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Perspective

Factors Involved in Fetal Programming

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DESCRIPTION

Prenatal programming, also known as fetal programming, is a theory that contends specific occurrences during key stages of pregnancy may have long-lasting impacts on the baby and the new-born. The fetal origins hypothesis, which contends that poor fetal growth results from under nutrition in the womb during the middle to late pregnancy, predisposes individuals to specific diseases as adults, is where the idea of fetal programming originated. Researchers have examined how prenatal programming affects a variety of characteristics, such as maternal worry or violence during pregnancy, in addition to its effects on nutrition. The concept of "fetal programming" opened up a new field of study into the origins of illness development, emphasizing the importance of the uterine environment in the growth of a healthy human intrauterine growth limitation results from inadequate nutrition throughout pregnancy. Inadequate diet during pregnancy or placental insufficiency as a result of preeclampsia or hypertension can lead to an inadequate supply of nutrients necessary for growth.

Under dietary

Intrauterine under nutrition triggers adaptive mechanisms that permit optimum resource management by contributing nutrients sparingly and only to vital organs (brain, heart). These life-saving changes consequently limit growth and harm the growth and functionality of other organs.

Nutrients and trace elements

Micro-, macro-, and vitamin deficiencies and surpluses can cause intrauterine programming. Low levels of zinc and vitamin B12 in a pregnant woman's blood serum are conducive to the baby developing insulin resistance later in life. A high folic acid intake can make children more likely to accumulate fat and develop insulin resistance, whereas a low iron intake during pregnancy increases the risk of low both low birth weight and adult hypertension.

Dairy fat content

There is no known treatment for Jacobsen syndrome; instead, each patient's specific indications and symptoms are addressed. The coordinated efforts of a group of different professionals may be necessary throughout treatment. Regular monitoring is needed for those with thrombocytopenia, or low platelet counts. There may be a need for blood or platelet transfusions before or during operations many drugs can be used to treat the consequences of various congenital cardiac defects. Surgery may be necessary to correct some of the abnormalities of the condition.

Protein ingestion

When compared to milk from other species, human milk has softer curdling properties both *in vitro* and *in vivo*, which have been attributed to its lower protein content, lower casein-to-whey-protein ratio, and higher -casein-to-s-casein ratio. Horse and donkey milk, in contrast to cattle milk, is expected to form soft or fragile curds in the stomach because of their reduced casein concentration. Horse and donkey milk is known to form very weak or fragile gels (or curds or flocs) when acidified or treated with rennet. However, none of the non-human milk matches the composition of human milk.

CONCLUSION

Because different organs have different "critical moments" in their development and the outcome of an long-term fetal nutritional programming depend not only on the disturbance of normal intrauterine settings but also on the exact moment this disruption occurs. Pregnant women must be educated about proper nutrition and lifestyle choices to prevent the onset of chronic diseases. Future moms must also be made aware of the potentially harmful effects of a poor diet on their children's health.

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