

Title: Effect of diet and alcohol consumption on gut microbiota in pregnant women and offspring

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Background: It has received great attention to the influencing factors of gut microbiota transform from mother to infant. They can significantly impact infant gut microbiota colonization and development which is crucial to its health in later life. Hence, prebiotic factors from maternal dietary habits during pregnancy are still unknown. Purpose: This study aimed to explore the effect of maternal alcohol consumption and daily diet at late pregnancy on maternal gut microbiota as well as their new born infants. Methods: A cohort of 29 mother-infant dyads was recruited from a tertiary general hospital in a central region of China. Mothers (⩾36 gestational weeks) and infants (within 48 hours after delivery) fecal samples were collected and the V3- V4 region of 16S ribosomal RNA (rRNA) sequences were analyzed. Maternal alcohol consumption and diet were measured by a self- designed questionnaire before they go into labor. Results: Maternal alcohol consumption was associated with lower α diversity as well as gut microbiota composition both in mothers and infants, including higher abundance of Faecalibacterium in mothers and Bacterodies in infants. Maternal eggs consumption during pregnancy was negatively related to Lachnospiraceae in mothers and infants. Soybean products intake positively correlated with abundance of Lachnospiraceae in mothers, and strongly affect the β diversity of gut microbiota both in mothers and offspring, especially vaginal birth infants. Conclusion: Our research revealed that maternal alcohol and certain dietary consumption before childbirth do impact maternal gut microbiota diversity and composition, and pass the effect on their offspring.

Biography

Ying Wang has completed her MSN at the age of 25 years from Wuhan University. She has published more than 5 papers in reputed journals and works for Tongji Hospital in Wuhan by the time of graduation.

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Session name/ number: 21st International Conference on Clinical Nursing and Practice
Category: Oral presentation