COGNITIVE CONSEQUENCES OF PRENATAL ALCOHOL EXPOSURE

Although we are becoming increasingly knowledgeable about the signs of fetal alcohol exposure (FAE), there are as yet no specific, unique markers that can be used to detect whether a person was exposed to alcohol in the womb, unless physical signs are present. This means that thousands of children with FAE fail to be diagnosed every year.

A group of researchers therefore took on the task of setting a range of neurocognitive and neurobehavioural symptoms that could be linked to FAE and are likely to be present in affected individuals. They studied a sample of 500 children born to women, for the most part, had significant alcohol and tobacco intake during pregnancy. The children, in the sample since 1974, underwent a number of medical and academic tests from birth through to the age of 14.

Analysis of the data showed a meaningful correlation between mothers’ alcohol intake and children’s attention, cognitive and memory problems. As early as days 1 and 2 of life, researchers found that newborns had difficulty reacting to stimuli and had weaker sucking capacity.

Researchers found that at eight months, there were motor and intellectual abnormalities, which were also present at the age of four in the form of a decrease in fine motor skills. At the age of seven, the children in the study had memory problems linked to space perception. A year later, the researchers found that the children in the sample were having learning problems at school and showing a higher risk of being placed in special programs. Finally, at age 14 the adolescents in the study suffered from attention deficits, memory lapses and problems with verbal expression.

According to the scientists conducting the study, neurocognitive deficits are the most persistent of the various types of damage attributable to FAE. They also highlight the clear finding that there is no “safe” degree of fetal alcohol exposure.

These findings give rise to crucial questions. Will these children develop an addiction to drugs or alcohol, or be prone to mental illness? Will we be able to develop assessment tools that make it possible to recognize the symptoms of exposure to alcohol in the womb in individuals of any age and come up with better treatment strategies?


PRENATAL STRESS AND FETAL ALCOHOL EXPOSURE

There is no longer any doubt that considerable alcohol intake during pregnancy can cause serious damage to the fetus. However, a growing number of scientists believe that prenatal stress (St) or moderate alcohol intake (Al) can cause emotional, behavioural or learning disorders in children.

Seeking to identify the issue more accurately, a group of researchers conducted three longitudinal studies using female primates born to mothers that had been exposed to prenatal stress and/or moderate alcohol intake. Their objective was to observe whether the disruptive elements might have harmful side effects not only on the offspring’s birth, but also on its development through various stages of life.

The scientists discovered that prenatal stress was linked to lower birth weights than in the control group. They also found that there was a significant association between the disruptions (St) and (Al) and a decrease in attention span and neuromotor skills during the first few months after birth, and that prenatal stress occurring in early pregnancy increased the subject’s vulnerability.

Finally, the researchers found a meaningful correlation between prenatal disruptions (St) and (Al) and difficulties adapting to stressful situations during adolescence and adulthood, such as separation, forming new groups or moving to an unfamiliar environment.

According to the authors, the three studies show that the presence of the disruptive elements (St) and (Al) during the prenatal period can in fact cause serious disorders in newborns. However, they are not seen as the sole cause but rather as an added risk factor that combines with many others as part of the complex interaction between mother and fetus. In light of their findings, the researchers suggest that these disruptions are strong enough to determine the state of health during adulthood.