

Poster: The knowledge, health beliefs and lifestyle choices among adults to maintain a healthy gut microbiome: a scoping review.

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## New Vistas

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## Abstract

### Background

Recent international studies delved deeper into the role of the gut microbiome (GM) in metabolism, immunity and its association with long term conditions such as diabetes, cancer and neurodegenerative diseases. Various factors have shown its association with chronic conditions such as diet, exercise, lifestyle factors and antibiotic use. Therefore, understanding the extent of public knowledge and lifestyle choices is crucial to design interventions that will improve knowledge and influence health and the association of the GM.

### Methods

This scoping review used the PRISMA-ScR reporting guidance. A three-step search strategy was implemented. PubMed/MEDLINE (OVID) and CINAHL, Embase, Cochrane Library, Scopus, OpenGrey repository, GoogleScholar and National Institute of Health (NIH) were searched. The reference lists of studies were used to identify additional studies. Eligible studies that include adults aged 18 and over were included from three geographical areas: Europe, North America and the Middle East with no applied language restrictions. A thematic analysis was used to synthesise key findings across studies.

### Results

57 studies were identified, predominantly cross-sectional surveys and qualitative interviews that addressed the relationship between the cultural influences on individual health behaviour related to the GM. Seven key themes emerged: (1) Knowledge of the GM and lifestyle factors, (2) Socioeconomic status and gender impacting health, (3) The association of the GM and diseases, (4) Diet and the GM, (5) Probiotics and the GM, (6) Physical activity and health and (7) Antibiotics and the GM. However, a gap remains in the knowledge and behaviour changes related to the GM, particularly in lower-income countries. This review locates evidence and gaps to provide the knowledge and future expectations such as tailored interventions. These interventions may include dietary adjustments, targeted probiotics and the integration of technology in monitoring GM by wearable devices like Zoe and Omnicare for real-time data analysis to inform personalized health plans.

## Keywords

Gut microbiome, Scoping review, Health beliefs, Lifestyle choices