

# Gut–Brain Axis Dysregulation and Its Impact on Alzheimer’s Disease: A Case–Control Study of Gut Microbiome Alterations, Inflammatory Markers, and Cognitive Decline

Worrawat Khamhang, Chanida Ruchisrisarod, Kanthita Worachotsueptrakun, Phanni Wanthong, Yutthana Joyjinda, Weenassarin Ampoot, Pasin Hemachudha, Thirawat Supharatpariyakorn, Abhinbhen Saraya Wasontiwong

AAIC 2026 POSTER #6470

## Background

Increasing evidence suggests that dysregulation of the microbiota–gut–brain axis contributes to Alzheimer’s disease (AD) through intestinal barrier dysfunction, systemic inflammation, altered microbial metabolites, and enhanced neuroinflammation. The gut microbiome can influence glial activity, blood–brain barrier integrity, and amyloid- and tau-related processes, making it a plausible contributor to AD pathogenesis.

