

Neuropsychology of Expectant Mothers

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Received date: **May 22, 2021**; Accepted date: **June 18, 2021**; Published date: **June 22, 2021**

Citation: P D Gupta. (2021) Neuropsychology of Expectant Mothers. *Journal of Clinical Surgery and Research*. 2(3); DOI: [10.31579/2768-2757/017](https://doi.org/10.31579/2768-2757/017)

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Abstract

Pregnancy is a special event in woman's life; during this time period and sometimes after child birth, not only her lifestyle changes, but her physiology, endocrinology and neuropsychology also changes. Because of all these, her body structure and nutritional status along with her likings and dislikings and behaviour patterns also changes.

Keywords: neuropsychology; steroids; child; bellies; growing; cognition

Introduction

Pregnancy is a physiological phase in woman's life during this time there are dramatic changes to occur in the body of all expectant mothers. Many hormones specially sex steroids are surging, the pituitary gland increases in size [1], bellies are growing, ankles are swelling [2]. During this phase especially first time pregnancy many of her systems change to adopt a new way of life. The purpose of being a mother is to love, protect, care for, and support. A mother's love is unconditional, supporting her child through all situations. There is also a growing body of scientific research into the biological shifts that occur in a woman during pregnancy and new motherhood. A woman's brain changes more quickly and more drastically during pregnancy and the postpartum period than at any other point in her life even at puberty. In 2016, European researchers found that first-time mothers had decreased gray matter in the cerebral cortexes of their brains, and that those changes last for at least two years [3]. During second pregnancy the symptoms might be different from first pregnancy, but they could also be identical. The brain structure may be the same but emotions and anxieties are different.

Grey matter contains most of the brain's neuronal cell bodies. The grey matter includes regions of the brain involved in muscle control, and sensory perception such as seeing and hearing, memory, emotions, speech, decision making, and self-control. These cells are responsible for the movement of muscles. Researchers say women lose some gray matter while they're pregnant, but their brains also become more efficient and strengthen women's feelings of attachment. Yvonne Butler Tobah, obstetrician and gynecologist at Mayo Clinic in Rochester, Minn., said a year postpartum usually resets body back to normal. And those brain changes might herald some of the most stereotypically frustrating side effects of giving birth, like that period of forgetfulness during new motherhood, otherwise known as "mommy brain," and the major mood changes that accompany pregnancy [4-8].

In addition to reversible changes there are a few changes that can be permanent for example, a woman's face, areolas, stomach and moles often

darken during pregnancy, and might stay that way.

But the effect of pregnancy on the maternal brain as a whole is not known. The brain decreases in size during pregnancy and increases in size after delivery. The changes follow a consistent time course in each woman. The mechanism and physiologic importance of these findings are speculative at the present time. Dr. Hoekzema [7, 8] says these same areas of the brain also lit up when mothers looked at their infants, suggesting that synaptic pruning might even promote mother-baby bonding. Such brain changes were consistent across all new moms, even if they had different life experiences.

Thus, the onset of maternal motivation involves basic mechanisms from genetic expression profiles, to hormone release, to hormone-neuron interactions, all of which fundamentally change the neural architecture. Plasticity in the maternal hippocampus during pregnancy, the postpartum period and well into aging as it pertains to changes in cognition. The far-reaching effects of reproduction on the female nervous system provide an opportunity to investigate neuroplasticity and behavioral flexibility in a natural mammalian model [9].

After the birth of the baby

Drops in estrogen, progesterone, and hormones produced by the thyroid gland can result in unexplained crying and feelings of sadness, anxiety or irritability. A study now hints that new mothers become more agreeable and extroverted, and new fathers become a little less extroverted, but more conscientious. Oxytocin also increases as women look at their babies, or hear their babies' coos and cries, or snuggle with their babies. The changes in a mother's brain that happen in response to a baby crying affect the parts of her brain that prompt her to move and speak, to process sounds, and to be a caregiver. Essentially, they help her do all the things necessary to take care of an infant [10].

Mum's first 24 hours after birth

After a normal vaginal birth, How one would feel after the birth varies

may be elated, exhausted, emotionally drained or all of them at once. This is normal. Soon, normally a small amount colostrum to feed the baby is produced. The baby will have their first breastfeed. Postpartum depression is a serious medical condition and type of depression that affects some new moms after giving birth to their babies.

When does postpartum depression start?

Postpartum depression (PPD) can start anytime within the first year of giving birth. Most commonly, it begins between a week to a month after delivery, but it can also be the continuation of an episode that started before or during pregnancy. But every case of depression, including PPD, doesn't necessarily include thoughts of self-harm or suicide. Symptoms of postpartum depression can include either, Crying, Irritability, Disrupted sleep — either not being able to sleep or wanting to sleep the day away, Eating problems, such as no appetite or an excessive one, Persistent feelings of sadness, hopelessness or helplessness, Severe anxiety, Problems doing tasks at home or work, Loss of interest in activities you used to enjoy, Social isolation — feeling withdrawn or unconnected, Feelings of worthlessness and of being a bad mother, Inability to care for yourself or your baby, Worrying excessively about your baby's health, Having scary or obsessive thoughts about your baby, Having negative feelings toward or little interest in your baby, or Fear of being alone with your baby [11]. Depending on conditions, previous history and family relations one or many symptoms together may occur in the individual

Even if you see these symptoms in yourself, one symptom of depression is self-doubt — so you may question whether your feelings are related to stress, the baby blues, postpartum depression or simply tiredness due to new motherhood.

What causes postpartum depression?

The causes of postpartum depression are unknown. It's believed that hormonal changes that happen after childbirth may trigger symptoms. A prior history of depression, including postpartum depression, is a major risk factor. And stopping an effective depression medication puts women at risk for relapse. Selective serotonin reuptake inhibitors (SSRIs), such as sertraline, paroxetine, fluoxetine, citalopram and escitalopram, are usually the first choice of medications [11].

Nearly 30 percent of women who suffer from postpartum depression may also exhibit signs of postpartum obsessive-compulsive disorder (OCD), though OCD can occur by itself. Symptoms include obsessive-

compulsive behaviors, such as waking up every 15 minutes to make sure baby is still breathing, furious housecleaning or obsessive thoughts about harming the baby.

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DOI: [10.31579/2768-2757/017](https://doi.org/10.31579/2768-2757/017)

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