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**Postpartum Depression**

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## Summary

Postpartum depression PPD is a term for severe postpartum depression that can affect any new mother. PPD is one of the leading causes of pregnancy-related death and can range from severe to minor. Around 10 to 25% of mothers worldwide are estimated by the WHO to have PPD. However, it is assumed that this number is significantly higher. This can be due to various factors, one of which is the possibility that PPD goes undiagnosed. This can happen when a woman lives in a country where healthcare providers are either underfunded or lack knowledge about PPD, resulting in undiagnosed and inadequate treatment. Another issue is that mothers are frequently embarrassed to acknowledge their despair brought on by a worry of being labelled as inadequate mothers by society, their partner, and their family. It has been proven over time that PPD has numerous risk factors that can manifest themselves prior to conception, throughout the course of pregnancy, and after delivery. It is the responsibility of the woman's healthcare professional to ensure that all of her previous and current mental health is recorded. The gestational age of the baby, the mother's age, and gestational diabetes are three risk factors that have only recently been identified; further research is ongoing.

Suicide, self-harm, and newborn injury have been the most tragic effects of PPD in recent years. Tools for screening have been developed to stop this fatal PPD result. Therefore, by using these screening tools both during pregnancy and after delivery, healthcare professionals are able to identify and provide the appropriate support and treatment. The type of treatment given to a patient depends on how severe their PPD is; if it's mild to moderate, they receive psychological care; if it's severe, they receive both psychotherapy and pharmaceuticals.

Due to the fact that PPD is a worldwide mental health issue, many nations have developed their own prevention guidelines that are distributed to all midwives, obstetrics, gynaecological, and family medicine offices.

## **Keywords**

Postpartum depression, postpartum blues, postpartum psychosis, consulting, Cognitive-behavioral therapy, interpersonal psychotherapy, behavioural activation, EPDS, psychodynamic therapy, RCT, suicidal Risk factors, antidepressant medications,

## **Introduction**

Postpartum depression (PPD) is a severe global mental health disorder that can affect any new mother after giving birth. It is estimated that approximately 10% - 25% of the world's postpartum women are affected by PPD, and by expert opinion, it is assumed that 9% of new mothers in Lithuania are affected by PPD.

The duration of PPD can be from 2 weeks after giving birth to up to 1 year, which is different from postpartum blues. The postpartum blue starts shortly after the birth and remains up to one week.

Every woman has a different experience of PPD; some can be affected mildly, and the disorder does not significantly impact their life. But some are affected severely, as seen in their daily chores, impacting the mother-infant relationship. The inability to take care of the infant leads to the neglect of the infant and its longstanding impact on the child's life. Many women feel it has also affected their relationships with their partners, friends, and family.

In recent years we have seen the devastation of untreated PPD resulting from women's suicidal or inflicting harm to the infant or children, resulting in their demise.

This thesis explores the various factors contributing to the development of PPD, its impact on new mothers, infant and their families and the importance of available interventions for prevention and treatment.

## Literature search strategy

In this literature review, studies were conducted over the last 10 years, and the important changes over the years were studied. In the study research, the Vilnius University medical faculty online library was used. The database that was included was the PubMed scientific database, Elsevier, SpringerLink and Google Scholar. The search words used were postpartum depression, postpartum depression treatment, postpartum depression screening tools, and postpartum, postpartum suicide.

## Diagnosis

Postpartum depression (PPD) is a depression that most mothers worldwide experience after giving birth. However, what makes it different from other depressions and postpartum blues is the duration and the symptoms that the mothers are expressing. PPD occurs within the first four weeks of birth to 12 months(1). A mixture of depressed mood, lack of interest, anhedonia, disturbed appetite, attention deficit disorder, psychomotor disruption, exhaustion, and feelings of guilt or worthlessness. Together with mood swings, worry, impatience, overload, and obsessional fears or preoccupation often regarding the baby's health, feeding, and bathing safety are other PPD symptoms. Suicidal ideas are very prevalent, and some PPD sufferers also have thoughts of harming their offspring (2). It is crucial to recognize patients with suicidal ideas or thoughts of harming their newborn so they can be referred to a psychiatric assessment immediately to avoid tragic outcomes.

## Predictors for postpartum depression

Countless risk factors have been accurately identified, determining pregnant women at risk before, during and after the pregnancy and developing a treatment plan for prevention and intervention.

In a study that was conducted in 2021, all the risk factors were studied and conformed (table 1) (3,4)

<b>Before pregnancy</b>	<b>During pregnancy</b>	<b>After pregnancy</b>
Age-related factors:	Unplanned pregnancy	Childs gender (male)

<ul style="list-style-type: none"> <li>- Being a young mother (&lt;25 years)</li> <li>- Being an older mother (&gt;35 years)</li> </ul>		
Education level low	Unwanted pregnancy	Childs health problems
Employment-related factors <ul style="list-style-type: none"> <li>- Work &lt;12 h a week</li> </ul>	Smoking/ alcohol/ substance use	Negative experience of the first week postpartum
Life events related factors: <ul style="list-style-type: none"> <li>- Experience &gt;3 life events</li> <li>- Experienced violence</li> </ul>	Life events related factors: <ul style="list-style-type: none"> <li>- Experienced &gt;1 life events</li> <li>- Experienced violence</li> </ul>	Feeding related factors <ul style="list-style-type: none"> <li>- No initiation of breastfeeding</li> <li>- No breastfeeding at 3 weeks postpartum</li> <li>- Low satisfaction with feeding</li> </ul>
Relationship related experience <ul style="list-style-type: none"> <li>- With the suppose</li> <li>- With the family</li> </ul>	Relationship related experience	Crying related factors <ul style="list-style-type: none"> <li>- Crying meets Wessel criteria</li> <li>- Experiencing crying as excessive</li> <li>- Experiencing difficulties in soothing</li> </ul>
Being single mother	Depression during pregnancy	Sleep related factors: <ul style="list-style-type: none"> <li>- Sleep of mother disturbed</li> </ul>
Lifetime history of depression	Medical complications	Maternal self-efficacy in parenting <ul style="list-style-type: none"> <li>- Low SENR- score</li> </ul>
First parity	Negative pregnancy experience	Social support related factors: <ul style="list-style-type: none"> <li>- Low support partner</li> <li>- Lows support network</li> </ul>

		- Low SS12-I score
Health related factors: - Diabetes	Preterm birth	Health related factors: - Poor current health of the mother
	Delivery related factors: - Complications during delivery - Negative delivery experience - Delivery at home	

*In Table 1 Measured maternal risk factors from the periods before, during and after pregnancy (3)*

All of the risk factors that are essential for triggering PPT are outlined in Table 1. As the table shows, risk factors are significant both before and during pregnancy, not only after delivery(3).

One of the most crucial factors not mentioned in the 2021 review (table 1) is biological, including a history of depression or other mental disorders in the family and genetic loading(5). It could be hereditary if the mother or sister had PPD, the possibility for the woman to have PPD is high (2).

In the study that was conducted in 2014, 1,423 women participated without any risk factors for PPD. The conclusion is that the triggering of PPD is during pregnancy; they saw a 10% increase in the risk of PPD and a significant clinical increase of five-point on the Patient health questionnaire PHQ-9. It was discovered that pregnancy diabetes plays a role in developing PPD(6). As the significantly large figure suggests, gestational diabetes mellitus GDM is an epidemiological condition; the prevalence in the USA is 7.8% and worldwide is 17% (33,34,35,36,37,38). The most recent research indicates that one of the causes of PPD is GDM, which should serve as a strong indication to healthcare practitioners that PPD after birth in moms with GDM needs to be addressed (6).

A large-scale, statewide investigation carried out in Sweden revealed three key characteristics linked to PPD. Women with a history of depression and those who are older than 35 were found to play a significant role in the triggering of PPD, and this is a big indication that the

age of the mother has a significant role in PPD (7). The mother's age must be taken into account when providing medical care to her, particularly if she is a teenager, a very young mother, or over 35 and needs to have a plan in place for PPD following delivery.

The shorter the gestation week was >32, and from 32 to 36 weeks, the higher the risk for PPD emerged. This was another significant component found (7).

### **The underlying mechanism of PPD**

Postpartum depression has a complex pathogenesis that is still being studied. Yet, there is proof that biological elements, including hormones, and genetics, may be involved.

In this thesis, we will mainly focus on the impact of hormones and genetics on PPD.

#### *Hormones*

It has long been known that steroid hormones have a significant role in PPD or depression overall. The quick transition of progesterone and estrogen during pregnancy and after delivery may contribute to the etiology of PPD.

Hormonal withdrawal is one of the possibilities; it has been shown that estradiol levels rise during the third trimester and then sharply fall after delivery, which has led to the belief that it is one of the causes of PPD. The majority of investigations comparing the levels of reproductive hormones in depressed and non-depressed postpartum women have been unable to demonstrate a connection between depression and these hormones. Clinical success with estradiol therapy has largely been ineffective. During late hormone add-back and withdrawal, women with a history of PPD had more severe depression symptoms than women without a history of PPD(2,8,9). There is enough evidence to conclude that alterations in estradiol and progesterone contribute to postpartum mood dysregulation, despite the challenges in synthesising findings from experimental and naturalistic studies of the impact of perinatal hormones on mood(8).

The dysregulation of the hypothalamic-pituitary-adrenal axis HPA axis (a major neuroendocrine system) was hypothesised to have a part in the emergence of PPD in reviews



from earlier years(8). Despite the indications of aberrant HPA axis function, including hypercortisolemia and excessive diurnal cortisol secretion in PPD women.

There was numerous research into the potential significance of the stress hormone cortisol and corticotropin-releasing hormone (CRH) as potential causes of PPD. However, all of the studies came up empty. They failed to provide evidence that cortisol and CHR are one of the factors that trigger PPD(10).

Because of its critical function in the mother-infant bonding process, oxytocin is another hormone-based topic that has researchers intrigued. According to a study done in 2011 by skrunds et.al. it was found that women with oxytocin levels that dropped in the third trimester and an Edinburgh postnatal depression scale EPDS of 10 or above were predicted to have severe PPD within 2 weeks window. The more recent research came to the same conclusion. They also offered the possibility that the change from gestation to postpartum would be a crucial time period for oxytocin predictors of PPD(9,10).

Although multiple studies have failed to show a connection between hormones and PPD, it is still believed that they play an impact factor.

### *Genetic*

The pathophysiology of PPD has also been linked to genetic factors. Given that PPD has a heritability of roughly 50%, genetic variation accounts for 50% of the phenotypic variance observed in PPD (10).

Family and twin studies have provided compelling evidence of the genetic significance of PPD clusters in families. Regardless of the challenges that come with the genetic studies, several well-established studies on PPD genetic markers have discovered some polymorphisms that are also present in nonperinatal depression, such as the Val66Met polymorphism of brain-derived neurotrophic factor. More than 1,200 women participated in genome-wide linkage studies, which revealed genetic differences in the chromosomes 1q21.3-q32.1 and 9p24.3-p22.3, as well as in Hemicentin-1 (HMCN1) gene, which has many estrogen-binding sites. All seem to make PPD more likely to occur. PPD has also been linked to alterations in DNA methylation brought on by estrogens(10,11).

It has been proven through numerous studies over the years that genetics play a significant part in PPD, making it a crucial element that every pregnant woman's healthcare professional must take into consideration.

### **Epidemiology**

In order to discover potential risk factors, develop effective preventive and intervention measurements and understand the prevalence, incidence, and distribution of this mental health issue among new moms, epidemiological research on postpartum depression is essential.

Prevalence rates for PPD differ significantly between high- and low-income nations (12). The WHO estimates that PPD affects 10-15% of new moms. Because of its enormous prevalence, PPD is clearly a significant worldwide health issue that, if left untreated, may occasionally have fatal consequences for the mother and her children (13).

The actual number is probably larger due to a variety of circumstances. The fact that PPD is still frequently misdiagnosed is among the most important ones (5). Taking Sweden as an example, if a woman exhibits PPD symptoms, she is referred by a midwife to a family doctor, who may refer her to a psychological specialist before returning her to the primary care physician. As a result, she does not receive the right diagnosis because she is referred to various health professionals.

Due to economic issues, getting a diagnosis, treatment, and assistance for women is considerably more challenging in low-income nations. Another issue is that healthcare workers frequently lack the resources, including money and knowledge, to recognise PPD. Due to the misconception that being pregnant, giving birth, and being a mother is a joyous experience, many women decide not to ask for assistance out of fear that their partners, families, and society would stigmatise them negatively and label them as unfit mothers.

### **Screening tools**

The following section covers the many screening methods, which are the key component of the prevention of PPD.

For a screening tool to be effective and useful, it must be affordable and simple enough for the woman to comprehend the questions and be able to respond to them. Additionally, they ought to be simple for health professionals to administer and accurate in diagnosing the population that is being screened(14).

Edinburg's postnatal depression scale (EPDS) was introduced in 1987. EPDS is the most used tool around the world in diagnosing PPD. The scale examines mental- state related symptoms rather than somatic symptoms that can be connected to pregnancy and delivery. It takes into account both depression and anxiety symptoms(15). The most widely used thresholds raise test sensitivity while lowering specificity and raising false-positive screening findings (16). Suicidal thoughts, panic attacks, an overwhelming sense of anxiety, anhedonia, melancholy, weariness, sleep problems and tearfulness are only a few of the symptoms that are listed in the self-reported 10-item questionnaire for EPDS. Answering the Questionnaire takes five minutes(5). An elevated score of 10 implies that PPD may exist and that additional investigation is required(15). The Polish midwives significantly reduced the risk of PPD by screening women with EPDS six weeks after giving birth. This successfully illustrated the significance of the EPDS in the evaluation of PPD and prevention of PPD(5).

The 35-item Postpartum Depression Screening Scale (PDSS), which was developed in 2000, takes between 5 and 10 minutes to complete. The surveys assess major depressive disorder (MDD) symptoms as well as other aspects of postpartum depression, which include suicidal thoughts, loss of self-awareness, mental confusion, emotional lability, anxiety or feelings of insecurity, eating/ sleeping problems and shame.

A positive screen for major or minor PPD is defined as a threshold score of 60. In contrast, a positive screen for serious postpartum depression is defined as a threshold score of 80(16).

A self-administered version of a validated tool, the Patient Health Questionnaire (PHQ), was originally released in 1999. Each MDD symptom's frequency during the last two weeks is rated on a scale of 0 to 3 by the PHQ-9. It roughly resembles current diagnostic guidelines. The PHQ-9 was verified in significant samples of female individuals before it was assessed for use during pregnancy and the postpartum period.

A threshold score of 10 out of a possible 27 indicates a screening result of at least mild depression, and a score of 20 suggests severe depression (16).

The Beck Depression Inventory-II was created in 1961 and revised in 1996. There are twenty-one questions in it, and patients must choose which one of four first-person statements best describes how they feel in the moment. Sixty-three total points can be earned, with each item being scored from 0 to 3. The threshold values for mild depression are 14, moderate depression 20, and severe depression 29, respectively (16).

There isn't much proof that one is superior to the other, but because the EPDS and PHQ-9 are simple to use and comprehend, most medical professionals and female patients prefer them. PHQ-9 and EPDS are both accessible online.

It is not advised to screen for PPD in the first two weeks following birth due to the potential for false negative results and the challenge of discriminating between baby blues and PPD. It has been proven that applying screening technologies earlier than later leads to lower sensitivity and specificity.

After childbirth, women who are experiencing PPD symptoms should respond to a questionnaire that speaks to them and articulate their feelings more fully, according to a metaphorical study that was conducted in 2022. Many women who have suffered from PPD provided the eleven metaphors that are being recommended. These eleven metaphors include being stuck, getting slammed with a ton of bricks, having dreams you can't get out of, being a basket case, having cowbs in the brain, feeling worthless, and reaching rock bottom(17). A new questionnaire should be invented by these metaphors as a question so the health care providers can understand the severity of patients PPD.

## **Different diagnosis**

### *Postpartum blues*

Half of all new mothers in the globe experience postpartum blues. Baby blues is a common explanation given by women who describe their postpartum mood changes as moderate and temporary. Less than two weeks may pass from the time it begins to the first four to ten days after delivery (2,18).

The baby blues are characterized by irritability, mixed emotional lability with dread and tearfulness, a sense of being overtaken by new obligations, hypersensitivity to stimuli, a sense of fatigue, and difficulties focusing attention(5).

The primary distinction between baby blues and PPD is that the symptoms have little to no effect on everyday functioning and do not prevent mother-infant attachment(19).

Since there is no treatment for baby blues, it is recommended that the mother's partner and family act as her supporters (5).

PPD and baby blue differ from each other in three key ways, one of which is the length of the depression. The second difference is that the symptoms are considerably less severe than those of PPD, which brings us to the final distinction; Baby blues has little effect on a woman's ability to operate. Baby blues might become PPD if it lasts longer than three months.

### *Postpartum psychosis*

It is estimated that 0.3-0.6% of new mothers experience postpartum psychosis (PPP), a serious but uncommon mental health illness, but it is likely greater due to misdiagnosis. PPP begin to manifest within the first two weeks following delivery and, if left untreated, can persist for months (20,21).

PPP symptoms include mood swings, sleeplessness, severe depression, and constant worries about the child. However, PPP can very quickly progress into manic episodes that include hallucinations, agitation, confusion and delusions, which can have catastrophic repercussions on both the mother and the child and result in suicide or infanticide. PPP is now a psychiatric emergency that needs to be treated right away(20,22).

One of the biggest risk factors for PPP in women is a history of bipolar disorder, and it has been suggested that PPP may act as a trigger for the condition. Additional risk factors include genetics, abrupt drops in postpartum oestrogen levels, and lack of sleep(20,21).

It has been suggested that if a woman experiences depressive episodes during her pregnancy or right after giving birth, her family history of depression, bipolar illness, or postpartum psychosis should be investigated(2).

PPP can result in disastrous effects; hence it is crucial that it be identified early and treated as soon as possible to prevent suicide or harm to the child(21). It is advised that a woman experiencing a manic episode be admitted to the hospital right away(20).

PPP treatments include psychiatric interventions, such as cognitive behavioral therapy CBT, and pharmaceutical ones, like benzodiazepines. Electroconvulsive therapy is one of the suggested alternatives; however, few patients are eager to try it despite its successful track record(20).

Among the actions that can be taken to prevent PPP is the identification of its early symptoms. The second step is recognising and looking into any family history of depression, which leads to the final step of prevention, being seen by a psychiatrist while they are pregnant and coming up with a plan for when the baby is born(20).

### **Consequence of postpartum depression**

Unlike serious depression, PPD has been demonstrated to have a detrimental influence on relationships with partners, family members, and the mother-infant attachment, and the well-being of the infant, which has been shown to have both near and long-lasting impact, in addition to having an adverse effect on the woman's everyday functioning.

In this section, we'll discuss the various consequence of PPD and why early detection and appropriate treatment are crucial.

#### *Maternal impairment*

Numerous researchers have determined that giving birth is a substantial risk factor for triggering serious psychiatric diseases while pregnant and that it is the primary cause of postpartum depression(23).

By receiving the proper care, the majority of PPD mothers recover within a few months. However, according to a 2019 study, 13% of women with PPD still experience symptoms two years after giving birth, and 24% do so after just one year. In addition, women with PPD may disregard their physical health and well-being and engage in dangerous behaviours, including substance misuse, self-harm, or even suicide (2).

One of the areas of a woman with PPD that was affected, according to a systemic evaluation conducted in 2017–2019, was her general psychological health. Women admitted to having low self-esteem, dysphoria, and anger management problems. An additional impact of PPD that was examined in this analysis was anxiety and social relationships(24).

Numerous women reported that PPD had a significant negative impact on their relationship with their partners. They described how they felt their spouse was uncommunicative, cold and distant and how this made them feel less confident in their relationship throughout the first year following childbirth(24).

Suicide is one of the most tragic effects of PPD; it is estimated that 11% of postpartum fatalities are caused by suicide, and it is the primary contributor to maternal mortality(25). The child's life, partnership, and family are severely impacted in the wake of the suicide. Lower mother age, lowest social class, prior psychiatric treatment, anxiety disorders, positive depression screening, and recurrent mood disorders are risk factors for suicide during the postpartum period. Severity, early onset of significant postpartum mental illness, and risk of recurrence after childbirth are associated(26).

Chronic depression and severe mood disorders, particularly bipolar illness, which were more noticeable in the early stages of the postpartum period, are two risk factors that have a major impact on PPD suicide. Recurrent severe mental illnesses, notably depression, were linked to 8% of postpartum suicide attempts in France(26).

A study found that postpartum mothers with anxiety disorders had a nearly seven-fold higher risk of suicide(26).

### *Child consequence*

The detrimental effects of PPD persist throughout the immediate postpartum period into infancy and youth. Women with PPD who are expressing depressed symptoms are less likely to take their children to doctor appointments and utilize home safety devices or put their

infants in the proper sleeping position. The improper usage of car seats, poor methods for putting babies to sleep, and unsafe water heater temperature settings are also linked to PPD. Mothers with PPD are more prone to abuse and neglect their children, endangering a newborn's safety and well-being(8).

The caregiving of newborns is one of the most impacted areas by PPD, and research has shown that this impact is disadvantageous to the infant's life.

Breastfeeding, one of the mother's early interactions with her child, demonstrates one of PPD's earliest effects. In addition to being crucial for a baby's development, breastfeeding fosters a mother-child attachment(8). It was determined in a review from 2014 that mothers with PPD suffered from breastfeeding concerns, challenges, and unfavourable attitudes. Furthermore, it was determined that PPD was linked to shorter breastfeeding length and discussion(27)

We then discuss the following effect on the infant's life caused by shorter nursing or discontinuance. Researchers have connected PPD to children who are underweight and stunted in their first year. Numerous studies have demonstrated that children whose mothers had PPD did not gain as much weight and that their growth throughout the first five years was also impacted(24,28).

PPD was linked to behavioural, cognitive, and health-related repercussions for the developing child, which we shall go into more detail about, according to a 2013 article(8).

The effects of PPD on children and its influence from the first six months after delivery are linked to behavioural issues from early childhood to adolescence, according to Avanes et al.'s 2011 study. The four behavioural types are negative emotionality, positive emotionality, internalising psychopathology, and externalising psychopathology(8).

It has been determined that PPD predicts lower language and IQ development in kids, and this effect is present throughout childhood and adolescence. Furthermore, it was determined how much and for how long the child might have been exposed, and it was also determined that a depressed mother might have overlooked a child's learning and developmental delay(8).



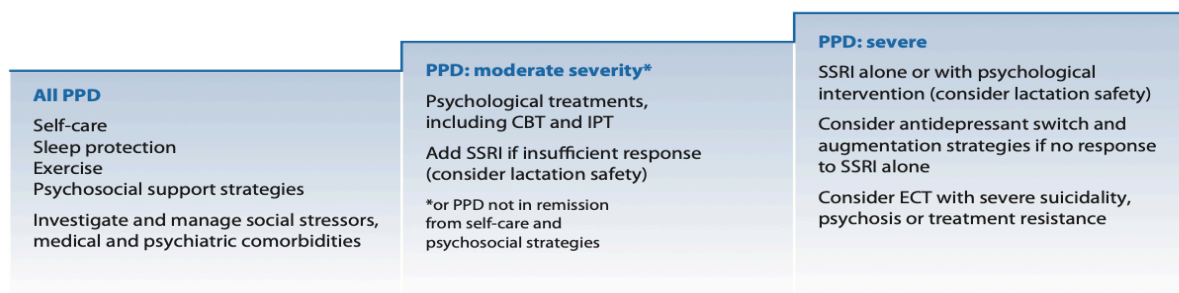
Due to her depression, the mother may neglect or be unable to take the child to well-being examinations, which have been linked in numerous studies between PPD and children's poorer cardiovascular health, increased diarrheal episodes, infant coli infections, and lower respiratory tract infections(8,24).

### Treatment

After a woman has been diagnosed with PPD or has some risk factors during pregnancy, we begin with the appropriate therapy. The ideal approach to PPD management is a thorough and frequently multidisciplinary one (table 2)(2). The primary goal of treatment is to lessen or eliminate PPD's harmful effects, such as suicide, self-harm, and newborn injury.

According to Figure 2, the lady is offered the acquired treatment depending on the woman's PPD severity. Some women solely receive psychotherapy, such as cognitive behaviour therapy CBT or interpersonal therapy IPT, depending on the severity of their PPD and their preferences. The lady is provided both counselling and pharmaceutical treatments, such as selective serotonin reuptake inhibitors SSRI if PPD is severe(2)

It is crucial to remember that treating maternal depression may not alone improve maternal-child interactions and child outcomes, although recent research indicated that CBT, IPT, and antidepressants have a good impact on parental acceptance and attention to newborn and child behaviour(2).



**Figure 2**

Stepped care management of postpartum depression (PPD). Safety of mother and infant should be continually reassessed at each level of care such that emergency services can be initiated if required. Abbreviations: CBT, cognitive behavior therapy; ECT, electroconvulsive therapy; IPT, interpersonal therapy; SSRI, selective serotonin reuptake inhibitor.

### *Psychosocial and psychological interventions*

Due to concerns about its adverse effects on the health of the nursing infant, PPD women prefer psychotherapy to pharmacological intervention. Because of this, a woman with mild to moderate PPD is now first given the choice of psychotherapy (Table 2)(2). The best psychosocial therapy that can be offered to women with PPD has been the subject of numerous studies over the years. The successful ones include CBT and IPT, both of which have been modified for PPD patients(1,2,29,30).

Women are offered various interventions, such as in-person group sessions with other PPD patients, home visits by a midwife or healthcare professional, and internet-based interventions(1,4).

According to cognitive-behavioral therapy CBT, maladaptive cognitions, which appear in various settings as automatic erroneous thought patterns followed by maladaptive behaviours, are responsible for developing and maintaining mental diseases and psychological suffering. Maladaptive cognitions can be changed to relieve symptoms and lessen emotional suffering(31).

With 10 to 20 sessions lasting 12 to 16 weeks, CBT is a time-limited technique that allows patients with severe depression to participate in one session every week. The way CBT has been modified for PPD patients centres on the mother's relationship with her child, ranging from an emphasis on explicit parenting skills and training to a focus on practical aid that a mother might acquire in handling her new role(1).

According to Lewinshn et al., participating in a 12-week group program can help individuals understand how pleasant activities can affect their mood. The program also involves identifying activities that are beneficial for both the mother and baby and recognizing healthy and unhealthy thoughts related to the mother and baby(1).

An organised, time-limited treatment for depression that emphasises interpersonal interactions and functioning is known as interpersonal psychotherapy IPT. It has been demonstrated to be useful for prenatal depression, reducing the amount of time needed to recover and extending remission(31).

The IPT intervention is a multicomponent model of therapy that includes a pretreatment engagement session, eight acute sessions, and maintenance lasting up to six months postpartum(31).

The transition to motherhood, quitting the workforce, and adjusting to new dynamics in the matrimonial relationship as well as with family, friends, and coworkers are some of the challenges that women with PPD deal with. These challenges are at the heart of the IPT approach to PPD treatment. As a result, postpartum depression women typically reaffirm the IPT's fundamental assumptions and see the intervention as pertinent to their presenting issues(1).

There is proof in favour of the use of psychosocial interventions for women with mild PPD, including peer support and nondirective counselling from a trained professional. Because the provider has first-hand experience with the condition, peer support is unique from other psychosocial support techniques. It has been tested in clinical studies that were conducted both physically and remotely, over the phone and, more recently, through e-health technology. Peer support is very well received by women and has the potential to alleviate PPD symptoms by itself. Although it may not be as effective as psychological or pharmacological interventions, nondirective counselling provided by professionals or paraprofessionals may reduce symptoms(2).

Unfortunately, in many researchers, the results have been incomplete because many participants chose not to appear because either they are too occupied with the baby and too exhausted to leave the house Or they are terrified of the negative reactions they might receive from their family and society and are too ashamed to ask for help for their depression and are afraid of the negative backlash they can face from the family and society(4).

### *Pharmacological intervention*

As previously mentioned, due to concerns about the effects antidepressants may have on the health of the fetus and the baby, pregnant women with PPD risk factors and breastfeeding mothers with PPD decline to take antidepressants. As indicated in Table 2, antidepressants are therefore recommended for treatment in patients with severe PPD, frequently in conjunction with CBT or IPT(2,19,29).

SSRIs are the class of antidepressants that have been demonstrated to pass through breastmilk very little or not at all. They are the first line of treatment for PPD depression(2,19).

Compared to other SSRIs, studies have shown sertraline and citalopram to be the most effective and well-tolerated. It has been demonstrated in numerous case studies that breastfeeding moms who were taking these two antidepressants also had healthy newborn blood levels and no short-term side consequences(29).

<i>Medication</i>	<i>American Academy of Pediatrics</i>	<i>American College of Obstetricians and Gynecologists*</i>
<b>Selective serotonin reuptake inhibitors</b>		
Citalopram (Celexa)	NA	L3
Escitalopram (Lexapro)	NA	L3 in older infants
Fluoxetine (Prozac)	Unknown, of concern	L2 in older infants; L3 in neonates
Fluvoxamine	Unknown, of concern	L2
Paroxetine (Paxil)	Unknown, of concern	L2
Sertraline (Zoloft)	Unknown, of concern	L2
<b>Tricyclic antidepressants</b>		
Amitriptyline	Unknown, of concern	L2
Desipramine	Unknown, of concern	L2
Doxepin	Unknown, of concern	L5
Nortriptyline (Pamelor)	Unknown, of concern	L2
<b>Serotonin-norepinephrine reuptake inhibitors</b>		
Duloxetine (Cymbalta)	NA	Not evaluated
Venlafaxine	NA	L3
<b>Other antidepressants</b>		
Bupropion (Wellbutrin)	Unknown, of concern	L3
Trazodone	Unknown, of concern	L2

*NA = risk category not available.*  
*\*—L1 = safest; L2 = safer; L3 = moderately safe; L4 = possibly hazardous; L5 = contraindicated.*  
*Information from reference 62.*

Table 3 Lactation risk of commonly prescribed antidepressants

In Table 3, we can see all the antidepressant medications that can be subscribed to breastfeeding women with PPD(19).

If a patient has had success with a particular SSRI in the past, it is recommended to start with that one. For women who have recently given birth, it's important to be cautious due to the effects of hormones on liver enzymes, drug-binding proteins, and increased distribution volume. Starting with half the typical dosage and gradually increasing may be advised. Conversely, pregnant women often require higher doses of medication due to increased distribution volume. For nursing mothers, it's important to consider the transfer of medication into breast milk(19).

Before giving the woman medical advice or prescribing antidepressants for her, it is crucial to think about, discuss, and take into account the medication's side effects and potential exposure of them through lactation(2).

The woman should be admitted to the hospital immediately, receive same-day psychiatric consultation, and be prescribed antidepressant and antipsychotic medications as an emergency treatment if she has suicidal thoughts, thoughts of harming her child, or experiences a psychotic episode(19).

### **Prevention**

The automated conduct of routine examinations for the purpose of identifying depressive symptoms should be mandated for all expectant mothers. The EPDS or PHQ-9 should be utilised as a screening instrument. This questionnaire should be available for the patient in the obstetrician gynecologist, family physician, and midwife's offices(1,5).

Midwives, obstetrician gynecologists, or any other medical professionals who treat the lady throughout her pregnancy and the postpartum period should conduct a comprehensive examination to determine whether she has a history of mental illness or whether it runs in her family. Any potential postpartum depression risk factors should be examined(1,5).

The best prevention tool for postpartum depression is such as screening tools, Edinburgh postnatal depression scale EPDS, the postpartum depression screening scale PDSS, and the patient health questionnaire PHQ-9.

A multidisciplinary team of healthcare providers can offer an early treatment plan by employing the screening tool while pregnant, such as a midwife or obstetrician gynecologist. If a qualified psychiatrist is required, the woman should be referred to them for the psychological assistance they require(1,5).

Once a woman has been diagnosed with PPD, the best treatment option should be made available to her. The first line of treatment for a breastfeeding woman with mild to moderate PPD should be psychotherapy, either CBT or IPT, which can be provided in person, in a group setting, or online. Pharmacological therapy, such as serotonin, should be made available to a woman with severe PPD. However, she should be aware of any potential negative effects it might have on her, the fetus, and her child through breast milk(1,5).

If a pregnant woman has the risk factors but doesn't exhibit any symptoms of depression, she should regularly go through the screening process(5).

The woman's vulnerability, family situation, housing situation, relationship with her partner, and whether or not she has any domestic support systems, such as grandparents, sister, or friends, should all be known to the woman's healthcare providers during pregnancy and the postpartum period. This will give the healthcare professionals the knowledge they need to be able to assist the patient after delivery and in her PPD struggle(1,5).

The prognosis for the health of women, children, and the entire family is improved by early screening, recognition, and treatment of PPD; this also averts the terrible effects of PPD, particularly self-harm or injury to the child when suicidal thoughts are present. Additionally, it shields the offspring of a PPD mother from developing chronic health issues(5). Numerous reviews have established that a variety of interventions may be effective in preventing PPD; during the first six months, it has been demonstrated that there is an approximate 27% decrease in the prevalence of depressive episodes and a decrease in depressive symptoms(32).

It can be seen from Table 4 that different countries have different recommendation guidelines for the prevention of PPD, which are available to healthcare professionals. The recommendations give the professionals the best prevention tools to prevent PPD or reduce its impact on the woman, child, and family(5).

Table 4. Recommendation guidelines for the prevention of PPD (5)

Organization	Recommendation
U.S. Preventive Services Task Force (USPSTF), 2016 [44]	Recommends routine screening of adult populations and pregnant and postpartum women. At the same time, it indicates the need to provide the examined person with access to further care and coordinated treatment.
American Psychiatric Association (APA), 2010 [10] American College of Obstetricians and Gynecologists (ACOG), 2007 [45]	Recommends a routine screening for PPD during a follow-up gynecological visit 4–6 weeks after childbirth. The patient during pregnancy should be educated about possible complications associated with PPD. Patients with baby blues symptoms require special monitoring and evaluation of depressive symptoms.
American Academy of Pediatrics Bright Futures (AAP), 2010 [46]	The role of the pediatrician as the key to ensuring health for the whole family, the mother's mental problems directly affect the child's development. The guidelines recommend that pediatricians should routinely assess the presence of depression in women who come to visit with their children.
American College of Nurse-Midwives, 2003 [47]	As a routine part of the care of a patient during pregnancy and after childbirth, it is recommended to screen for PPD.
National Institute for Health and Care Excellence (NICE), 2014 [48]	Recommends routine assessment for depressive symptoms in every woman in the perinatal period using standardized screening tools. This examination should be performed at least twice (at the first visit during pregnancy and during the first year after birth). NICE recommends a set of two initial "Whooley questions". If a woman answers positively to any of the two questions, or is at risk of mental illness, or if her clinical history indicates depression, a full assessment of her mental condition using EPDS or PHQ-9 screening tools or referral for further treatment (family doctor or specialist psychiatrist) is recommended. It also recommends asking woman about the history of alcohol and drug addictions.
Scottish Intercollegiate Guidelines Network (SIGN), 2012 [15]	Recommends a minimum of three assessments (during the first visit in pregnancy, 4–6 weeks and 3–4 months after the childbirth). In addition, it is advisable to add an interview for affective disorders, and in the case of a positive interview, a screening for depression at each visit. Same as NICE, SIGN recommends a set of two initial questions for screening and, if further evaluation is needed, use the EPDS scale.
Beyondblue, Guideline for Primary Care Health Professionals, 2011 [49]	Recommends using the EPDS questionnaire to examine all pregnant and postpartum women for depression as part of an assessment for the occurrence of depressive and anxiety symptoms. Screening should be performed between 6 and 12 weeks after childbirth during the follow-up visit. A score of 13 or more may be interpreted as postpartum depression.
American Psychiatric Association (APA), 2010 [10]	Recommended non-pharmacological interventions include CBT and interpersonal therapy. The risk of potential exposure of the child to the drug should be taken into account when deciding whether to use pharmacological treatment during breast-feeding.
National Institute for Health and Care Excellence (NICE), 2014 [48]	Recommends a stepwise approach to treatment model (does not apply to women with a severe disease episode, which should be immediately referred to specialist psychiatric care). Mild to moderate PPD can be successfully treated at the level of primary care. NICE also emphasizes that a comprehensive appointment and treatment plan should be prepared for women with already diagnosed mental illness.
Scottish Intercollegiate Guidelines Network (SIGN), 2012 [15]	CBT therapy should be considered in women with mild to moderate PPD. Both SSRIs and tricyclic antidepressants may be recommended for the treatment of moderate to severe episodes of postpartum depression, after careful assessment of the risk to the breast-fed child.
Beyondblue, Guideline for Primary Care Health Professionals, 2011 [49]	Recommended non-pharmacological interventions include: psychological support, CBT therapy, interpersonal therapy and psychodynamic therapy. When deciding whether to use pharmacological treatment during breastfeeding, the risks arising from the child's potential exposure to the drug should be taken into account.

In the midwives' and obstetricians' offices in Lithuania, the PHQ-9 questionnaire is given to all new mothers. The government has instructed midwives and officials to direct new mothers to the website [pagalbasu.lt](http://pagalbasu.lt), where they have compiled information regarding PPD, the symptoms, and whom to contact if they require assistance.

### Recommendation to family and staff

- It is important to inform all women about PPD and the symptoms to watch out for, as well as their spouses.

- They should be informed about the signs of psychosis.
- They should be made aware of where to go for assistance and who to call in an emergency.
- International standards for PPD prevention and care should be established.
- There should be national standards and recommendations for the prevention and management of PPD.
- There should be criteria for identifying PPD and postpartum psychosis in every emergency room and psychiatry emergency room.
- Explain infant behavioural sleep to the mother and educate her about it. If a baby can sleep, the mother can sleep as well.
- The main obstacle to reaching patients with PPD and treating them is the guilt that many women experience, especially because they are frightened of being judged by society, their spouses, and their families. They choose not to seek assistance, so there must be widespread education about PPD, its effects, and the reasons it is crucial to talk about it in order to encourage mothers to do the same.
- Home visits should be more common.
- Rather than creating a questionnaire from an MDD questionnaire, more aquert questionnaires specifically for PPD should be created, allowing women to express how they feel.

### **Conclusion**

Women who have given birth are susceptible to postpartum depression, a severe mental illness. PPD can have disastrous effects on a woman's life, as well as on her child's life and her relationship with her partner. It can also have a long-lasting detrimental effect on the child's life.

The significance of early detection is that it provides the appropriate treatment, whether it be phycological treatment or medication, by employing several screening techniques throughout pregnancy and taking into account the risk factors. The most tragic untreated effects of PPD can be prevented, including suicide, self-harm, and injury to children. We can protect the health and future prospects of families, women, and children by acting quickly.



The correct information must be provided to society since PPD frequently goes undetected and untreated despite its high prevalence and potentially disastrous consequences. It is important to educate and enlighten expectant mothers, their partners, and their families about PPD, postpartum psychosis, and the effects of untreated PPD.

The optimal treatment, risk factors, and new screening techniques that better capture the experiences of a PPD woman in-depth need to be the subject of additional research.

More research should be done to understand the underlying mechanism of PPD, especially the genetic aspect.

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