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Review

Prevalence, Risk Factors and Interventions: Systematic Review of Maternal Mental Healthcare Access

Divya Tadanki*, Pranitha S Kaza, Ariana Syed, Maitri Pathak, Haya Fatmi, Agamya Gehlot, Rohita Katla and Chikaima Anigbogu

College of Sciences, Georgia Institute of Technology, Atlanta, Georgia, USA

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***Corresponding author:** Divya Tadanki, College of Sciences, Georgia Institute of Technology, Atlanta, Georgia, USA

ABSTRACT

Maternal mental health is a critical yet often overlooked component of perinatal care, shaped by a dynamic interplay of cultural traditions, healthcare access and biological risk factors. This project explores how culturally embedded postpartum practices, such as Nigeria's Omugwo, China's zuo yuezi and South Asia's Jaapa, can both protect against and contribute to postpartum depression (PPD). While these traditions foster familial support and emotional recovery, they may also discourage medical engagement or amplify stigma around psychiatric illness. In contrast, biomedical models in high-income countries emphasize standardized screening and pharmacologic or psychotherapeutic interventions, but often overlook the protective role of community and cultural continuity. PPD, now encompassed within the broader term perinatal depression, affects women globally, with higher rates in under-resourced settings. Disparities in the prevalence of PPD emphasize the urgency of culturally responsive screening and treatment. Risk factors include prior mental illness, birth trauma such as emergency C-sections, sleep disruption and insufficient social support. Despite validated tools like the Edinburgh Postnatal Depression Scale and emerging therapies including oral Zuranolone, PPD remains underdiagnosed, particularly amongst immigrant and minority populations. This project therefore proposes a novel, integrative framework for maternal mental health that values both cultural tradition and biomedical innovation. By reframing maternal recovery through both clinical and cultural lenses, we can reduce stigma, improve diagnosis and optimize postpartum outcomes across global contexts.

Keywords: Maternal mental health, Postpartum mental health, Mental Healthcare Access, Systemic Barriers, & Perinatal Behavioral Health

1. Background

Maternal health outcomes vary significantly across different cultural, geographical and socioeconomic contexts, influenced primarily by socio-cultural practices, quality of healthcare systems and traditional beliefs and values. The study of Perinatal Mood and Anxiety disorders or PMADs, have been a growing area of study in recent years and refers to the overall umbrella of depression and anxiety concerns during pregnancy[1]. The World Health Organization determined that approximately 1 out of 10 pregnant women and 1 out of 13 postpartum women have reported experiencing depressive symptoms, with higher rates in developing countries. The onset of perinatal and postpartum depression poses dangers both to infant and maternal health, with severe cases often resulting in maternal suicide and poor infant development[2]. Despite the scale of this issue, approximately 50% of cases are untreated and undetected[3]. At a greater risk of developing these issues are individuals of a lower socioeconomic status, victims of violence, those lacking

adequate social support and immigrants[4]. Researchers have also determined that complications during pregnancy or delivery, poor diet and a history of depression are more susceptible to developing postpartum depression[4].

Immigrant populations specifically are subject to greater challenges in accessing maternal healthcare, which impact their pregnancy outcomes[1]. Interventions to maternal mental crises also vary between cultures, with some opting to utilize prayer, meditation and alternative therapies over drug-based or traditional therapeutic intervention[1]. Ultimately, cultural deviations in medical practices around maternal health can serve either as a protective or limiting factor in achieving optimal outcomes for both the mother and the infant.

Treatment of maternal mental health disorders are challenging to standardize across communities as well, given that providers have to tailor treatment plans to align with the individual's unique condition and background. Despite therapy, counseling and antidepressants being established as relatively effective treatments, issues in accessibility for vulnerable populations still remain[5].

2. Discussion

2.1. Perinatal depression & Other maternal mental health disorders

Postpartum depression (PPD), now included in the term perinatal depression, is a psychiatric disorder that affects 10-15% of new mothers worldwide[6]. It can affect individuals during pregnancy or within the first year after childbirth[3]. Although PPD carries a high risk of maternal mortality due to its strong correlations with suicidal ideation, it remains understudied and underdiagnosed[7,8]. Most new mothers experience the "postpartum blues" immediately following childbirth which is composed of stress, sadness, anxiety, loneliness and fatigue.

According to the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders Text Revision (DSM-V-TR), the "postpartum blues" are not a mental disorder and do not cause functional impairment[9]. If these symptoms do not subside within two weeks, it can lead to PPD.

Multiple etiologies have been implicated in the development of PPD. This includes environmental factors, genetics, epigenetics, hormonal shifts and neuroendocrine mechanisms. However, there are no proven relationships between these factors and PPD[8]. Regarding environmental factors, in many countries like the United States, China, United Kingdom and India, PPD is highly stigmatized due to family, public and self-stigma[10]. This prevents many women from reaching out for help despite the availability of treatments[11]. In Georgia specifically, the percentage of postnatal women who reported feeling depressed or hopeless increased by 13% between 2017 and 2021[12]. This is important to note as in 2010, Amnesty International listed Georgia and the District of Columbia as equally having the worst maternal mortality rates in the U.S[13]. Strong correlations are present between maternal mortality and PPD in the first year after diagnosis and over 40% of counties in Georgia are known as maternity care deserts, devoid of birthing hospitals or obstetric care. Thus, it is crucial to address potential barriers to care for maternal mental health in the state of Georgia to improve perinatal outcomes[14,15].

Other environmental factors such as having a difficult childbirth, relationship problems, lack of support, social adversity or even self-blame can lead to PPD. The frequency of these specific psychosocial stressors strongly correlates to the country where the mother grew up due to the particular region's cultures and traditions[16]. For example, in India there is immense value placed on women having sons. As a consequence, gender preference becomes a major contributor to PPD in Indian cultures[17].

Although there are no definitive correlations between genetics and epigenetics in the risk of PPD, a 2013 study by Guintivano, et al. helped show that certain changes to chromatin structure are associated with PPD[18]. In this study with mice, it was found that individuals at risk for PPD may be more sensitive to estrogen-mediated epigenetic changes at the heterochromatin protein 1, binding protein 3 (HP1BP3) and tetratricopeptide repeat domain 9B (TTC9B) genes[8]. More studies need to be done to find causes for PPD.

A higher risk of suicidal ideation (SI) is associated with women experiencing PPD. In a study comparing the prevalence of SI in 5,688 Japanese postpartum women with and without depression, it was discovered that the SI of women with depression was 51.8% compared to only 3.3% in women without depression[7]. Not only does untreated PPD increase the risk of SI, but it can also lead to increases in child abuse and child neglect. Sometimes, women can develop postpartum psychosis after childbirth. Postpartum psychosis (PPP) is defined as a severe mental illness and psychiatric emergency indicated by symptoms of paranoia, hallucinations, obsessive thoughts about one's child or attempts to harm oneself or the child[19,20]. Since PPP does not have a category in the DSM-V-TR, clinicians may fail to diagnose this condition. PPP occurs in 1 in 500 to 1 in 1000 deliveries and tends to be more common in primiparous women. The risk of recurrence of postpartum psychosis is 30-50% in women who experienced it in their first pregnancy[9].

There is a 1-4.5% risk of infanticide in women with inadequately treated PPP[21]. Infanticide is often the result of the mother experiencing hallucinations and delusions that their child is evil or not their own[22]. On June 20, 2001 andrea Yates drowned her five children in a bathtub. She suffered from postpartum depression and was consequently found not guilty by reason of insanity[23]. When PPP goes undiagnosed, which it often does, it can intensify and lead to mothers harming themselves or their baby as shown in the case with Andrea Yates. It is essential that patients presenting symptoms of psychosis undergo a thorough history and neuropsychiatric evaluation so they are correctly diagnosed and treated[20].

2.2. Risk factors for maternal mental health

The risk factors for women who will experience changes to their mental health are dependent on several factors including community/social support, domestic violence, financial security and many more[24]. Several studies suggest that women who have stable community support (stable relationship or familial support) are at a decreased risk for mental illness postpartum[24]. Collectivist cultures are those in which people are a part of a strong community from birth and emphasis is placed on family integrity and the success of the group over the individual[25]. In cultures with collectivist cultures, family members aside from the parents commonly participate in childcare responsibilities, providing social support to the mother, thus decreasing the prevalence of PPD in these communities. For example, 10% of

Ugandan women, where collectivist culture is prominent, were found to have a depressive illness while 13.1% of Portuguese women were found to have PPD in urban Portugal, where collectivist culture is less prominent[26]. Additionally, Hispanic women who immigrated to the US, were found to have a higher prevalence of PPD, 53%, as a result of a lack of extended family support and potentially lower socioeconomic status[26]. This is an indication that a lack of social support is a key risk factor for maternal mental health. In some cultures where the idea of collectivism is prominent face a decrease in diagnosis as a result of stigma surrounding mental health; however, the strong social support is a preventative measure against mental health complications after childbirth[4].

Additionally, women who live in high income countries are at a significantly lower risk for mental health conditions postpartum[27]. Southern Africa has the highest prevalence of PPD (nearly 40%) and Spain has the lowest prevalence (9.09%)[27]. This is also indicative that income and regional development is relevant to mental health risk. Developed countries saw a lower prevalence of PPD (15%) while underdeveloped regions saw an increased prevalence (20%), with the average being 17% of women worldwide experiencing PPD[27]. This is a result of several factors, such as higher income being linked to increased access to quality healthcare and higher education level, both of which are also risk factors for maternal mental health. In the state of Georgia, an association for the comorbidity of hypertension and mental illness during pregnancy was found and the prevalence for this was found to be greater than twice as high in rural areas as opposed to large metro areas[28]. The health outcomes for mothers in Georgia is directly related to healthcare access and proximity[29]. Participants in a qualitative study determined that there were problems with the appropriateness of care because it varied across counties, especially in rural areas. In terms of mental health, there is a lack of mental health care centers in the state of Georgia, thus forcing people to travel far to receive care[30]. As shown on the maps in the Findings, the location of mental health care centers are far apart and there are very few in rural and socioeconomically vulnerable communities. Therefore, being in those areas decreases likelihood for diagnosis and treatment of mental health conditions. Physical health of the mother can also play a role in the risk for mental health disorders.

Trauma during birth, such as emergency cesarean sections versus normal birth conditions can also affect the mother's risk for postpartum depression. C-sections are linked with post-traumatic stress disorder after birth, which often leads to PPD[31]. Women who underwent emergency C-sections had increased PTSD scores (by 0.47) on the PDSQ scale than women who underwent planned C-sections[31]. PTSD affects 4-17% of mothers postpartum and is a strong predictor of PPD[31]. Low quality of sleep due to increased disturbances throughout the night leading to decreased sleep duration was measured by the Pittsburgh Sleep Quality Index (PSQI) and determined that of the 75% of patients at risk for PPD 97.2% of patients reported disrupted sleep[32]. Furthermore, women who experience depressive symptoms are also less likely to get quality sleep, resulting in a cycle of poor sleep and depressive symptoms[32]. Previous history of mental health issues, specifically depression, is the highest indicator for PPD[31].

2.3. Cultural and societal perspectives on maternal mental health

Maternal mental health is often a sector of healthcare that goes unnoticed across cultures; it highlights a phase of life during extreme transition from prenatal to postpartum, affecting mental and physical health alike. With up to 20% of women suffering from mood or anxiety disorders during pregnancy with 75% of these women among other mental health conditions remaining untreated, the need to identify risk factors and preventable causes increases as a measure to mitigate the risk of maternal complications and maternal mortality due to suicide[33].

Economic stability plays a major role in defining perinatal health. Social determinants such as poverty, being a single parent and refugee status amongst others increase social disparity between low-to-middle income countries and high-income countries[34]. Specifically, families under these conditions lack financial resources and increased maternal stress that culminates in the form of depressive symptoms and in turn, place infants and toddlers at increased risk of delayed development, leading to a variety of new challenges[35]. Oftentimes, single parenthood and families of refugee statuses have also been found to be correlated with elevated depression levels, with single mothers at a heightened risk, due to financial difficulties and inadequate social support[36]. The multifaceted nature of economic instability and its effects, with the added burden of responsibility of supporting a child financially, leads to a perpetuating cycle of maternal mental health issues. Studies from developing countries indicated higher rates of anxiety and depression than those in the United States, those of which connect back to poor infant nutritional status, diarrhea and respiratory illness due to lack of trained staff, funding barriers and affordable medications[37].

Social stigma on mental health generally aids in the downplaying of maternal mental health conditions, facing discrimination or prejudice and denial from infant care, leading to self-applied negative or judgmental attitudes that lead to societal withdrawal and increased family financial burdens[38]. Societal withdrawal, the pattern of reduced social interaction and engagement, is typically associated with shame and fear of reflection and can manifest in avoiding interactions with family members, friends and even healthcare providers, as mothers fear being judged or misunderstood. This isolation exacerbates the financial and emotional burdens on the family, as mothers may also struggle to share the weight of their challenges. The societal rejection of mental health issues, along with the absence of adequate treatment options, can lead to a vicious cycle that is difficult to break.

Culture plays a major role in shaping perceptions of mental health, beginning with public stereotypes and prejudices that develop into self and structured types of stigma that lead to long-term, harmful effects[39]. Public stereotypes and availability of treatment do also vary across the world. In the 148 countries classified as "developed," while there are increased statistics of the number of people reporting mental health conditions, mental health and therapy has become less stigmatized and a shift has become much more apparent in recent years[40]. On the other hand, many Eastern cultures value self-control and conformity, with mental illnesses seen as shameful and generally viewed as a weakness[41]. In countries or families shaped by these cultural values and perceptions, mothers face more difficulty in

confiding in family, seeking out care and/or applying these public stereotypes to themselves. This leads to continued mental health disorders and progression into suicidal thoughts, constantly exacerbating mental health issues and potentially even causing issues in mother-child bonding and attachment, unhealthy for both mother and child.

Maternal health issues can hinder mother-child bonding by affecting the mother's ability to be responsive and engaged or can lead to decreased sensitivity and caregiving from mother-to-child and increased irritability[42]. A review done in 2023 highlighted 133 studies that related bonding problems with depression, anxiety and stress showing correlations of 27%, 47% and 27% respectively[43]. This led them to conclude that maternal psychological distress is associated with postpartum mother-infant bonding, the mother's emotional response to her infant[44].

Poor mental health education is another factor that can lead to perpetual self-isolation or mental health issues due to lack of knowledge of management, hormonal fluctuations before, during and after pregnancy and awareness of the indications of mental health issues as a symptom beyond pregnancy[45]. It becomes hard for mothers to understand what healthy emotional reactions look like during such a transitional period of time[38]. Most mental health resources typically have to be individually sought out, but women can also have mental health conversations with OBGYNs. The American College of Obstetricians & Gynecologists recommends that everyone receiving pregnancy care in any capacity be screened for depression and anxiety multiple times but it is not required; rather, providers may ask questions about patient well-being and mothers are encouraged to have those conversations to be able to learn and gather more resources[46].

However, in a study done, women with pre-diagnosed moderate-to-severe depression were more likely to accept antidepressants as an acceptable treatment than those without or with minor symptoms. With this, only 44% of African American women, 68% White and 61% Hispanic women among the 73 women in America recruited for this study believed therapy to be an acceptable treatment for depression, contributing to both stigma and the "wait-and-see" method instead of seeking timely treatment, even when it came to OBGYN or other maternal care appointments[47].

Social perspectives towards race and gender aren't exclusive either. Misogny, defined as acts of contempt towards women typically exhibited by men and racism, the belief that race is a fundamental determinant in human capabilities, also contribute negatively to lack of access to care and increased levels of stigma and judgment. Beliefs like these play an important role in heightening barriers of mental health care and highlight the wide range of social determinants that affect perinatal health[34].

From a cultural standpoint, different cultures also have unique approaches to maternal health. The Nigerian practice of Omugwo is a postnatal support system that involves elderly women, often the new mother's mother or mother-in-law, providing assistance in childcare and maternal recovery[48]. Omugwo serves as a socio-cultural mechanism that helps alleviate postpartum depression (PPD) by reducing maternal stress and fostering emotional support. In contrast, many Western healthcare models emphasize biomedical interventions, with limited integration of extended family support systems[49]. Research has shown that postpartum depression rates vary widely based on cultural factors, with Nigeria reporting rates around 36.5%, while prevalence in some low-income countries can reach up to 57%[50].

In many Asian cultures, traditional postpartum confinement practices, such as "zuo yuezi" in China or "Jaapa" in South Asia, dictate strict dietary and behavioral restrictions for new mothers to ensure proper recovery [51]. While these practices, which include eating nutritious work and avoiding physical overexertion, are believed to protect maternal health, they can also discourage the use of modern healthcare services such as dental care and promote social isolation of the mother due to medical concerns[51]. A systematic review of 74 studies on traditional maternal practices in Asia found that women often prefer traditional birth positions and avoid hospital births due to concerns about medicalized childbirth experiences[52]. Healthcare providers working with immigrant populations must recognize these beliefs to provide culturally competent care that aligns with patients' expectations while ensuring medical safety.

The utilization of formal maternal healthcare also differs among immigrant populations due to language barriers, financial constraints and distrust in unfamiliar medical systems[1]. For example, studies have shown that immigrant women in high-income countries experience disparities in maternal health outcomes, often receiving inadequate prenatal care due to systemic barriers[53]. Additionally, the integration of traditional and biomedical healthcare models remains a challenge, as Western medicine prioritizes standardized medical interventions over individualized cultural approaches to childbirth.

2.4. Special populations & Unique challenges

Pregnancy is a major developmental change that has a holistic impact on a woman's biological, psychological and social being. The major stage in a woman's life can be extremely stressful, often filled with physical exhaustion, sleep deprivation and poor financial resources[54]. For some women, the level of stress and obstacles are beyond what they can handle based on their current circumstances. Populations who may be more prone to PDD due to pre-existing adversity and hardships, such as decreased financial resources, sleep deprivation and social isolation, include adolescent mothers, incarcerated mothers and disabled mothers[54].

Adolescent mothers are said to be more prone to PPD than adults, where adolescent PPD rates fall between 15% and 50%, as opposed to adult rates of 10%[55]. Many factors specific to adolescents play a role in this increased vulnerability to depression including persisting cognitive and behavioral developmental changes. Biologically, in situations of heightened emotion and stress, the adolescent brain attenuates the underdeveloped prefrontal cortex, leading to poor judgment and decision-making[56]. Ill-mannered decisions can end up having an amplified emotional impact on the adolescent, leading to depression. When a precarious situation like pregnancy arises, then they are not only biologically prone to depression, but psychologically as well. Psychological developmental issues root from the inability to reflect and stay in tune with personal emotions regarding delivering a baby[57]. Social circumstances, like a lack of financial resources and family support, can play a role in harming the mental state of teenage mothers, thus leading to signs of PDD. The vulnerability of teenagers puts them in a situation where a drastic developmental event, like pregnancy, can have crippling

effects. Combatting PDD effects in adolescents involves psychotherapies and medications common to adult mothers battling PDD. However, interventions involving greater parent or caregiver involvement will ensure treatment is scheduled and consistent[58]. This may prove to be a struggle for adolescents facing conflicts with parental relationships following pregnancy, but it is strongly advised to have a trusted adult play a role in the treatment for PDD.

Incarcerated mothers or those imprisoned, are yet another group of women that face greater potential for PDD onset. Many women in jail have predisposing risk factors, like substance abuse disorders, mental health conditions and poverty, which can lead to further complications down the pregnancy timeline[59]. Complications do not only include the increased likelihood of developing depression perinatally, but also detrimental impacts on the baby. Studies have shown that preterm labor, low birth weight and stillbirth are significant issues that arise with inadequate maternal physical and mental health[60]. A third of pregnant women in custody in the US are inclined to have elevated stress levels, specifically increasing their chances of not only developing PDD, but other mental health disorders before and during pregnancy[61]. A contributor to this could be the lack of time spent with the infant post-labor.

Specific aspects of separation between incarcerated mothers and their babies that can lead to the development of PDD include the lack of skin-to-skin contact, along with the inability to breastfeed[61]. Physical contact is a vital aspect of proper post-labor care, not only for the infant, but also for the mother's nurturing mental state. Removing that from the post-partum process increases the chances for mothers to feel depressed and detached. The lack of research published on the justice system and maternal health emphasizes the need for better interventions to target specific predisposing factors for perinatal impediments. Disabled mothers are among another population prone to adverse pregnancy outcomes.

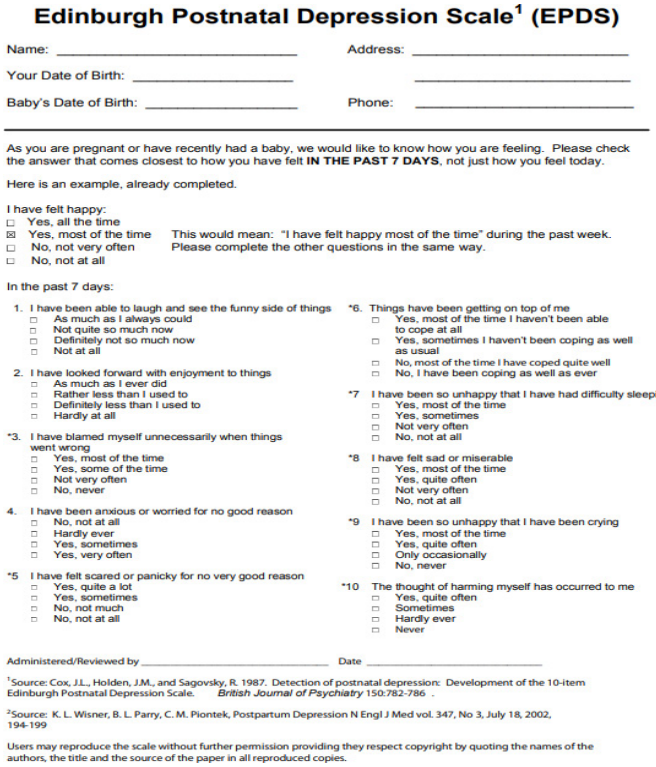
Among women with disabilities in the US, 42% report being depressed as opposed to 13% among women without disabilities[62]. In a study done by health policy researchers in the University of Massachusetts on the depressive symptoms before, during and after pregnancy of disabled and non-disabled women in Rhode Island, 30% of disabled women reported PPD symptoms, as opposed to the 10% of non-disabled women[63]. Such findings could be attributed to the fact that disabled women face more medical problems, like kidney infections and blood pressure, during pregnancy. The susceptibility roots from the lack of access to proper medical facilities and clinicians who know the proper procedure to treat their specific pregnancy needs.

In addition, women with disabilities may be discouraged to reach out for help due to negative attitudes from healthcare providers and the general public towards disabled women's capabilities to take the role of a parent[64]. Additionally, 40% of the disabled women reported being diagnosed with depression prior to pregnancy compared to 16.3% of non-disabled women[63]. Disabled women inequitably face poor mental health outcomes due to factors like discrimination, ableism, lack of independence and interpersonal violence[65]. Factors put this specific population in a susceptible position to depression, where a milestone pregnancy can further complicate the mental state of these women. A need for increased psychiatric intervention prior to and during pregnancy is needed to reduce this gap in mental health.

Many groups of women like adolescent mothers, incarcerated mothers and disabled mothers exist outside the typical pregnancy route for mothers. These populations may face increased vulnerabilities to not only PPD, but also hardships before and during the natal period. More research is needed to pursue early intervention and necessary precautions when considering the pregnancy of women who face vulnerabilities prior to beginning this developmental period in life.

2.5. Screening, diagnosis and treatment

PPD remains up to 50% underdiagnosed and undertreated due to a lack of using available diagnostic tools and mental health stigma including having a reluctance to seek help and report symptoms **(Figure 1)**. Standardized universal screening tools like the Edinburgh Postnatal Depression Scale (EPDS) and Postpartum Depression Screening Scale (PDSS) should be used routinely for early detection and treatment[3,66-68].



Edinburgh Postnatal Depression Scale[1] (EPDS)

Name: _____ Address: _____

Your Date of Birth: _____ _____

Baby's Date of Birth: _____ Phone: _____

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:
☐ Yes, all the time
☒ Yes, most of the time — This would mean: "I have felt happy most of the time" during the past week.
☐ No, not very often — Please complete the other questions in the same way.
☐ No, not at all

In the past 7 days:

1. I have been able to laugh and see the funny side of things
☐ As much as I always could
☐ Not quite so much now
☐ Definitely not so much now
☐ Not at all

2. I have looked forward with enjoyment to things
☐ As much as I ever did
☐ Rather less than I used to
☐ Definitely less than I used to
☐ Hardly at all

*3. I have blamed myself unnecessarily when things went wrong
☐ Yes, most of the time
☐ Yes, some of the time
☐ Not very often
☐ No, never

4. I have been anxious or worried for no good reason
☐ No, not at all
☐ Hardly ever
☐ Yes, sometimes
☐ Yes, very often

*5 I have felt scared or panicky for no very good reason
☐ Yes, quite a lot
☐ Yes, sometimes
☐ No, not much
☐ No, not at all

*6. Things have been getting on top of me
☐ Yes, most of the time I haven't been able to cope at all
☐ Yes, sometimes I haven't been coping as well as usual
☐ No, most of the time I have coped quite well
☐ No, I have been coping as well as ever

*7 I have been so unhappy that I have had difficulty sleeping
☐ Yes, most of the time
☐ Yes, sometimes
☐ Not very often
☐ No, not at all

*8 I have felt sad or miserable
☐ Yes, most of the time
☐ Yes, quite often
☐ Not very often
☐ No, not at all

*9 I have been so unhappy that I have been crying
☐ Yes, most of the time
☐ Yes, quite often
☐ Only occasionally
☐ No, never

*10 The thought of harming myself has occurred to me
☐ Yes, quite often
☐ Sometimes
☐ Hardly ever
☐ Never

Administered/Reviewed by _____ Date _____

[1]Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786 .

[2]Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

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Figure 1: Edinburgh Postnatal Depression Scale[69].

The EPDS and PDSS both present their own advantages. The EPDS is a free 10-item questionnaire used amongst various ethnic and socioeconomic groups **(Figure 1)**. The PDSS is a lengthier self-report questionnaire that requires purchasing but is more specific as it assesses PPD across sleeping/eating disturbances, anxiety/insecurity, emotional liability, cognitive impairment, loss of self, guilt/shame and contemplating harming oneself[70]. Despite these differences, both tests are standardized and accurate at screening for PPD[68,70].

Pharmacotherapy is one method for treating PPD. Common antidepressants include selective serotonin reuptake inhibitors (SSRIs) like sertraline and fluoxetine, serotonin and norepinephrine reuptake inhibitors (SNRIs) like duloxetine and desvenlafaxine, bupropion and tricyclic antidepressants (TCAs) like amitriptyline or imipramine. Although these drugs did not have an FDA approval for PPD, in 2019, the U.S. Food and Drug

Administration (FDA) approved the first drug for treatment of PPD, brexanolone. However, this drug was only approved for intravenous (IV) injection and required health care professions to monitor patients for sedation which limited its use. In August of 2023, the FDA approved zuranolone, the first oral medication for PPD in adults[71,72]. Brexanolone and zuranolone are novel antidepressants that are allosteric modulators of GABA receptors[73]. The effects of brexanolone infusion were found as early as within 24 hours of administration[74]. Similarly, zuranolone was shown to have a rapid-onset and sustained effectiveness for depression with the advantage of it being administered orally[73].

Psychological treatments remain an integral part of PPD management. They can be used as either an adjunct to antidepressants or as an alternative for mothers who are hesitant to take medications. Treatments in this category include interpersonal therapies (IPT), cognitive behavioral therapies (CBT), nondirective counseling and peer and partner support. Other nonpharmacologic, non-psychological treatments include acupuncture, massages, electroconvulsive therapies (ECT), bright light therapies, omega-3 fatty acids and exercise[75]. According to a study by Branquinho et al., CBT was found to be the most effective perinatal treatment despite its modality (such as individual, group, face-to-face or Internet-based)[76].

CBT interventions involve identifying thoughts, often those that are catastrophizing, to help change people's outlook on a situation by replacing previous thoughts with more accurate, positive viewpoints [77]. This is beneficial as it can encourage mothers to seek non-pharmacological treatment if they are reluctant to take antidepressant medications.

2.6. Analyses of georgia public health data

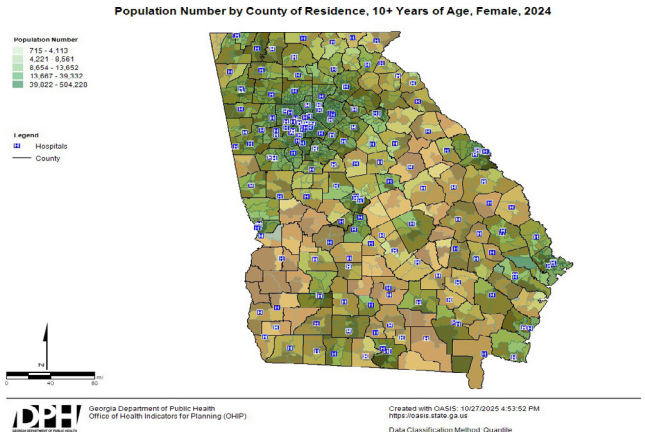

Figure 2: Socioeconomic Vulnerability in Relation to Population of Georgia Counties[78].

The map in **(Figure 2)** from the Georgia Department of Public Health shows the population density in the state of Georgia and the socioeconomic vulnerability is overlaid in orange, indicating which counties have the highest population of women, who fall under the CDC definition of socioeconomic vulnerability: 150% below poverty, unemployed, no high school diploma and no health insurance[78]. The blue squares indicate hospitals in the county and as seen on the map, there is a lack of access to care in several rural counties in Georgia which also overlap with counties with the highest socioeconomic vulnerability. For many women, this contributes to their risk factors for mental health issues because there is a lack of access to quality care[76,78].

The map in **(Figure 3)** shows the number of mental health care facilities and state hospitals that provide care for mental health concerns in the state of Georgia. As seen above, they are located very far apart and there are very few in rural areas, making them difficult to access[30]. Additionally, not all of these facilities are appropriately equipped to treat PPD or other mental health related issues and oftentimes patients still need to be referred to another facility, creating further difficulty for patients.

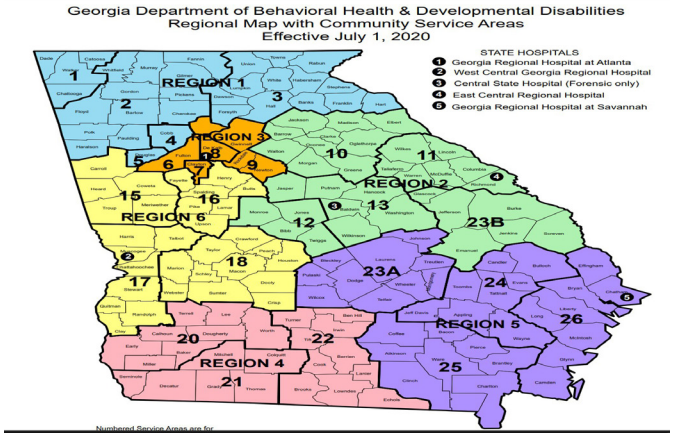

Figure 3: Amount of State Hospitals and Behavioral/Mental Health Facilities by Public Health District[30].

3. Recommendations

3.1. Implement Medicaid reimbursement to pediatric practitioners for screening mothers for PPD (all but 5 US states provide reimbursement, with Georgia being one of them)

Postpartum depression (PPD) is one of the most incapacitating complications of childbearing and is often neglected and underdiagnosed[79]. This underscores the importance of implementing a standardized screening tool to identify the risk for PPD. According to a study done by researchers at Purdue University, integrating PPD screening into pediatric primary care demonstrates improved detection of maternal postpartum depression[80]. However, screening alone is not sufficient. Financial incentives and reimbursement structures need to be implemented to translate screening into a sustained practice. A cohort study in Colorado found that Medicaid reimbursement for PPD screening for mothers during well-child visits was associated with a 9.6-percentage point increase in the probability of having a billed screen for maternal depression[81]. Similarly, an analysis of a policy change in Michigan, allowing pediatric providers to bill a child's Medicaid ID for PPD screening for mothers during well-child visits, found that screening rates have increased in recent years[82]. In Georgia, the absence of standardized reimbursement policies and high rates of maternal mental health challenges makes this type of policy shift vital for improving postpartum care.

3.2. Extend medicaid reimbursement for doula care (efforts to reimburse doula care have been proposed in Georgia but no action has been taken)

Doulas are trained individuals that can provide emotional, physical and informational care to women during pregnancy, delivery and even after childbirth[83]. Research has shown that

community-based doulas can improve birth outcomes and overall perinatal mental health[84]. Accessing doula services can be difficult for families with low socioeconomic status since Georgia Medicaid does not provide universal care for doula services. A retrospective cohort study using Medicaid medical claims from California, Florida and a northeastern state showed that women who received doula care had 52.9% lower odds of cesarean delivery and 57.5% lower odds of postpartum depression/postpartum anxiety[85]. These findings suggest that doulas support safer delivery outcomes and provide emotional support during the postpartum period.

Therefore, expanding Georgia Medicaid to reimburse doula services can improve overall maternal mental health outcomes.

3.3. Offer paid medical leave during pregnancy (New York is the first state to implement this)

A lack of national, comprehensive paid medical leave has significant consequences for pregnant women, especially for those who come from a low-income background[86]. Pregnant women often face the difficult balance of prioritizing their own health and maintaining financial stability. Time off from work can mean lost wages or even a risk to job security. Policy makers in New York addressed this challenge by implementing a law that allows any privately-employed pregnant New Yorkers to receive an additional 20 hours of paid sick leave for prenatal care in addition to their existing sick leave[87]. Implementing a similar policy in Georgia can help reduce preventable pregnancy complications and support maternal mental health, which is critical as Georgia has one of the highest pregnancy-related death rates in the nation[88].

4. Conclusions

Maternal mental health remains a pressing health issue all across Georgia. It is imperative to address barriers to care for maternal mental health as the number of postnatal women in Georgia that have reported feelings of depression and hopelessness have increased in recent years. Postpartum depression (PPD) is significantly underdiagnosed and understudied. This project highlights how cultural influences, risk factors and treatment options shape postpartum mental health outcomes across global contexts. By contrasting biomedical interventions prevalent in Western healthcare models with familial support systems central to postpartum care in Nigeria and Asian countries, we can understand key disparities in maternal mental health outcomes. It is imperative to destigmatize biomedical interventions as well as ensure cultural sensitivity in maternal mental healthcare. Risk factors for PPD are multifaceted and include trauma during birth, prior mental illness, lack of social support and financial constraints. Since these factors often delay diagnosis and limit access to perinatal care, we must utilize standardized universal screening tools such as Edinburgh Postnatal Depression Scale (EPDS) or Postpartum Depression Screening Scale (PDSS) for early detection of PPD. By pairing these screening tools with pharmacological treatments, such as zuranolone and brexanolone and psychological treatments, such as interpersonal therapies (IPT) and cognitive behavioral therapies (CBT), we can improve PPD diagnosis and maternal mental health outcomes globally.

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