

PERI PARTUM DEPRESSION IN AFRICA, A REVIEW OF STUDIES

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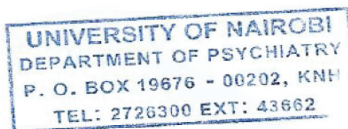
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List of abbreviation

PPD: postpartum depression

MCH: mother and child health

HIC: high income countries

MDD: major depression disorder

EPDS: Edinburgh postnatal depression

BDI: Beck depression inventory

EPDS: cent for epidemiologic studies depression scale

DSM: Diagnostic and statistical manual of mental disorder

LAMICS: low and middle income countries

WHO: world health organization

PND: Postnatal depression

PHC: primary health care

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1.0 DEFINITION

Depression is a major public health problem that is twice as common in women as men during the childbearing years.

Postpartum depression is defined within this report as an episode of non-psychotic depression according to standardized diagnostic criteria with onset within 1 year of childbirth.

1.1 SUMMARY

Postpartum Depression (PPD) is a serious public health problem that leads to high maternal morbidity and mortality, enormously affecting the infant, family and society. It is also a common occurrence which is often undiagnosed when symptoms are not severe and may progress into severe or chronic state if unrecognized and untreated. Being the most frequent form of mental illness in the postpartum period, it can begin as early as two weeks after delivery and can persist indefinitely if untreated. There is no routine screening of PPD at the postnatal clinic. Its effects are not only on the mother but also on the infant and the family at large. A depressed mother will have difficulties in taking and following postpartum advice from a health care provider such as: Recognizing postpartum danger signs, self-care and care of infant, attending scheduled hospital visits and compliance to other medications. The impact of this would be increased maternal and perinatal morbidity and may be mortality from direct or indirect causes of PPD.

1.2 INTRODUCTION

Postpartum Depression (PPD) involves various groups of depressive symptoms and syndromes that take place during the first year following birth [1]. It is recognized as risk period for severe mood disorder that comprises provisional blue, major depression and debilitating psychotic depression [2]. Several sign and symptoms that define PPD are low self-worth and interest, tiredness, sadness, disturbed sleep and appetite [3], problem in concentrating and making decision, feeling of unworthy to live, having negative thought about the baby, feeling of guilt and shame [4].

It is also a common and disabling complication of the postpartum period. It is thought to occur more commonly in the developing than the developed countries [5]. Up to one quarter of women experience some depressive episode over their life time, with the peak incidence occurring during the reproductive years [6].

PPD can affect infant feeding, with studies reporting that depressed mothers have increased odds of early termination of breastfeeding, and inappropriate feeding practices [7,8,9]. Several studies have also found a link between maternal depression and poor infant growth [9, 10]. In a systematic review conducted in developing countries, mothers with depressive symptoms were 40% more likely to have underweight or height-stunted children than mothers who were not depressed [9, 11]. The underlying connection between maternal depression and child malnutrition is not well etched out we say this as the population based studies from Ethiopia and South Africa [12, 13] have found no association between maternal depression and malnutrition whereas clinic based studies tend to find associations between PND and infant growth [14, 15,16]. If mothers are depressed they cannot feed their babies well, therefore, depression in mothers could adversely impact upon infant nutritional status, because nurturing and feeding an

infant requires, mother's full concentration and own well-being in place. Depressed mothers in the early postpartum period may be at a higher risk for negative infant-feeding outcomes including decreased breastfeeding duration and increased breastfeeding difficulties [9, 14,15,16,17].

Based on the onset and the severity of postpartum depression, it has been divided into three categories:

I. Postpartum blues also known as maternity blues which affects 40-80 % of postnatal mothers. It may start as early as two days and last for about two weeks. Symptoms include: Irritability, anxiety, confusion, mood lability, sleep disturbance and crying spells. These symptoms are usually mild and they resolve with supportive care. Persistence of the maternity blues for more than two weeks may predict PPD [18].

II. Postpartum depression is a non-psychotic depressive disorder that starts in or extends into postpartum period up to twelve months after delivery. It consists of any or a combination of the following symptoms: Sleeping and eating disturbance, mental confusion, loss of self-esteem, anxiety, lack of interest in one's environment, insecurity and suicidal thoughts. [6, 19, 20].

III. Postpartum psychosis is the severe form of the mood disorders. Mothers are severely impaired and suffer from hallucination, delusions and agitation. Generally it develops within the first four weeks after delivery. It is dangerous and often requires that the mother be hospitalized as there is increased risk of infanticide and or suicide [6, 20].

Worldwide, statistics shows that 450 million people are seriously affected by neurological and mental illness ranking depression as the fourth principal cause for disability and premature deaths and by the year 2020, depression is predicted to be the second leading cause of disability [21]. Irrespective of economic status, race or ethnic groups' depression tends to occur twice more in women than men [2].

Globally, about 10% of pregnant women and 13% of women who just gave birth are suffering from mental health problems. It is higher in developing countries where 15.5% develop mental illness during pregnancy and 19.8% after childbirth [3] continuing to affect the welfare of mothers, their babies, partners and family members [22].

As provision of care will vary depending on the socio-demographic and cultural factors in Ethiopia, it is difficult to establish conclusion on prevalence and associated risk factors of PPD. Despite its massive effects especially in low and lower income countries, women and clinicians inadequately understand it. Even though multiple studies have been conducted in Ethiopia concerning postpartum cares, the focus has always been on PNC or family planning services whereas the prevalence and associated factors of PPD gained little attention. As a result, it is important to get an insight and plan for the implementation strategies to prevent and identify PPD early at the postpartum period. Therefore, the present study aims at assessing the prevalence and associated factors of postpartum depression among mothers attending public health centers in Addis Ababa, Ethiopia.

Study done by Madeghe et al [23] found that 13% prevalence of post-partum depressive symptoms among women attending MCH clinic based in an urban settlement of Nairobi. This estimate lies within the wide range of prior PPD prevalence estimates (6.1–30.6%), reported amongst African mothers [24, 25]. A few studies conducted in South Africa found higher rates of PPD, for example Tomlinson and colleagues estimated prevalence of postpartum depression as 34.7% in a peri-urban settlement in Cape Town [26]. Explaining the differences among these prevalence estimates could be methodological differences in the ways the studies were conducted, the settings where the studies were carried out, timing of post-partum assessment, screening instruments used and cutoff values used to classify mothers as depressed [11, 14, 27]. As is apparent the EPDS is the most widely used PPD measure, but a range of cut-off points have been set, ranging from 10 to 13. In this study the prevalence estimate would have been 21%, (95% CI 15.3–26.7%) had the clinical cutoff had been lowered to a score of 10.

Madeghe et al [23] also found that that women with PPD were more likely to introduce supplementary foods earlier than women who were not depressed. These results compare well to the results reported by [28] in Brazil who evaluated the association between postpartum depression and interruption of exclusive breastfeeding in the first 2 months of life and found that children of mothers with postpartum depressive symptoms were at higher risk of early interruption of exclusive breastfeeding. In Australia [29] reported early cessation of breastfeeding to be significantly associated with postnatal depression. In Nigeria, [30] reported that depressed mothers were more likely to stop breastfeeding earlier, and their infants were more likely to have episodes of diarrhea and other infectious illnesses. In our study two social determinants associated with non-exclusive breastfeeding included income level and marital status.

Madeghe et al [23] found that PPD and poor infant nutritional status are consistent with findings of previous studies. In Nigeria [30] showed that infants of depressed mothers had significantly poorer growth than infants of non-depressed mothers at the 3rd month. In Zambia, [9] found adverse infant health outcomes were proportionately greater in infants of depressed mothers and the associations with adjusted mean difference in infant weight and length too were statistically significant. Other independent associations with episodes of diarrhea, maternal education, infant age, supplementary feeding) and incomplete vaccination were identified as risk factors. Similarly in Malawi, [31] reported that mean length-for-age z-score for infants of mothers with PPD was significantly lower than for infants of mothers without PPD. The multivariate results show that maternal income, marital status, and employment status do not explain away the strong associations between maternal depression and infant nutritional outcomes.

Prevalence rates of PPD vary widely from region to region, from race to race and among women of the same cultural backgrounds [32, 33]. From a study done in Uganda in a peri urban primary care centre, the Prevalence of major depression at six weeks postpartum was 6.1% [34]. A similar study done in Canada concluded a prevalence of 8.68 % for minor depression and 8.69% for major depression [35]. A study done in South Africa Cape Town to determine the prevalence and correlates of mood disorders in pregnancy, found that prevalence rate was 39%.The importance of this was that evaluation of antenatal depression was important as it is a predictor of PPD (36). An unpublished MMED thesis done at Aga Khan University Hospital; Prevalence of Postpartum Depression using the EPDS at Aga Khan University Hospital found a prevalence rate of PPD at 13.8 %. Though being a tertiary health care facility, this was significant and compared well with other studies done in developed countries (33).

Although PPD is the most common affective disorder in the postpartum period, there are several other disorders in this period such as maternity blues, anxiety disorders like panic disorder, obsessive-compulsive disorder. If the mother presents with escalating symptoms of these disorders, and if untreated, many of these mothers may develop PPD [37].

The most severe postpartum mood disorder is the postpartum psychosis. It usually has an early onset and is more common in women with prior histories of bipolar disorder. If this is present, the mother may experience psychotic thoughts that may place her and the infant into imminent danger of suicide or infanticide. The mother will typically present with hallucination, delusion and agitation. A mother diagnosed with postpartum psychosis should immediately be referred for crisis intervention due to devastating impact and potential for harm to self and others [38, 39].

Postpartum depression is more likely if the mother experienced a prior episode of PPD with rates of recurrence as low as 25%, and going as high as 70-100% [38]. In addition to personal history of depression, other significant risk factors for onset of PPD have been stated. These include; i. Having limited social support; ii. Having endured stressful life events such as divorce, job loss, death of a loved one, childhood abuse, single parenthood and marital conflict [32]. A personal and family history of depression “are substantial biological risk factors” with small effects in the development of PPD. Other factors related to onset of PPD are: Low social economic status, Obstetric factors such as complication during pregnancy or labor [40].

Early detection of these postpartum disorders is one of the major challenges in dealing with

the problems and their complications. All mothers who present with potential risk factors should be screened for symptoms during pregnancy and throughout the postpartum period. [41]. Clinicians need to remember that, risks factors indicates the likely hood that women who are exposed to certain factors (risk factors) will subsequently develop PPD. Some risk factors are inherited, while others are not, others are modifiable whereas others are not. Once the modifiable risks have been identified, clinicians can target interventions to help decrease a woman's risk of developing this mood disorder [38]. Following a mother's diagnosis of PPD, reproductive health providers face the difficulty task of determining, overseeing the course of treatment and coordinating a referral to the mental health professional.

Postpartum depression responds well to treatment. The treatment is determined based on patient's history, medical condition, current symptoms and patients treatment preference. Mild to moderate depression can be treated with psychological counseling and social interventions. Severe depression would benefit from antidepressants. Best mode of treatment is multimodal approach where both psychotherapy and pharmacotherapy are used (38,)

Prevention of PPD is possible because: Onset is preceded by a clear marker (child birth); Has a defined period of highest risk for onset (first three months after delivery); High risk sample can be identified by screening and postpartum mothers have frequent postnatal conduct with the health professional which would enable detection of the risk factors and implementation of preventive measures (38). Based on these, three levels of prevention have been identified. These are:

- i. Primary prevention which involves educating mothers on the nature and effects of child

birth in relation to mental health problems and training health professionals especially midwives to be able to screen for risk factors. It helps in decreasing the incidence of the disorder.

- ii. ii. Secondary prevention reduces the prevalence of this disorder by early identification and interventions that minimizes the frequency, duration and severity. It involves well timed screening and appropriate interventions.
- iii. Tertiary prevention involves early identification and treatment to limit disability. This is possible by regular follow ups, prophylactic medication and individual, couple or group therapy.

Maternal depression has also been linked to poor weight gain and impaired cognitive and motor development in infants [42]. Postpartum depression has been described as “a thief that steals motherhood” [43], particularly as depressed mothers may prematurely discontinue breastfeeding due to the reduction of breast milk production six months postpartum [42]. Moreover, the depressed state of mothers can also induce depression in infants [44].

The perception and experience of motherhood are different in every culture. According to Abdollahi et al. [45], “the diversity of the prevalence of postpartum depression across the cultures may assist researchers in understanding whether this disorder is primarily brought on by psychological or bio- logical factors.” In the South African context, childbearing in women is valued [46]. However, in the event of unplanned pregnancies, rejection of the pregnancy by the partner and a lack of family support for the pregnant and parenting adolescent can be emotionally distressing [46]. It is not surprising that antenatal and postnatal depression will be evident under these circumstances. Approximately, seventy-one per- cent of pregnancies among

15–19 year olds in South Africa are unplanned [47]. These unplanned pregnancies can subsequently lead to psychological distress, anxiety, and depression. Cultural stigma, social stigma, oppressive familial dynamics, and gender inequality impact on the mental health of pregnant and postpartum adolescents [47].

Globally, the prevalence of depression in pregnant and postpartum adolescents varies [48]. It has been found that the prevalence of maternal depression is higher in low and middle income countries than in high income countries [49] and that adolescent mothers may experience higher rates of prenatal and postnatal depression than adult mothers [50]. Approximately 20% of adolescents' experience symptoms of depression during pregnancy as well as postpartum [50]. However, the accurate figure of depression among pregnant and postpartum adolescents may be higher because many are not screened for symptoms of depression or are unaware of prenatal and postpartum depression [50].

Globally perinatal depression is common with approximately 11.9% of women experiencing perinatal depression, with the highest burden (19.2% during pregnancy; 18.7% postpartum) in low and middle-income countries (LMIC) [51]. Maternal depression during pregnancy and the postpartum period has been linked to a number of adverse child health outcomes and maternal-child relationship factors [52]. Depression during the pregnant and postpartum period has been associated with reduced infant cognitive development [53], socio-emotional development [54], and psychomotor development [55]. These influences have been found in high, middle, and low-income countries [53]. In terms of maternal health, longer durations of untreated depression

are associated with poorer clinical outcomes for mother and child, such as longer response times to treatment and relapse, as well as higher rates of depression-related disability [56]. In low and middle-income countries, rates of perinatal depression are elevated compared to global levels [57]. Previous studies conducted in South Africa have found antenatal depression rates between 21 and 47% [58] and postpartum rates between 31.7% and 50.3%, much higher than global perinatal depression rates [59].

Regardless due to the high prevalence of perinatal depression, especially given the low resource environment, it is imperative to be able to target perinatal depression prevention and intervention efforts in LMICs towards those most likely at risk. For women living in LMICs, outside of pregnancy there is often limited engagement with health services, including mental health referrals, further underlining the importance of understanding depressive symptom trajectories and predictors of those trajectories during pregnancy. Moreover, women living in LMICs often have the additional burden of comorbidities, such as HIV, and social contextual factors, such as high levels of unemployment, food insecurity and exposure to trauma or violence, that may exacerbate depressive symptoms or change patterns of symptoms across time. Risk for depression could present during pregnancy but may also appear any time postpartum [60].

Given the longitudinal nature of perinatal depression, understanding patterns of depression across the transition from pregnancy to postpartum and throughout the postpartum period is paramount. However, merely assessing the average longitudinal trajectory across a cohort masks cohort heterogeneity as well as important nuances related

to timing, chronicity, and severity [61]. Depressive symptoms tend to be cyclical and episodic, making it important to understand the trajectory of patient's depressive symptoms over time. Group-based trajectory models allow researchers to capture the underlying heterogeneity in perinatal depression symptoms present in cohorts, to determine risk profiles and identify chronic versus transient patterns as well as determine, for those with transient patterns, whether symptoms decrease over time or increase.

A literature review of studies on perinatal depression found 11 studies that use growth curve mixture modeling [62]. Of these studies, all consistently found a stable low risk trajectory and most found a stable moderate-high or high risk of depression trajectory. About half reported a transient trajectory in which depressive symptoms were either increasing, decreasing, or episodic. This review also noted several limitations including that none of these studies were conducted in a low or middle-income country. Given the elevated prevalence rates in LMICs, studies are needed to determine perinatal depression trajectories in these settings. Effective strategies for reducing symptoms of postpartum depression exist [63], however, to optimize limited mental health resources in LMICs, it is essential to identify women at high risk for developing perinatal depression over time through determining antenatal predictors of these specific perinatal depression trajectories.

Consequently, the necessity for identifying and resolving the major depressive episode with an onset of symptoms during pregnancy or during a defined period after child birth symptoms as early as possible has become increasingly recognized among

several government and health organizations globally, many of which have put forth initiatives for screening [64] diagnosing, and treating PPD childbirth and the timing of observed symptoms after child-birth varies widely among different sources that define PPD, from 4 weeks (according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition [DSM-V]) to 1 year (according to the [65]).

Globally, PPD is observed in 10–20% of new mothers in both HICs and LMICs [66]. In the US, the prevalence of PPD symptoms varies by State from 8–20%, with an overall average of 11.5% [67]. Symptoms of PPD differ depending on the severity of illness, but can include anxiety, irritability, sleep disturbance, feeling overwhelmed, an excessive preoccupation with the baby's health, and thoughts of self-harm or suicidal ideation [68].

A literature reviews that examined the humanistic burden of PPD have evaluated the effects of PPD symptoms on a more limited set of outcomes, such as maternal sensitivity levels towards infants [69], growth outcomes in children[70], breast-feeding activities[71], and marital discord [72]. Collectively, these reviews have suggested there may be an unexplored burden on the broader family unit in addition to the established negative effects on mothers. In order to gain a better understanding of the complete scope of PPD-related burden among women, children, and partners, the objective of this systematic literature review was to identify and evaluate large, recently published studies describing the humanistic burden of PPD. For the purposes of this review, we defined humanistic burden broadly to include anything affecting the quality-of-life of women with symptoms or a diagnosis of PPD in addition to other patient-reported outcomes (e.g. parental self-efficacy) and other potential associations of maternal PPD on children (e.g. child behavioral development), partners (e.g. relationship discord), and inter-family

relationships. Given the high potential for a variety of findings that could fit our definition of humanistic burden, we did not restrict this review to a list of pre-defined outcomes.

Other patient-reported outcomes (e.g. parental self-efficacy) and other potential associations of maternal PPD on children (e.g. child behavioral development), partners (e.g. relationship discord), and inter-family relationships. Given the high potential for a variety of findings that could fit our definition of humanistic burden, we did not restrict this review to a list of pre-defined outcomes.

In a study done in the United States. Nearly 800,000 – or 20% of these mothers will experience an episode of major or minor depression within the first three months postpartum [73]. This makes depression the most common complication of childbearing [74], far above both gestational diabetes (3-8%) [75] and preterm birth (12.3%) [76]. Maternal depression affects the entire family; it is associated with marital discord and impaired occupational and social functioning, as well as with maternal–infant interactions characterized by disengagement, hostility, and intrusion [74, 77]. Moreover, studies have consistently demonstrated the deleterious effects of postpartum depression (PPD) on cognitive and emotional development during infancy and later childhood [77].

Researchers are only at the beginning stages of discovering biological factors that may contribute to the etiology of postpartum depression, but there are numerous known psychological and social risk factors. Previous meta-analyses have identified fifteen: (1) lower social class, (2) life stressors during pregnancy, (3) complicated pregnancy/birth, (4) difficult relationship with family or partner, (5) lack of support from family or friends, (6) prior history of psychopathology

(depression, anxiety), (7) chronic stressors postpartum (this can include problems with child care and difficult infant temperament), (8) unemployment/instability, (9) unplanned pregnancy, (10) ambivalence over becoming a pregnant, (11) poor relationship with own mother, (12) history of sexual abuse, (13) lack of a confidante, (14) bottle feeding, and (15) depression during pregnancy, with the last generally acknowledged to be the strongest predictor of PPD [78].

Postpartum depression is significantly undertreated. Many women feel that depression at what “ought” to be a joyful time is shameful, and others are influenced by society’s general stigma concerning mental health care. In addition, those women who do seek treatment often hesitate to take psychotropic medications when breastfeeding, despite substantial evidence of their relative safety [78].

Given the public health relevance of PPD, its well-characterized psychological risk factors, and the substantial barriers to care once women become ill, a focus on the prevention of PPD holds tremendous potential for clinical efficacy. In particular, prospective mothers are especially motivated for self-care [79] and are already in frequent contact with health care providers [78]. Here we offer a critical review of existing approaches to PPD prevention, with the dual aim of identifying effective treatment components across many modalities and identifying treatment gaps that may be amenable to novel interventions.

Another study shows that symptoms of postnatal depression include low mood lasting much longer than baby blues [80]. Some women with postpartum depression may have suicidal and infanticidal ideation, but they are reluctant to disclose this information unless asked directly [80]. Postnatal depression is a severe form of depression that lasts more than two weeks, starts within a month of giving delivery [80, 81], and affects the

individual's ability to function including caring for the baby [82]. One systematic review found that in the first three months after childbirth, 14.5% of women have an episode of minor or major depression with nearly 40% of these women having experienced symptoms during pregnancy [82, 83].

Postnatal depression has a considerable burden on partners and close family members, affecting social and leisure activities and causing financial problems within the family [83, 84]. Also, postnatal depression has an adverse effect on the marital relationship [83, 84] and a detrimental impact on the partner's mental health [84].

There has been significant research in developed countries on the risk factors for postnatal depression. Meta-analyses of these studies have identified past history of psychopathology, emotional disturbance during pregnancy, difficult marital relationships, inadequate social support and stressful life events as the primary risk factors for developing postnatal depression [85]. Mothers with postnatal depression are more likely to have an unhealthy lifestyle, including poor diet and sleep patterns, compared to mothers free of postnatal depression [86]. Women with postnatal depression tend to stop breastfeeding earlier than non-depressed mothers [87]. Postnatal depression was associated with underweight stunting and decreased mental development [88]. It is well recognized that postpartum depression can have negative effects on early infant growth [89] with these effects potentially more pronounced in low-income countries with less favorable environments [90]. Despite some evidence of higher risk for depression, most low-income and ethnic minority women remain undiagnosed or untreated for postnatal depression [91].

Research [92] has shown that P postnatal depression victims are twice as likely to experience future episodes of depression over a 5-year period. A systematic review [93] revealed that the risk factors for postnatal depression include socio-economic disadvantage, unintended pregnancy, being younger, being unmarried, lacking intimate partner empathy and support, having hostile in-laws, experiencing intimate partner violence, having insufficient emotional and practical support and, in some settings, giving birth to a female baby, and having a history of mental health problems.

Postnatal depression is a significant public health concern with wide-ranging negative consequences for women and their children. Literature reveals that children of mothers with postnatal depression are at an increased risk of behavioral, cognitive and social impairment [94]. Postnatal depression is associated with impairment of the mother-infant bond which can result in longer term disruption of the emotional and cognitive development of the infant [85]. Mothers with postnatal depression may be less able to interpret and respond appropriately to infant signals; they show more negative than positive emotions toward their infants and are more intrusive in their interactions with their infants [95].

There are conflicting results from studies examining the effects of postnatal depression on infant growth. A study conducted in low-income countries revealed that higher postnatal depressive symptoms at five months were significantly associated with reduced infant weight gain between five and nine months, increased infant physical health concerns and nighttime awakening at nine months [95]. In comparison, a study conducted in South Africa showed no clear effects of postnatal depression on child growth, although postnatal depression at two months was found to be associated with low infant weight at 18 months

[96]. A study conducted in Malawi found a significant association of postnatal depression with infant stunting [97], an indicator of long-term malnutrition, whereas a Nigerian study found that infants of mothers with postnatal depression had significantly poorer growth at three and six months when compared with controls [98]. Infants of mothers with postnatal depression were more likely to have episodes of diarrhea and other infectious illnesses than infants of mothers free of postnatal depression [98]. All of the studies conducted in South Africa, Malawi and Ethiopia identified a high prevalence of postnatal depression (34%, 26% and 33%, respectively), but failed to identify significant associations between postnatal depression and reduced infant weight [97, 97]. A study conducted in Zambia revealed that adverse infant health outcomes such as diarrhea, incomplete vaccination, reduced infants weight and length were proportionally greater in infants of mothers with postnatal depression [98]. This study also reported an association between postnatal depression and the adjusted mean difference in infant weight and length in comparison to mothers free of postnatal depression [98]. In Ethiopia, “maternal common mental disorder” was not associated with adverse infant development in any aspects [99]. Such conflicting results, coupled with the absence of any systematic reviews focused on the impact of maternal postnatal depression on infant growth in sub-Saharan African countries, indicate the need for clarification of the effects of maternal postnatal depression on infant development. No existing systematic reviews that reported on the impact of maternal postnatal depression on infant growth in sub-Saharan African countries were identified in these databases.

Therefore, this systematic review seeks out the best available evidence regarding the impact of maternal postnatal depression on infant growth in sub-Saharan African countries. If a

positive association is found, therapies could be targeted at women with postnatal depression to improve both maternal and infant outcomes

Pregnancy and childbirth are two major events in a woman's life. The birth of a baby induces sudden and intense changes in a woman's roles and responsibilities. Thus, the postpartum period represents the time of risk for the emergence of maternal postpartum depression (PPD) [100]. PPD is a serious mental health problem. The *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; DSM-IV) defines PPD as a specifier for major depressive disorder (MDD) [101]. PPD is also defined symptomatically as exceeding a given threshold on a screening measure, such as the Edinburgh Postnatal Depression Scale (EPDS) [102]. In general, PPD occurs within 4 to 6 weeks after childbirth, and symptoms similar to MDD that may be present include depressed mood, loss of interest or pleasure in activities, sleep disturbance, appetite disturbance, loss of energy, feelings of worthlessness or guilt, diminished concentration, irritability, anxiety, and thoughts of suicide [103].

The prevalence of PPD varies substantially depending on the definition of the disorder, country, diagnostic tools used, threshold of discrimination chosen for the screening measure, and period over which the prevalence is determined [102]. The prevalence of PPD varies from 1.9% to 82.1% in developed countries, with the lowest prevalence reported in Germany and the highest prevalence in the United States [102]. In developing countries, the prevalence varies from 5.2% to 74.0%, with the lowest prevalence reported in Pakistan and the highest prevalence in Turkey [104]. This tremendous variation in the prevalence of PPD could be explained by heterogeneous study designs or the use of different diagnostic tools (e.g. the EPDS, Center for Epidemiologic Studies Depression Scale (CES-D), or Beck Depression Inventory (BDI))[105].

Untreated PPD seems to have negative consequences for both infants and mothers. Nonsystematic reviews have indicated that the risks to children of untreated depressed mothers (compared to mothers without PPD) include problems such as poor cognitive functioning, behavioral inhibition, emotional maladjustment, violent behavior, externalizing disorders, and psychiatric and medical disorders in adolescence [103]. These nonsystematic reviews reported the outcomes of these children from birth to adolescence. Other nonsystematic and systematic reviews have also explored specific maternal risks when mothers' PPD is untreated, including more weight problems, [106], alcohol and illicit drug use [107], social relationship problems [108], breastfeeding problems [109], or persistent depression [110] compared with women who have received treatment. Nevertheless, there are no well-established systematic reviews of the overall maternal and/or infant outcomes of maternal PPD. Thus, the aim of this study was to evaluate all the maternal consequences of untreated PPD and its effects on children between 0 and 3 years of age.

The birth of a new baby is a major developmental transition in life that affects not only the woman, but also her baby and the family [111]. A common mental health problem during this period is postpartum depression [111]. It is a serious public health concern and is associated with numerous medical and psychosocial problems in both mother and child [111]. While postpartum depression poses a medical problem to the family, It is contrary to the condition called maternity blues. Postpartum depression meets the criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) for depression with incidence rate of 11 to 42% varying from one population to another [112].

Maternity blues a common, benign, transitory condition occurs in the first day after delivery with incidence ranging from 30 – 80 %. It normally starts 3-4 days after delivery and peaks on the fourth to fifth day [113].

Postpartum depression is highly indicated when symptoms are severe and have lasted over two weeks. It is noted that in about 1 to 2 per 1,000, postpartum depression results in postpartum psychosis. In the United States, postpartum depression occurs in about 8 per 100,000 births [114, 115]. Postpartum depression has also been seen as a temporary depression that afflicts about 15 percent of women following childbirth. It is more intense and long lasting than the “baby blues,” which affect as many as half of new mothers [115]. The cause of postpartum depression is not well known, however, it has been linked to a variety of endocrine root causes- especially postpartum thyroid dysfunction [116]. Antenatal depression has also been considered to increase the risk for postnatal depression [117]. Maternal postpartum depression disturbs the attachment and bonding between mother and child and therefore adversely affects the infant’s development [118]. Some of these adverse effects include negative effects on cognitive development and social-emotional development of the child. These problems may persist and are unlikely to be responsive to intervention over time if the maternal depression remains untreated [119]. Postpartum depression also leads to increased costs of medical care, inappropriate medical care and discontinuation of breastfeeding [118].

Maternal mental health is an internationally recognized public health concern [120] and the high burden of disease associated with postnatal depression is well documented in both high income countries (HICs) and low and middle income countries (LAMICs) [121]. Non- psychotic depression related to childbearing commonly affects between 10 to 15% of women worldwide [120]. In South Africa, current data suggest higher

prevalence rates than these global estimates, with isolated studies on postnatal depression (PND) providing an estimated prevalence rate ranging from 16.4% in the township of Soweto to 39% in Khayelitsha, an informal settlement in the Western Cape [122]. In addition, the prevalence rate for antenatal depression, a predictor of PND, [123] has been found to be as high as 47% in a study in rural KwaZulu-Natal [125]. While maternal and child health is one of the top four public health priorities of the South African Department of Health, the emphasis is however, on decreasing physical morbidity and mortality [124].

However, in the face of a 12 month treatment gap of between 76% to 85% for people with severe mental disorders in low-income countries [125], and a 75% treatment gap for common mental disorders in South Africa [126], the high burden of maternal depression poses a public health threat [127]. This is because PND can impact negatively on an infant's socio-emotional and cognitive development as a result of maternal neglect, poor maternal responsiveness and impaired attachment relationship between mother and infant [121]. In turn, poor socio-emotional and cognitive development impedes long-term human capital growth that is essential for socio-economic development in LAMICs, having long ranging negative developmental, social and economic costs [121]. Untreated PND is also a human rights issue as it compromises codes of social justice for children who receive substandard maternal care as well as compromised quality of life for women with maternal depression [121].

Internationally, risk factors for maternal depression include dimensions of poverty such as low levels of education; poor housing and low income [128]; food insecurity and economic hardships [129]; stressful life events such as physical and emotional abuse; inadequate

social support; history of depression; antenatal depression; low self-esteem; poor relationships with partners [130]; and unplanned and/or unwanted pregnancy [130]. In abusive relationships, income disparities and patriarchal systems that favour men render some women particularly vulnerable as they find it difficult to escape domestic violence due to their economic and or emotional ties to the abusive partner. Notwithstanding this literature, in order to inform culturally and contextually informed interventions, there is a need to understand how PND is experienced or understood within cultural contexts in LAMICs in order to inform culturally and contextually appropriate interventions. In addition, within resource constrained health care systems of LAMICs, there is a need to understand how best to deliver such interventions. Contextually appropriate and cost effective health care solutions for maternal depression need to be found [131]. Integration of mental health into primary health care and task sharing have been mooted as effective mechanisms to increase access to mental health care in LAMICs by the WHO (World Health Organization) and the South African Department of Health [132]. The objective of task sharing is to devolve tasks traditionally provided by specialist health workers to non-specialist health workers to provide increased access to quality health care at a lower cost [133]. Further, while many interventions for maternal depression in HICs favour home visits by nurses [129], in LAMICs resource constraints dictate that lay health workers are a more feasible option, with sufficient evidence of that they can be used effectively to carry out educational and psycho-social interventions for maternal care.

Against this backdrop, using Kleinman's concept of explanatory models of illness [134] this study sought to explore the explanatory models of illness used by women diagnosed

with PND, from low socio-economic backgrounds in South Africa. Specifically, the study seeks to understand the causes, course and treatment options available treatment options, in particular, the study sought to explore the acceptability of task sharing for the delivery of counselling interventions. This was with the view to informing the development of culturally and contextually appropriate maternal mental health services within the resource constraints of primary health care (PHC) in South Africa.

1.3 CONCLUSIONS

There is a strong cross-sectional association between postpartum depression, infant feeding practices, and child malnutrition, making a modest contribution to the knowledge base that sheds light on the links between the well-being of mothers and the health of their infants. It emphasizes providing mothers and families the support they need to carry out their crucial roles and it explicitly defines the obligations and responsibilities in this regard of governments and other concerned parties to help out as far as the Global Strategy for Infant and Young Child Feeding. Maternal depression is one of the most well-documented risk factors for child and adolescent depression, The potential adverse effects of postpartum depression on the parenting practices and child physical and emotional development reinforce the need for programs aimed at prevention, early identification and effective treatment of PPD. To do so requires a paradigm shift—moving from a focus on individual treatment to a prevention approach that engages the entire family as the unit of care. Given the high prevalence of depression among women of childbearing age, practitioners working with women in prenatal care settings should routinely screen for depression and provide targeted treatment and preventive services. Clinical trials of Interpersonal Therapy show promise for group-based treatment of adults delivered by community health

workers in LMICs and for treatment of pregnant women living in low income settings in the HICs. It is needed for more health resources targeting PPD and more research using community-based samples in low-income settings and longitudinal study designs with multiple assessments over the post-partum period to assess temporal timing and reciprocity between maternal mental health, feeding practices, and child growth and development. Such studies will enable us to target and design effective programming to address major global public health problems.

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