

Presenter: Leann Cao

Session & Time: Poster IV

Room/Time: GLH / 4:30-5:30

Discipline: Nursing

Faculty Mentor: Andrea Boyle

Digital Portfolio URL:

Title: Impact of Maternal Microbiome Disruptions During Pregnancy on Infant Immune Development

Abstract:

Human microbiome has an important role in immune system development, especially during early life. Research has said that the maternal microbiome during pregnancy significantly influences infant immune development. Factors such as antibiotic exposure, psychological stress, and poor nutrition may lead to maternal microbiome imbalance. These disruptions may alter microbiome transmission to the infant and potentially impact early immune development. The purpose of this study is to examine whether infants born to mothers who experienced microbiome disruptions during pregnancy demonstrate different immune outcomes compared to infants whose mothers maintained stable microbiome health. Using a comparative quantitative design, maternal health history, antibiotic exposure, physiological stress, and dietary patterns will be assessed during pregnancy. Infant immune outcomes will be evaluated through clinical findings such as infection rates and immune related diagnoses within the first

year of life. Findings from this study might improve understanding of how prenatal microbiome influence early immune development and could inform maternal health interventions aimed at promoting ideal infant immune outcomes.