Review Article

Perspective of Postpartum Depression Theories: A Narrative Literature Review

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Abstract

Postpartum depression is the most prevalent emotional problem during a women's lifespan. Untreated postpartum depression may lead to several consequences such as child, infant, fetal, and maternal effects. The main purpose of this article is to briefly describe different theoretical perspectives of postpartum depression. A literature search was conducted in Psych Info, PubMed, and Science Direct between 1950 and 2015. Additional articles and book chapters were referenced from these sources. Different theories were suggested for developing postpartum depression. Three theories, namely, biological, psychosocial, and evolutionary were discussed. One theory or combinations of psychosocial, biological, and evolutionary theories were considered for postpartum depression. The most important factor that makes clinicians' choice of intervention is their theoretical perspectives. Healthcare providers and physicians should help women to make informed choices regarding their treatment based on related theories.

Keywords: Depression, mental health, postpartum, theory

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Introduction

The postpartum period is recognized as the time when many women are vulnerable to a variety of emotional symptoms.[1] The most prevalent mental or emotional problem associated with childbirth is postpartum depression (PPD).[2,3] A latest review reported its prevalence to be 1.9 to 82.1% and 5.2 to 74.0% in developing and developed countries, respectively, using a self-reported questionnaire. Its prevalence has also been reported to vary from 0.1 to 26.3% using a structured clinical interview.[4]

Given that PPD is one of the psychiatric conditions that is amenable to treatment, early recognition is a significant task for all physicians who are working with women during prenatal and postnatal period and can help them in providing treatment plans to reduce their distress.[5,6]

Despite scholars' efforts, the etiology of depression after birth is inconsistent and unknown.[7,8] Numerous etiologies have been suggested; however, no single hypothesis can elucidate this phenomenon.[7,9]

Because there is no single etiology for developing PPD, a single modality could not be effective for treatment of all women. Some scholars affirm that theoretical

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perspectives should be evaluated before taking a decision regarding treatment options. This article is a review of the possible theories proposed for PPD.

Biological Theories

Beck (2002) stressed that one of the theoretical bases of PPD is the medical model which is considered as an illness as well as a medical condition. It is also a personal pathological mood disorder which is not considered to be a result of social or environmental conditions. From this point of view, women are passive individuals in the medical model who are under influence of biological factors.[10] They suffer more from depression episodes around particular periods during their lifespan.[11]

Different theories exist regarding pathophysiological hormonal effects on PPD including the withdrawal theory,[12] interaction among the hypothalamic–pituitary–gonadal system and the hypothalamic–pituitary–adrenal system (HPA),[13,14] and change in the levels of gonadal hormones.[15]

In the prenatal period, HPA axis and women's reproductive system changes with strong interaction between them. It is possible that the HPA axis functions differently in women who are susceptible to depression through the suppression of corticotrophin-releasing hormone (CRH) during postpartum period in the hormonal pathway for affective disorders.[16,17] On the other hand, other studies have demonstrated that CRH suppression does not correlate with mood fluctuation, and therefore the HPA axis in the physiology of PPD is possibly not well-founded.[18]

Hormones such as estrogen, progesterone, beta-endorphin, human chorionic gonadotrophin, and cortisol increase during pregnancy and significantly drop after birth.[12,19] Quick shifts in hormones, such as estrogen in the puerperium, changes the levels of these hormones either too high or too low leading to PPD.[6] Moreover, a sharp decline in reproductive hormone levels that occurs after delivery is assumed to be the main cause of PPD in women by some researchers.[6,13] This modification is said to be a trigger for changes in the peripheral and central monoamine centers.[12,20] Sudden withdrawal of these hormones could be a trigger of depression and women with a history of PPD may respond differently and more sensitively to sudden decrease of plasma levels of gonadal steroids.[12]

Reduced estradiol plasma levels with depressed group in contrast with the control group was reported.[13] Estrogen and progesterone have an effect on neurotransmitters which are involved in the emotional and cognitive processes.[12] The function of estrogen is to keep serotonin stable in order to keep more transmitters in the brain. Furthermore, estrogen has an influence on adrenaline, norepinephrine, and serotonin receptors. The latter interaction could be due to antidepressant function and depression.[21] Moreover, neuropeptides have various roles in physiological and behavioral parts of the cerebral nervous system (CNS).[22] Levels of estrogen decrease prior to menstruation, after delivery, and during menopause. In addition, gonadal hormones keep the rate of depression down during pregnancy.[23] This effect manifests itself during the last trimester of pregnancy. Within a few days after childbirth, gonadal hormones decrease markedly, which demonstrates a probable correlation with an unexpected increase in the development of nonpsychotic and psychotic mental illness.[23,24] However, other research findings did not find hypogonadal levels of estrogen and progesterone to be a risk factor for PPD.[25]

It has been also suggested that the serotonin (5HT) system has a significant role in prenatal and postnatal depression because depressed mothers respond well to serotonergic antidepressants.[26] According to this study results, 5HT1A serotonin receptor binding decreased from 20 to 28% in the depressed group in comparison with the control group.[26]

Even though, many scholars have concluded that physiological fluctuations are the causes of PPD, hormonal cause for the PPD is not supported consistently by the literature.[6] While the genetic basis of varying sensitiveness to gonadal steroids remains unclear, genetic polymorphisms in genes that regulate reproductive hormones may make some women susceptible to mood disorders.[24]

A correlation between personality and genetic factors such as Cytochrome P4502D6 (CYP2D6) has been demonstrated.[27,28] The presentation of CYP2D6 is prevalent under the genetic control.[29] The rate of CYP2D6 metabolism in pregnant and postpartum depressed mothers was more than anticipated in a general population.[29]

To sum up, the previous studies did not reach a unified conclusion. It appears that an internal abnormal reaction to hormonal changes contributes to PPD.[20]

Psychosocial Theory

Specific neurophysiological and neurochemical changes in the brain are triggered by psychosocial stressors and interpersonal events that significantly change the neurotransmitter balance. It is considered that

depression is related with psychosocial stressors, as described below.[30]

Psychodynamic theory

The psychodynamic point of view supports the idea that some unfinished business in women's childhood or family may cause more psychological troubles after birth.[31] Women have a tendency to imitate their own mother's role as soon as they become mother after birth, however, if there is a rejection in accepting their own mother's role, they have trouble coping or adapting to their new role of motherhood.[30] The outcome of the mother's role conflict can lead to rejecting the female identity as well as threaten her feminism.[30] Some experts have also noted that childbirth results in loss of their identity and leads to withdrawal of love, affection, and loss of independence.[31,32] Moreover, family's negative attitude affects women's well-being and results in the maladjustment of coping mechanisms.[31]

Cognitive psychology theory

The cognitive approach instead of postulating internal conflicts in psychodynamic theory emphasizes certain characteristics of personality which predispose new mothers to PPD. It is the unrealistic expectation of childbirth and motherhood which may cause mothers to be anxious, controlling, perfectionist, and exhibit compulsive tendencies.[33] Beck (1967) postulated that depressed mood is the result of thought disturbances.[34] Pessimism toward oneself, the world, and the future contributes to a depressive mood.[31,33,35] In addition, in the absence of suitable role models, the woman feels loss of control and anxiety resulting in a lack of a capability to cope with infant's demands and care.[31]

Social and interpersonal theory

Egeline (2008) contends that environment plays a significant role in an individual's life.[36] Attachment theory says that interpersonal struggles in an individual's life have significant influences on mental health. It is obvious that an individual requires affection which needs to be fulfilled in the initial stage of a relationship. Uncertainties concerning a relationship may result to disappointment and bring about depression and anxiety.[37] A number of interpersonal factors play a role in women's distress and sensitivity makes them prone to develop postpartum disorders. These include insufficient social support and marital conflicts.[38] Childbirth is a significant transitional event in life and support at this stage can potentially affect women's mental status after delivery.[39] Sudden psychosocial fluctuations within motherhood and its challenges coupled with stresses could be other factors that may trigger PPD.[20]

Behavioral theory

According to the behavioral theory, depressive episode can result from major life events that disrupt an individual's normal support pattern.[40] Life stressors and psychological problems such as parent's divorce, low parental emotional support, mother–daughter conflict, and self-esteem are predictors of PPD.[38]

The theory of operant condition paradigm claims that depression is a consequence of a decrease in the positive efficient reinforced behavior and could be a sign of obvious punishment for nonconformant behavior. It is also the result of a decrease in the accessibility of reinforcement events, personal ability to maneuver the environment, the impact of variety of events, or a combination of the above. Moreover, a negative feedback of social reinforcement behaviors may result from unavailability of support from family and other social networks such as social withdrawal. However, a low rate of positive reinforcement for mood-enhancing behavior and high rate of positive reinforcement for depressive behavior may be experienced by people who experience major stress originating from unexpected events.[40]

Evolutionary theory

Scholars have suggested relevant adaptive functions for PPD which are consistent with ideas of evolutionary theorists. Usually the women experiences negative effects such as gloomy and depressed mood due to problems concerning the infant, marital problems, and lack of social support associated with the social and family environment. Some women, who suffer from major PPD and with symptoms such as psychomotor retardation, weight loss, loss of interest in activities, lack of concentration, and constant suicidal thoughts may sometimes not seek social support. Moreover, actions that women take to reduce these psychological problems predispose her to PPD.[41]

From an evolutionary perspective, there are situations when it would be in the women's best interest to decrease her investment for a baby, for instance when there is a lack of sufficient social support to raise the newborn or when the child has a problem.[31,41]

According to evolutionary theorists, PPD results from an adaptive function that signals a potential fitness cost to the mother. Thus, PPD is not a dysfunction but rather an adaptive mechanism. It signals a mother who has suffered a social cost motivating her to evaluate whether to continue to or cease to provide care to her offspring. From this viewpoint, PPD is a universal phenomenon that appears in women around the world. As a result, in societies that give rise to the circumstances, its prevalence is reduced.[42]

Summary

There is no common consensus among theorists regarding the nature of PPD. Three theoretical perspectives on PPD have been reviewed in this paper. One theory or combination of theories may be suspected for a postpartum depressed woman. Biological theory, such as physiological fluctuations of hormones, psychosocial theory, such as interpersonal struggles in an individual's life, and finally evolutionary theory that suggests adaptive functions as a model for PPD were discussed.

The most important factor that affects health care providers and clinicians' choice of intervention (prevention or treatment) is their theoretical perspectives on PPD.[10] In some cases, combination of these theories may be applied. For example, antidepressant therapy (medical model) along with psychotherapy (psychosocial model) may be employed for treatment. Healthcare providers should inform depressed women about the range of treatment approaches available that are set based on appropriate theories and help them to make informed choices regarding their treatment.

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