

This Is Your Brain On Motherhood: What To Expect Post Pregnancy



Major milestones in life bring major changes and shifts. During these periods of change, the ability to adapt and adjust proves to be an important one.

These adaptability skills have been ingrained in humans since the dawn of time, ensuring our survival and the continuation of our species. Thousands of years later, not much has changed. As a species, we still learn to roll with the punches, no matter how unexpected the hits may be.

That being said, one of the most altering experiences a person can have in their lifetime is the moment they become a parent. With a new life to tend for, mom and dad will have their hands full for the next few years.

Even before the wee one makes their big debut, a mother-to-be can expect to see changes in her body, her environment, and even in her mind. Just as parents prepare their homes for the arrival of a baby, a woman's body must

also adapt to the big change that's on the horizon. Newborns consume the majority of a parent's time and energy, so it's no surprise that a person's mind is forced to adapt.

While the changes in a woman's body during pregnancy and motherhood can be drastic, they are also expected. Just like their mothers before them, women are taught and told all the ways to care for their babies after pregnancy. What some moms-to-be don't expect is the major emotional changes, which are often neurological in nature.

As new moms adjust to the responsibility of caring for a tiny human, certain regions in the brain see an increase in activity. These regions control certain functions, such as empathy, social interaction, and stress.

Postpartum, a woman's body is flowing with a cocktail of hormones. This, combined with such increases in brain activity serve to ensure mother and child solidify a concrete bond. □□Another region of the brain, called the amygdala, helps the mind process fear, aggression, and interpreting threats.

After giving birth, this part of the brain also sees an increase in activity. Researchers found that while this sensitivity to anxiety and perceived threats in the postpartum period once served an evolutionary purpose, it also may be linked to irrational decision making in women who experience postpartum depression.



The amygdala also functions by encouraging mothers to put their baby's needs above the needs of other babies. The amygdala is a hot spot for hormones as it carries a high concentration of receptors for hormones such as oxytocin.

Oxytocin increases during pregnancy and after birth and surges when a woman looks or interacts with her newborn. That is why bonding experiences, such as breastfeeding, can play a crucial role in helping mothers be sensitive to their baby's needs. Many researchers indicate that the feelings experienced when falling in love and the feelings experienced when you become a parent are almost identical.

Where research lacks is in brain development and changes in the many years after birth. There is no conclusive evidence about whether or not a woman's brain returns to the same functionality that was experienced before childbirth and pregnancy.

Many mothers refer to something called 'maternal instinct'. That inner voice isn't just a voice after all, but guiding emotions and feelings that can help moms make the right choices for their newborns. An understanding of these emotions is crucial for understanding conditions such as Postpartum

Depression or Postpartum Psychosis.

The Centre for Disease Control estimates that 1 in 9 women experience postpartum depression. And although new moms absorb parenting information from a variety of sources, these sources often lack content regarding postpartum mental health. Understanding these emotions is also important in the study of Obsessive-Compulsive behavior in new moms.

A recent study conducted at Northwestern University found that 11% of women reported experiencing obsessions and compulsions two weeks after delivery. This figure stands in stark contrast to the two to three percent of obsessive-compulsive behaviors found in the general public. These behaviors can range from compulsively washing one's hands, or obsessively monitoring a baby's breathing

After all, a mother's main focus after giving birth is the safety and wellbeing of her child. Interestingly, one notable, and documented change in women's neurological makeup after childbirth is a heightened concern towards men.

This echoes back to the increased activity in the region of the brain that perceives threats and interprets aggression. While this may seem instinctual, it should be noted that homicide is the leading cause of death in pregnant women in the United States.

While some of these emotions can trigger negative experiences for new moms, they can also serve to bring happiness and joy, as babies do. Researchers have found that simply looking at your own baby can activate the 'reward center' of the brain and can be a powerful catapult for human response.

Brain scans performed on first-time mothers before pregnancy and postpartum found gray matter changes in regions that become activated when interacting with their child. This 'reward center' of the brain produced such clear results, the computer algorithm used could identify the participants that had been pregnant. This significant change over a period of at least two years helps women easily transition into motherhood.



Some women experience a complete neurological makeover during pregnancy and the early weeks of their child's life. Some of these changes can have an effect on a woman's cognitive abilities. A study tested mothers on cognitive memory skills, with simple word tasks conducted before pregnancy, and after pregnancy.

While no significant differences were found, some results may explain why some women experience "mommy brain", or slight memory loss, after giving birth. This may be linked to a slight shrink in the brain, but it should be noted that the study found that the brain returned to a normal size approximately 24 weeks postpartum.

In contrast, while there is a common stereotype that women are natural multitaskers, this ability may become heightened during pregnancy when the woman's pre-frontal cortex supercharges due to hormones.

While some of these changes in a woman's mind and body may seem foreign at the time of pregnancy, many of these shifts mimic those experienced during puberty. If you can bring yourself to recall the confusing period of puberty, you can imagine how you'd feel if you added a newborn into the mix.

This link is in part due to the surge of progesterone and estrogen, the sex hormones. During their teenage years, boys and girls see a reduction in gray matter that seeks to sculpt and mold their brains in preparation for adulthood, by eliminating unnecessary processes and functions. Researchers have found similar finds in pregnant women, though it's not clear yet if this is necessarily a bad thing.

As the needs of the child become prioritized, the functioning of the brain becomes more specialized in order to meet these needs.□□ Unfortunately, little research that has been conducted on how a woman's brain adapts to pregnancy and motherhood, meaning there is much more to be studied.

Many of the observations noticed above were only found after a short study period of two years. Beyond this time frame, there is inconclusive evidence about how a woman's brain continues to adapt as their child ages and begins to explore the world on their own.

Until then, understanding the inner workings of a woman's brain during motherhood plays an essential role in analyzing how mother and child form an inseparable bond. Changes in regions of the brain that control certain functions such as empathy or anxiety can explain why new mothers may choose to raise their child in a certain way.

What is important to understand, however, is the concept that the choice one mom makes for her child may stand in contrast to the choices of other new moms. This adaptive nature, or maternal instinct, once ensured the survival of both mother and child at its most basic level.

As society has evolved, parenting techniques have been developed and shared among new parents, but that basic instinct still underlines the choices made in the early stages of a child's life.□□ In the age of oversharing, it can be sinisterly easy to compare one's parenting styles with that of another parent's.

Everyone has an opinion, and they aren't afraid to share them. New parents might catch themselves wondering, 'Am I doing this right?'. Fortunately, there is no right or wrong way to be a parent.

And while new parents can read every book in the library or blog on the

internet about motherhood and children, nothing can prepare them for the joyous moment when they welcome their new baby into the world. From that moment, a mother's life, and brain are forever changed.