Maternal Stress as a Risk Factor for ADHD in School-Aged Children
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ABSTRACT
To examine the association between maternal stress during pregnancy and the development of ADHD in school-aged children.

BACKGROUND
Attention deficit hyperactivity disorder (ADHD) is one of the most commonly diagnosed neurodevelopmental disorders in the youth population, with a prevalence of 6-12% in North America. The disease negatively impacts academic and social functioning in childhood, as well as occupational achievements in adulthood. The etiology is highly multifactorial and embraces genetics, prenatal exposures to tobacco smoke and alcohol, and postnatal factors such as parenting style.

OBJECTIVE
To examine the association between maternal stress during pregnancy and the development of ADHD in school-aged children.

METHODOLOGY
A systematic review was conducted to investigate the relationship between maternal stress and ADHD symptomatology in offspring by using PubMed, Google Scholar, and Cochrane Library databases. Both quantitative and qualitative publications within the past twenty years were searched using keywords such as maternal stress, pregnancy, ADHD, behavioural disorder, and risk factor. The articles were screened for extraneous variables such as maternal age at conception to minimize biases.

RESULTS
Epidermological studies have indicated an association between maternal stress and behavioural disturbances in offspring, persisting until the ages of four and six. The “excess glucocorticoid” theory suggests that severe maternal stress saturates the enzyme 11β-hydroxysteroid dehydrogenase type II responsible for deactivate cortisol in the placenta during pregnancy, allowing excess hormone to reach the fetus.

CONCLUSION
Determining preventable risk factors early in life leads to new strategies and treatment options to reduce diagnostics of the disease, improve the quality of life of children at risk, and dramatically reduce health care costs. Further investigation is needed to establish causation.

OBJECTIVE
To examine the association between maternal stress during pregnancy and the development of ADHD in school-aged children.

BACKGROUND
Attention deficit hyperactivity disorder is one of the most commonly diagnosed neurodevelopmental disorders in the youth population.

Symptoms of ADHD include:
• Inattentiveness
• Impulsivity
• Hyperactivity

Mechanism of action:
“Excess glucocorticoid theory”

severe maternal stress saturates enzyme 11β-hydroxysteroid dehydrogenase type II → excess hormone reaches fetus

Figure 1. Prevalence rate of ADHD in various age groups.

Figure 2. Risk factors during pregnancy and impacts of ADHD in offspring.

Figure 3. The “excess glucocorticoid theory”

REFERENCES

CONCLUSION
ADHD prevalence is high in school-aged children. Mechanism of action follows “excess glucocorticoid theory” in nature. Maternal stress during pregnancy is a risk factor for the development of ADHD in school-aged children.

Further research is required to establish causation between the two variables.

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