national and local rates. Healthy Start babies' preterm birth rates were 13.6% (23 born at 36 weeks or earlier). The low birthweight rates were 12.9%, including four who had very low birth weight – less than 3 lb. and 4 oz. Among HS Black infants (n = 140), their preterm birth rates were 12.1% (n = 17), lower than the local county's rate of 16% and lower than the national average among Black preterm birth rate of 14.75%.[38] Their low birthweight rates were 13.6%, also lower than the national average of 14.66%.[38] About 87 (53.0%) UHHS mothers had a postpartum visit within six weeks of delivery. For mothers on Medicaid and CHIP (n = 138), this rate was 46.4% (n = 64). These descriptive statistics are presented for context of the population, not for the purpose of statistical inference.

All but six mothers completed the PHQ2 screening for depression (screening completion rates = 97%), and 19 of them scored 3 or higher (11.6%). Among these 19 mothers, 15 were provided referrals for depression, while four declined referrals because they were already in services. All but two women completed the intimate partner violence screening (screening completion rates = 98.8%). Four women's answers indicated potential risks of experiencing IPV and referred for services. Table 3 showed the details.

Table 3 Mental Health Outcomes of UHHS Mothers (n=164)

	n	%
PHQ2 (screening rates =97%)		
3 or higher	19	11.6
Referral for services	15	78.9
Declined referrals (already in service)	4	11.1
Less than 3	145	88.4

(*Continued*)

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Table 3 (Continued).

	n	%
IPV (screening rates =98.8%) [b]		
Potential risk (Yes to any item)	4	2.4
Referral for services	4	100
No risk (No one to all items)	160	97.6

Abbreviations: UHHS, University of Houston Healthy Start; [b]IPV, intimate partner violence.

Qualitative Findings

Participants of the focus groups were primarily Black (n = 20) and a few Latina (n = 3) women. Two-thirds were postpartum (n = 16) and one-third were pregnant (n = 7). Their ages were between 19 and 34 years. Overall, participants defined "health" as a combination of mental, spiritual and physical health. In the focus groups, themes related to the significance of therapeutic alliance between direct care service providers and the HS participants related to mental health emerged.

"I'm Here for You" – Persistence and Authenticity Were Critical to Gain Participant Trust

Participants shared stories of initial skepticism about the HS program and toward the case manager who was a stranger to them at first. Friendly persistence by case managers and the doulas eventually created trust and a sense of being cared for. The actions by the service providers may have also encouraged new behaviors by the women when it came to asking for help. A woman in the postpartum group said this about the HS program,

> We're not gonna get back to you and like not get back to you. I was kind of iffy about the program at first because you know how some programs that you go into they say 'we're going to do this and we're going to do that'? I'm a person on action. I'm not a person on words. Show me what you can do for me. She [case manager] was like "well we can do this and this for you and I was like, ok. And she came to my house one day, and she came with stuff and was like "if you need help with this an if you need help with that"…one thing that I did learn like just from my pregnancy and process overall is don't turn down your help. Don't be afraid to ask for help. And you never know who's willing to help you. You just have to ask.

Another woman from the pregnant group said,

> It's been a few times [referring to the providers leaving messages] in the beginning because it was so much going on. I would not answer the phone. I would sit there stuck in my mindset and everything like that. But whether it was my CM or doula, I would have missed calls, voice mails, text messages, like hey, I know you're going through this, that and the other, but I'm just making sure you're right…like they overly showed me like, "Hey, I'm here for you". She also said, "They made sure I wouldn't turn it down like, you can't be rude to someone that seems so loving and caring.

Service providers collectively conveyed that they cared for the HS participant, and they seem to have created a sense of caring community. As one postpartum woman said, "So, like, my journey is kind of like lonely. And I've been sitting alone some time and she just made me feel like I'm not alone".

"That's My Girl" – A Culture of Sisterhood Positively Affected Women's Mental Health

Some participants noted that because their case managers, doulas and the nurse were Black women, they felt shared culture and could relate. A woman in the pregnant focus groups said this about her case manager, "She's for us. She's for the culture. She's for the women and like the way she shows supports". Another woman in one of the postpartum groups said,

> I will say it's good seeing your own kinda and your own color when you dealing with health things because all our bodies are different, and what other races and stuff go through, they don't know about our body and what we go through.

One woman in a postpartum group shared a story about being told that she needed to undergo surgery at 22 weeks pregnant to save the baby. She said,

> I was just scared, (because) the high-risk I was told. But they were all great on you know, calming me down, telling me you know, instead of be ok, and if they tell you [that] you have to get the surgery you to get it you now, just to make sure your baby is OK. Then when Ms.E (CM) came I was just like, yep, that's my girl. You know? She's telling me everything. You know. Keep calm. I'm here for you. She's like a best friend.

"Give You That Step " – Case Managers Were Proactive With Emotional Support and Resource Referral

Many women in pregnant and postpartum groups shared stories uplifting the significance of the emotional support provided by the case manager. A woman from one of the pregnant groups shared how her case manager connected her with the resources she needed and encouraged her to seek the help, and said "She will be there. She will give you that ear. She will give you that push, that step like 'Girl, we've been through it. We got this. Let's go".

A woman in one of the postpartum groups said,

> I have really bad anxiety, like really bad anxiety. Recently, I lost my job and my son's father is incarcerated. So when I told her about it, I was just like, I don't know what I'm gonna do not have to raise both of my kids or my so I don't have a job. I don't have a steady paycheck coming in. Like what can I do? So I was telling her I'm doing DoorDash at the moment, but it's still not enough. So she was telling me you know, everything takes time. You just got to cry and, you know, calm down because I was when I say I was crying, boohoo crying every day.

Another woman from a postpartum group shared,

> My caseworkers I had too, they were very good about asking me how I felt and how I was dealing with everything emotionally and physically as well. And I didn't. I didn't really struggle afterwards with postpartum or anything like that. But I was glad to know that they would check in with me frequently, and they were ready to help me find resources if I did have any issues or was struggling emotionally. So, it was helpful to know that I had their support.

Discussion

The screening and intervention of depression and other mental health issues during pregnancy and postpartum is a crucial aspect of maternal healthcare.[18] This study highlights the need for screening and referral mental health during routine care by case managers in a home visiting program. This mixed-method analysis found that the case management staff at this HS site was providing robust perinatal depression screening and supportive resources to support positive mental health functioning. With nearly a 100% screening rate among a population that is majority non-Hispanic Black and Hispanic, has high school or less education, and an average annual household income average of $16,000 less, this community-based, home visiting program screened for depression symptoms at approximately 25% higher rate than similar programs.[39] Also of note, 98% of HS participants were screened for IPV. Screening for IPV among perinatal women is an important marker for depression and anxiety.[40] Approximately 11% of the sample scored high in depressive symptomatology and 79% of women with elevated depression scores at intake accepted referral to mental health services. HS participants who declined the offer of referral reported that their refusal of referral was because they were already receiving mental health support. The findings support the utility of early screening and referral for mental health in home visiting programs such as Healthy Start. Research shows that early screening and referral can have a significant positive impact on the wellbeing of the mother and thereby, her child.[41] The screening rates are comparably high to other programs with embedded screening in low-income populations at risk.[11,12] Analysis of focus group data among pregnant and postpartum UHHS mothers revealed that case managers played a pivotal role in identifying at-risk women, engaging them in discussions of mental health, and connecting them to appropriate resources.

The HS participants appreciated the persistence, kindness and help offered by case management. Women in focus groups mentioned feeling emotionally support and were able to relate to and trust their case manager, nurse and doula. Case managers were able to tailor responses to the individual situation, teach coping skills and make appropriate referrals promptly. Participants in this study remarked that case managers followed through on referrals and follow-up with clients, thereby increasing trust in the process. These findings are relevant to existing research that documents stigma, low levels of trust and fear of being judged are barriers to PMAD.[25–27] Given the significant role of case managers in home visiting programs, future research should explore how case managers and other service providers are trained in rapport building and identification of signs, symptoms and interventions for PMADS.

A potential implication of the qualitative finding that UHHS participants felt that their case managers cared about their mental health is that administrators of home visiting programs for expectant and postpartum mothers may choose to invest in professional development competitive compensation and mental health supports for staff persons who provide home visits and conduct screenings and referrals. When delivering strengths-based approaches such as Healthy Start, it would be wise to affirm the strengths of the case managers by supporting their wellbeing.

O'Connor's study of a nationally representative dataset among women who had recent births revealed that among mothers with elevated depression scores, most were living below the poverty line, had chronic life stressors and occurrences of IPV, warranting the need to screen for various social determinants of health.[42] In this secondary analysis of mothers who had enrolled as pregnant and delivered their babies while in the UHHS program, a significant proportion faced socioeconomic challenges, with one-third having a high school education or less and three-fourths reporting a household income below $16,000 annually. Given the disproportionate impact of social determinants of health on Black women,[43–45] the program's rigorous screening for these factors is particularly commendable. This proactive approach helps to identify and address the specific needs of a vulnerable population, potentially improving maternal mental health outcomes.

The UHHS Healthy Start's commitment to reducing barriers to care starts by establishing easy connections to birth partners such as doulas. Doulas as a source of emotional support was mentioned in the focus groups. Balaam and Thomson[44] explored mothers' experiences of a model of care that offered midwifery and "birth companions". They found that having a collaborative and targeted intervention on mom's mental health and resources greatly improved mom's confidence and increased motivation for healthy behaviors. Establishing doula, midwifery and mental health resources alongside case management is an important step to improve the quality of maternal mental health care for Black birthing populations.[46]

In this mixed-method analysis, we see that HS babies of Black mothers had lower rates of pre-term birth and low-birth weight compared to national statistics, but we were not able to analyze associations between LBW and PTB and receiving mental health services because they were measured at the same time. Existing research on the association between mental health and birth outcomes among Healthy Start participants is limited. However, one recent study of a Healthy Start located in South Carolina showed that although here was no association between adverse birth outcomes of LBW and PTB and depression symptoms, of the 30% of the population who scored with increased depression symptoms and received MH services, their odds of LBW were lower than HS moms not receiving service.[47]

Based on the demographics of the analytic sample and the emergent qualitative themes, attending to stress management is likely needed in similar community based, health promoting programs among marginalized mothers. Although the standardized tools of PHQ and EPDS are highly cited as valid measures, they may not capture symptoms such as racism-related stress, which is an exogenous variable that should be considered among women of color.[45] Assessing for chronic stress due to life circumstances and providing women with coping skills may prevent clinical levels of PMADs. A large-scale analysis of PRAMS data of Mississippi mothers found that 52% of the sample reported 1–3 life stressors during pregnancy or postpartum.[12] There was a positive correlation between the accumulation of stressors and PPD – more stressful events potentially causing higher PPD level.[12] Of note, the prevalence of PPD was highest among mothers who reported stress in the trauma domain.[12] The research by Qobadi et al[12] is especially relevant to our study because the income and education levels are similar. Their study indicated that by increasing a woman's ability to meet basic needs, manage prenatal health, and access positive social support, her risk for depression during and after pregnancy decreases.

Future research among Healthy Start programs should include measures of changes in unmet needs such as housing, healthcare and income.

Limitations

There are several limitations that must be reported. Due to the nature of the quantitative data collected, we could not compare pre-post to examine the program's impact on women's mental health. The data platform used by the HS program did not save time-sequenced data, as new data from the same participant would overwrite previous entries. As a result, prenatal screening data were no longer available after postpartum screening was entered into the system, limiting the ability to analyze changes over time. Future studies should consider measuring stress levels multiple times to better understand the dynamic changes women experience throughout their participation in programs like HS. Feedback from the facilitator and program director, who were present during the focus groups, suggested that although the questions asked aimed to elicit perceptions of mental health, discrimination by providers and knowledge of health practices, the wide variance in health literacy among HS participants prevented in-depth discussion of such topics. In future focus group research with participants, researchers will need to re-word questions to be relevant and aligned with the language used in the community when talking about "struggles" related to mood and the perinatal period. It would be helpful to do so in the future to clearly know which mechanism of HS they perceive as most important to mothers' mental health, and how to better support case managers in addressing mothers' mental health issues. Beyond the limitations, we believe there are benefits to elevating stories and positive outcomes of HS participants, a population of women that are typically marginalized in the research on mental health stability and success.

Conclusion

In conclusion, this study examined postpartum depression screening and referral rates and participant feedback among an HS site in Houston, Texas, participants while also exploring mothers' perspectives on the program's mental health services. Our findings highlighted the high screening completion rates for both depression and intimate partner violence (IPV), with most mothers who screened positive for depression being referred to mental health services. The qualitative insights revealed that mothers appreciated the emotional support and persistence of HS case managers and doulas, who built trust and reduced stigma around mental health discussions. The personalized, culturally sensitive approach of the service providers played a key role in encouraging mothers to seek help. This supportive environment, combined with practical resources and referrals, contributed to a positive experience for the participants. However, there are also areas for future improvement, such as enhancing stress assessments and expanding support for case managers. Future research should elevate findings of holistic, strengths-based approaches to screening in a manner that decreases stigma and increase referrals to resources helping to build mothers' capacity to cope with stressors. The Healthy Start model of care of case management and care coordination may provide a buffer to the stressful effects of the various SDOH participants face by increasing the support the mother receives in pregnancy. However, more robust data to allow statistical comparisons are needed in future research.

Disclosure

The authors report no conflicts of interest in this work.

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