

## Excess weight in pregnant women can have negative implications for offspring

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That overweight during pregnancy can lead to overweight children and adolescents has been known for some time, but new research at the Hebrew University of Jerusalem and in the US indicates that excess weight before and during pregnancy can have long-lasting health consequences for the offspring of such mothers even later in life.

Investigators at the Hebrew University-Hadassah Braun School of Public Health and Community Medicine and the Departments of Medicine and [Epidemiology](#) at the University of Washington, Seattle, have found a direct correlation between this maternal overweight and higher tendencies in their [adult children](#) towards overweight and other life-risking factors, such as [high blood pressure](#) and excess sugar and fat levels in the blood.

The research – the results of which were published recently in the journal *Circulation* -- was based on analysis of clinical information on 1400 people who were born in Jerusalem between the years of 1974-76. The data provided information, among other things on their birth records, including the weights of their mothers before and during [pregnancy](#) and the weight of the child at birth. The researchers further gathered current clinical data on the examined group, all at the age of 32, including their weight, blood pressure and sugar and fat levels in the blood, plus measurements of body mass index (BMI) -- a measure of body fat based on height and weight -- as well as hip width.

The results of the research showed a clear influence of the overweight of

the mothers on the overweight of their children, affecting in turn other risk factors in adulthood. Therefore, it may be concluded that avoiding overweight in adulthood could potentially reduce those other risk factors associated with pre-pregnancy and pregnancy overweight.

Thus, for example, the children of mothers who gained more than 14 kilograms (31 pounds) during pregnancy were measured to have a higher BMI than those who were born to mothers who did not gain more than nine kilos (20 pounds) during pregnancy. In terms of hip measurements, the adult children of overweight pregnant mothers had hip widths nearly ten centimeters more, on average, than those who were born to mothers who were not overweight.

Similar comparisons were made regarding sugar and fat levels in the blood, all indicating that those born to overweight mothers had detrimental characteristics regarding their health and life expectancies as compared to those born to mothers who had not gained excessive weight.

Additional factors could also have an influence on the phenomenon, including analogous genetic traits of the mother and child or environmental influences during pregnancy, and these would be worthy of further investigation, say the researchers.

"We know now that events occurring early in life to fetuses have long-lasting consequences for the health of the adult person," said Dr. Hagit Hochner, the leading researcher on the project.

Added Prof. Orly Manor, who also was involved in the project: "In an age of an 'overweight epidemic' in the world, it is important to know the factors that are involved in leading to overweight and other health risks. This understanding makes it essential that we identify those early windows of opportunity in which we can intervene in order to reduce the risks of chronic illness later in life."

Provided by Hebrew University of Jerusalem

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