

# Severe, acute maternal stress linked to the development of schizophrenia

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Pregnant women who endure the psychological stress of being in a war zone are more likely to give birth to a child who develops schizophrenia. Research published today in the open access journal *BMC Psychiatry* supports a growing body of literature that attributes maternal exposure to severe stress during the early months of pregnancy to an increased susceptibility to schizophrenia in the offspring.

According to Dolores Malaspina from NYU School of Medicine and lead author of the study, "The stresses in question are those that would be experienced in a natural disaster such as an earthquake or hurricane, a terrorist attack, or a sudden bereavement".

Data from 88,829 people, born in Jerusalem from 1964 to 1976, were collected from the Jerusalem Perinatal Study that linked birth records to Israel's Psychiatric Registry. The NYU authors discovered that the offspring of women who were in their second month of pregnancy during the height of the Arab-Israeli war in June of 1967 (the "Six Day War") displayed a significantly higher incidence of schizophrenia over the following 21-33 years. The study also showed that the pattern was gender-specific, affecting females more than males.

Following the 1967 war, females who had been in their second month of fetal life during the conflict were 4.3 times more likely to develop schizophrenia than females born at other times. Males in their second month of fetal life were 1.2 times more likely to develop schizophrenia. "It's a very striking confirmation of something that has been suspected

for quite some time", said Malaspina.

"The placenta is very sensitive to stress hormones in the mother," explains Malaspina, "these hormones were probably amplified during the time of the war."

The authors point out that the study, which assessed ongoing medical records, only supports, rather than proves, the hypothesis that the greatest vulnerability to schizophrenia is in the second month of pregnancy. Limitations to the study include a small sample population as well as the absence of information on the exact length of gestation, which makes it possible that developmental stages were underestimated.

Malaspina also points out that pregnant women in general should not be alarmed about handling daily stressors during pregnancy. "A developing fetus requires some exposure to maternal stress hormones as it normalizes their stress functioning," she says. "But women experiencing anxiety or excessive stress would do well to address it before a planned pregnancy and to have good social support systems."

Source: BioMed Central

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