# Metabolic Disease Prevention in Obese and Hypertensive Pregnant Mothers and Offspring

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This experiment studies if a restricted diet improves the health of pregnant BPH/5 mice and their offspring. BPH/5 mice have high blood pressure during pregnancy, which mimics the symptoms of preeclampsia. Preeclampsia is a disorder where the mother suffers high blood pressure during pregnancy, this can be harmful to both the mother and offspring. Comparing pair fed (restricted diet) and ad lib (unrestricted diet) BPH/5 mice, microbiome and SCFAs were analyzed in fecal, oral, and vaginal samples. Results show pair fed mice with more Bacteroidetes, lower F/B ratio, and significant fecal beta diversity differences. SCFA analysis indicates decreased Acetic acid in pair fed mice, possibly due to reduced fiber intake. Offspring from pair fed mice exhibit increased VEGF production, vital for blood vessel formation. In conclusion, a restricted diet during pregnancy benefits both mother and offspring, preventing health issues in subsequent generations through early intervention.

**Awards Won:**