

PreDICTR Study

The PreDICTR Study Prenatal Determinants of Inflammatory-Mediated Conditions Transdisciplinary Research Study

This study will investigate influences on the fetus during pregnancy and how inflammation can affect future health.

Our aim is to create a research program to study how factors during pregnancy create an increased inflammatory response in the fetus that leads to disease later in life. In particular, we propose to investigate the association of *Who we are* (genetic make-up of the mother and fetus, and normal inflammation pathways), *How we live* (the pregnant woman's lifestyle, nutrition and physical and psychosocial stress) and *Where we live* (the physical environment to which the mother [and hence the fetus] is exposed including exposures to infections and toxins). We propose that fetal exposure to certain influences, such as infection and stress, cause an increase in the release of proteins that promote inflammation leading to conditions such as premature birth, impaired development of the nervous system, heart and blood vessel disease, obesity, type 2 diabetes, autoimmune conditions such as arthritis, and allergic conditions such as asthma. The results of this research will provide insight into fetal factors that influence the occurrence of future disease and thus will help guide prevention and treatment.

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