

The Impact of Lifestyle on Digestive Health

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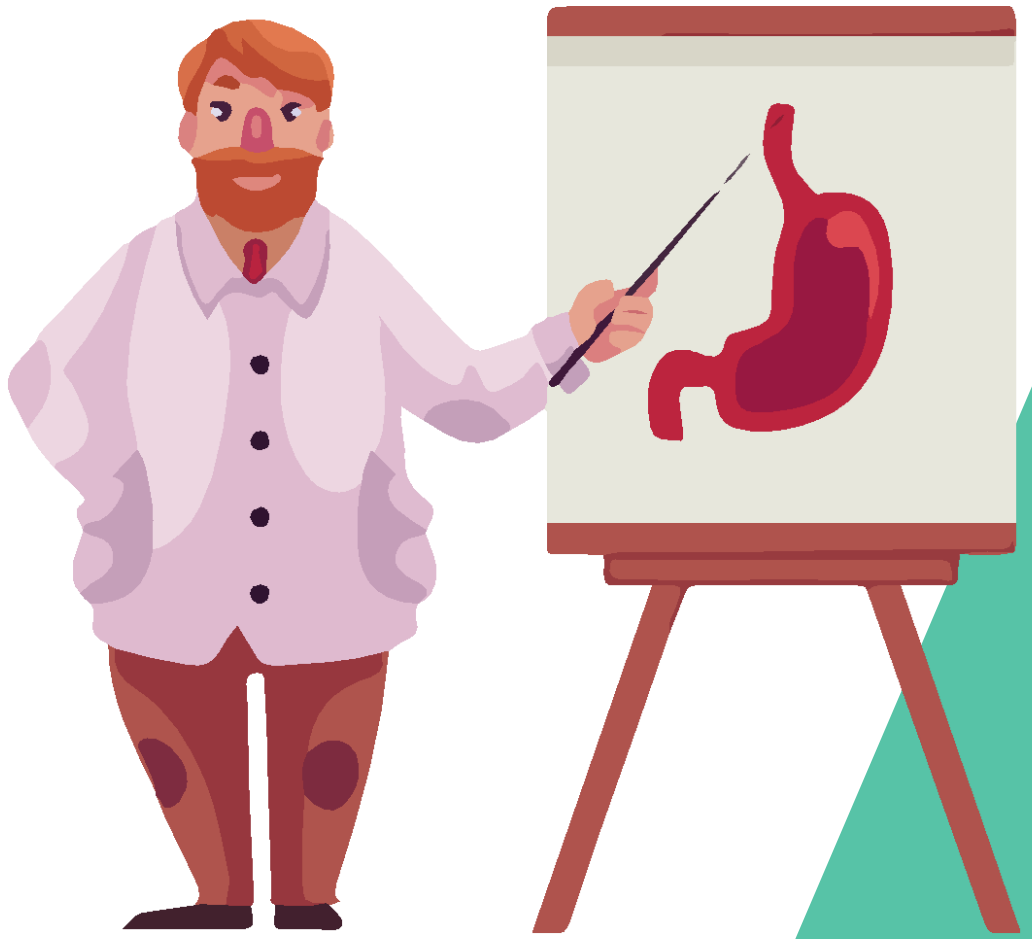
Introduction

- **Why Digestive Health Matters:**
  - The gut houses 70% of the immune system.
  - Digestive disorders (IBS, GERD, IBD) affect ~25% of the global population.





Objectives

Diet's role in gut microbiota and disease 1

Hou et al., Singh et al.

Exercise and gut motility 2

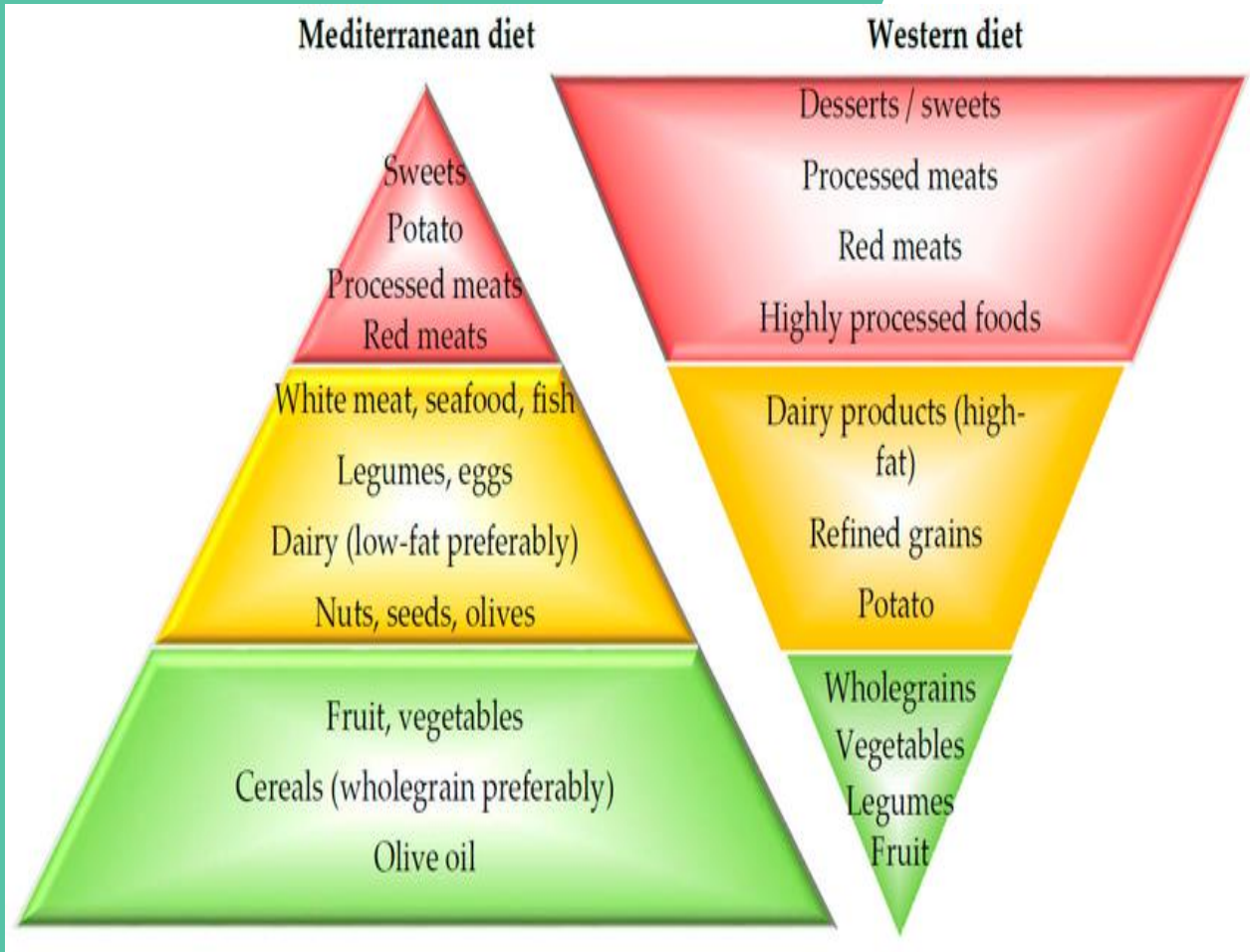
Monda et al.

Stress/sleep and the gut-brain axis 3

Konturek et al., Swanson et al

Harmful effects of smoking/alcohol 4

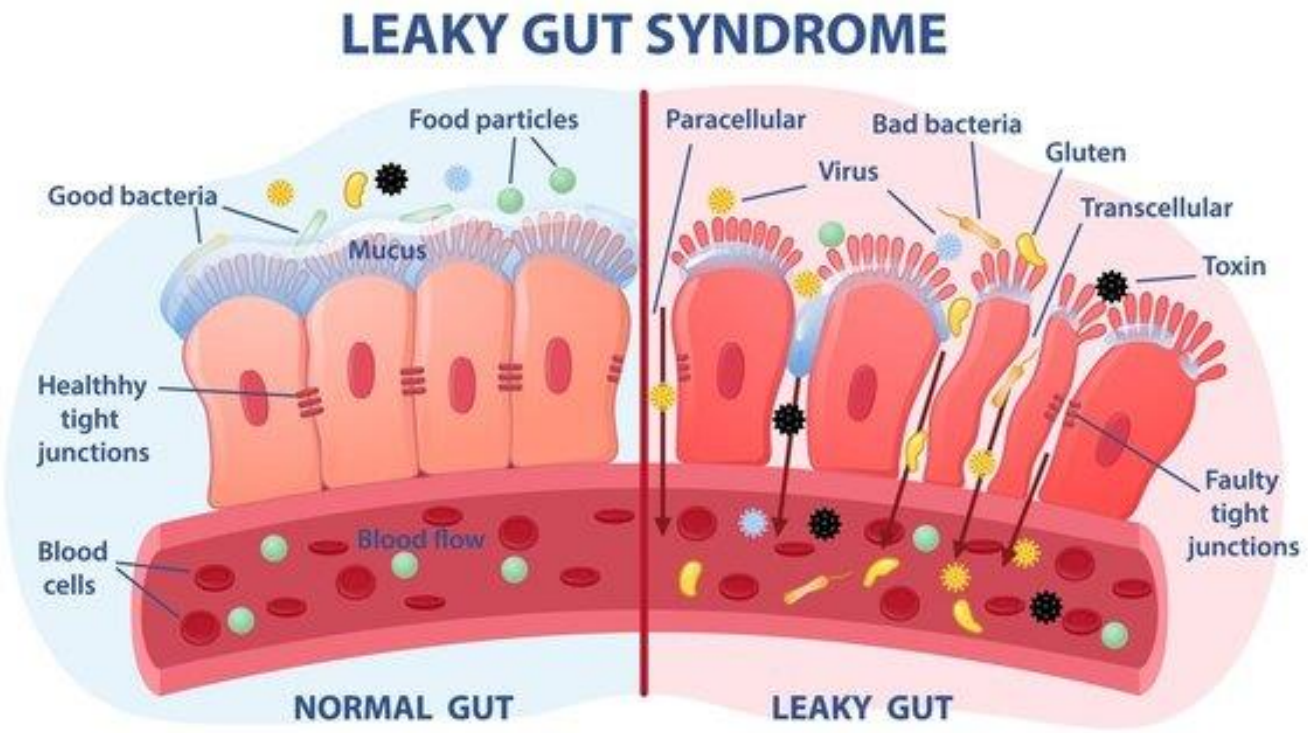
Thomas et al., Bode & Bode



Western Diet & Gut Inflammation:

- Processed foods and high fat → ↑ risk of IBD.
- Low fiber → reduced microbial diversity .
- **Mechanism:** Dysbiosis → leaky gut → inflammation.

Hou et al., 2014)

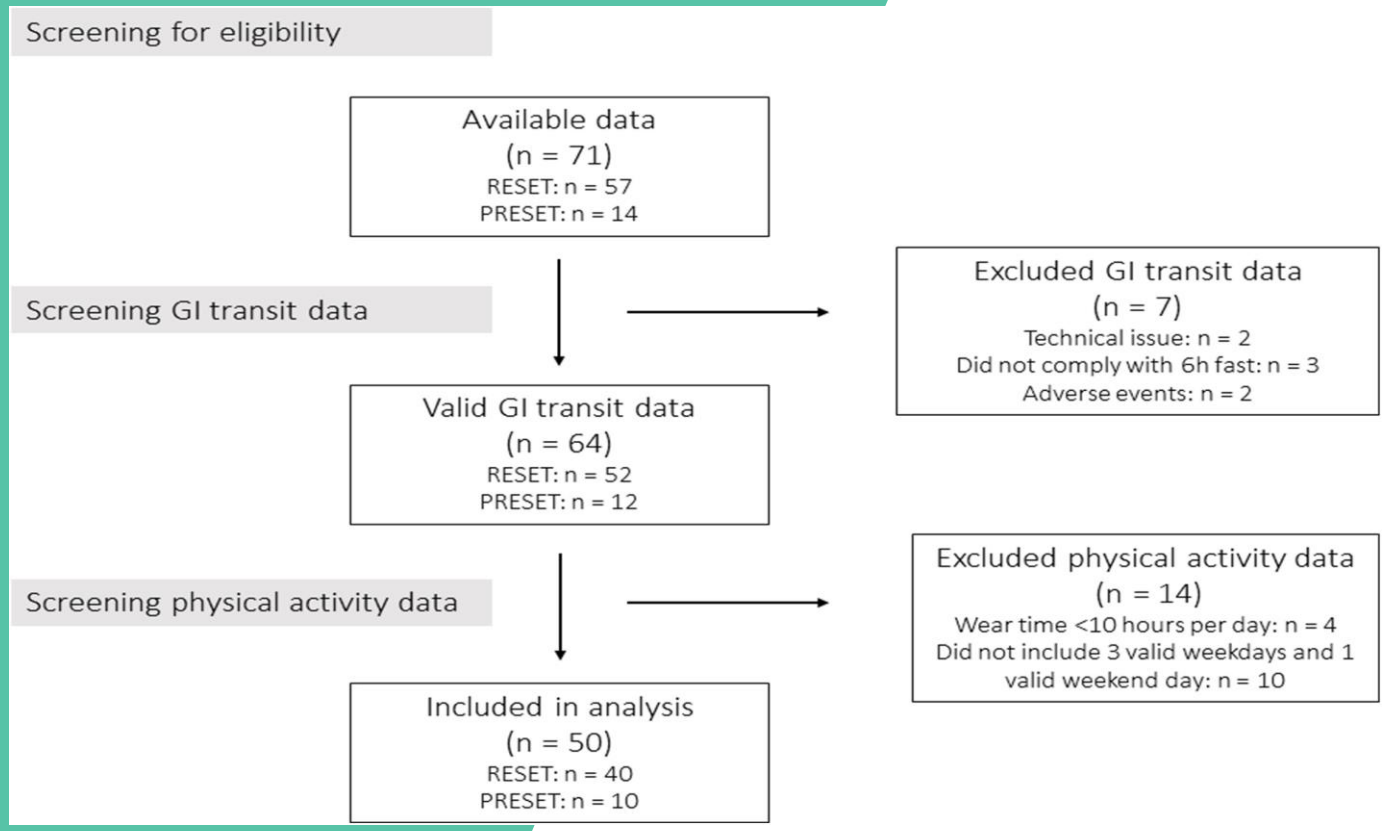


Fiber & Probiotics

- Fiber: Feeds Bifidobacteria (↑ SCFA production → anti-inflammatory).Low fiber → reduced microbial diversity .
- Probiotics: Lactobacillus improves gut barrier integrity.
- **Practical Tips:**Eat: Whole grains, legumes, fermented foods.
- Avoid: Ultra-processed snacks.

(Singh et al., 2020)

Exercise & Gut Motility

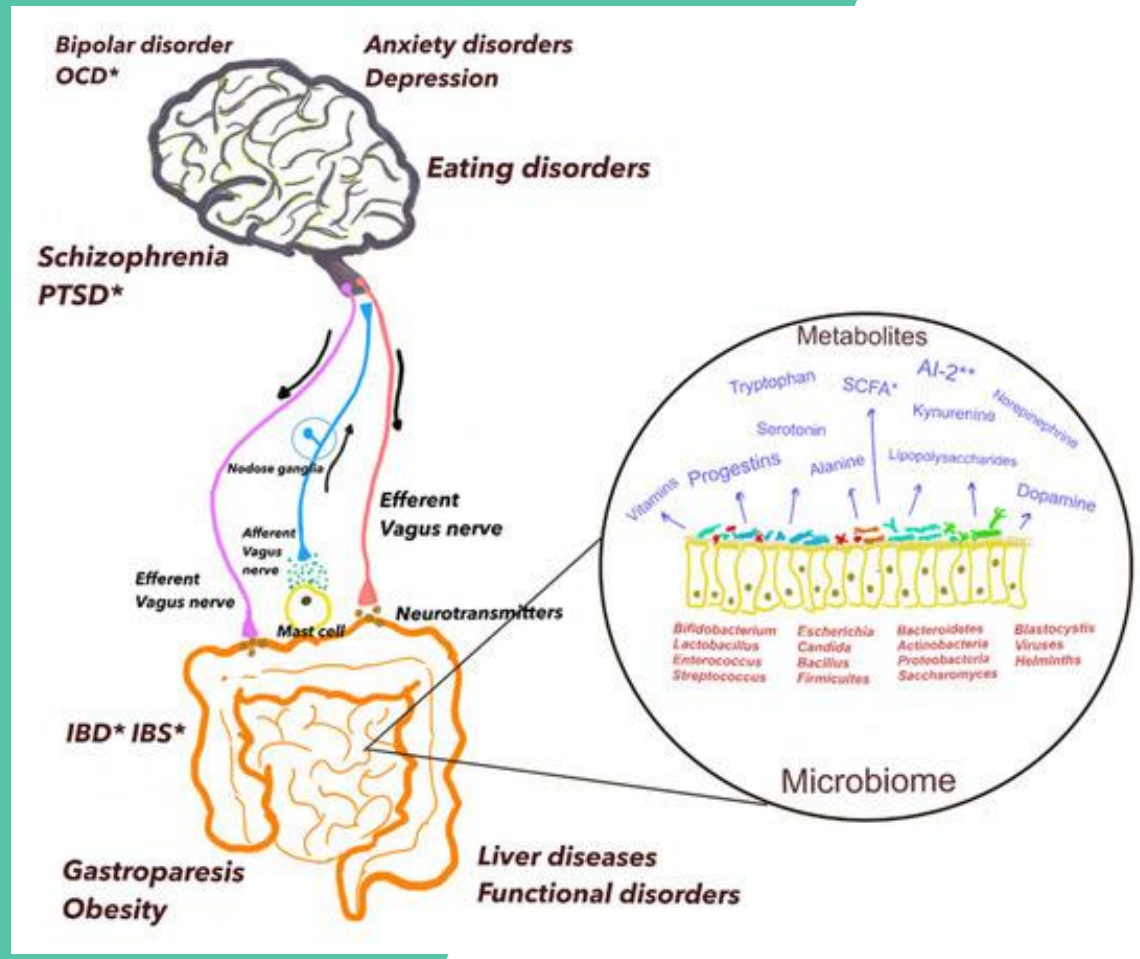


Flow chart illustrating the data cleaning process and reasons for excluding invalid data. GI, gastrointestinal.

- Moderate exercise → ↑ gut motility, ↓ bloating.
- Athletes have more diverse microbiomes than sedentary individuals.

(Monda et al 2017)

Stress & the Gut-Brain Axis



- Chronic stress → ↑ cortisol → ↑ intestinal permeability (“leaky gut”).
- Linked to IBS and GERD.
- “60% of IBS patients report stress as a trigger.”

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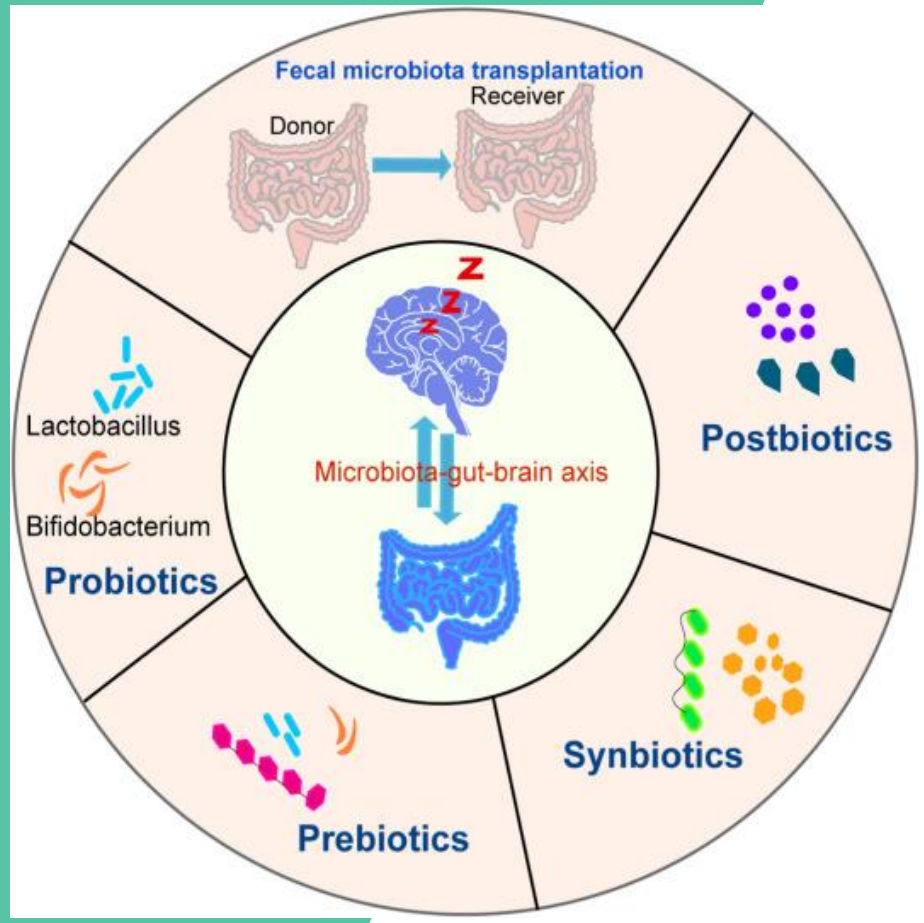
(Konturek et al, 2011)

Sleep Deprivation & GERD



- Poor sleep → ↓ esophageal sphincter tone → acid reflux.
- Shift workers have worse gut health.

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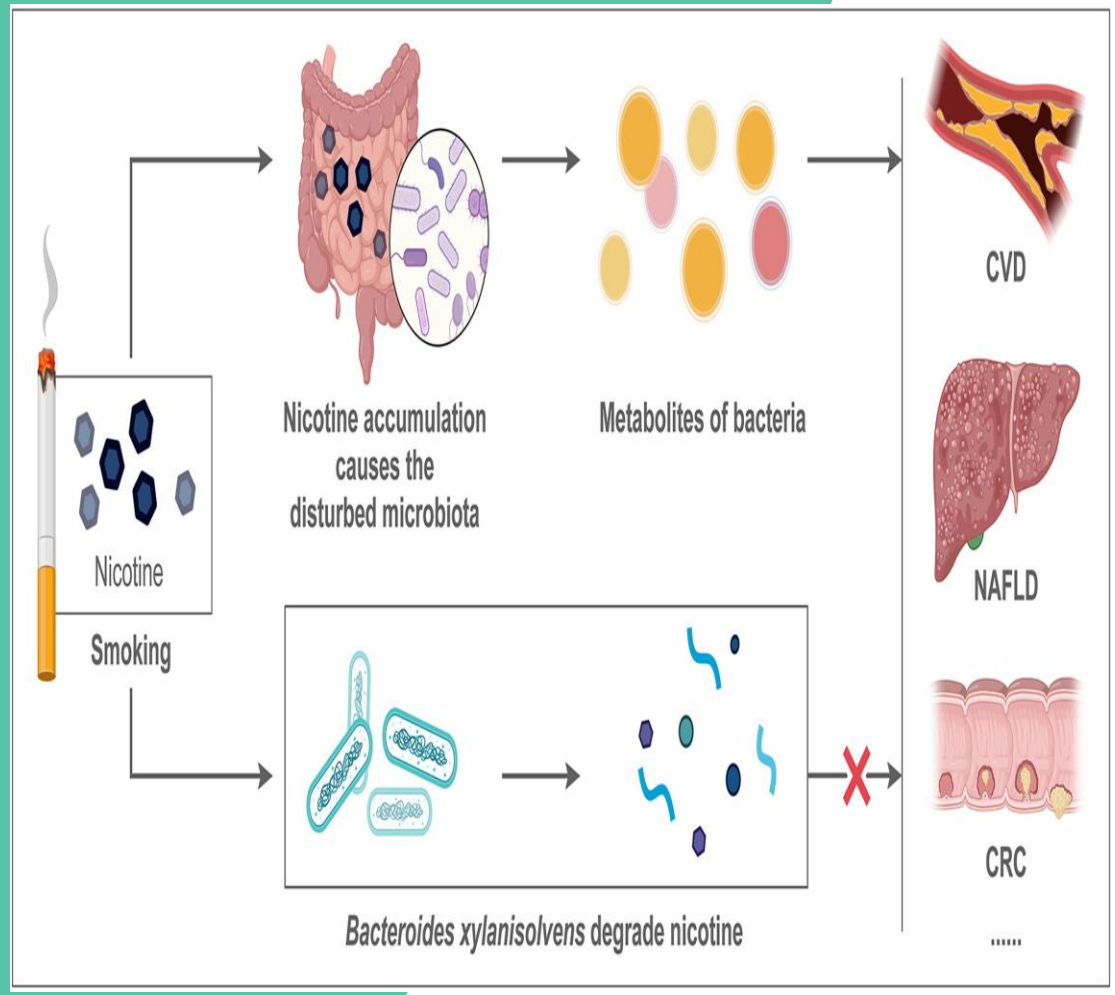
(Swanson et al. 2015)

Smoking & Peptic Ulcers



- Smoking ↓ blood flow to gut lining → ulcers.
- Doubles Crohn's disease risk.

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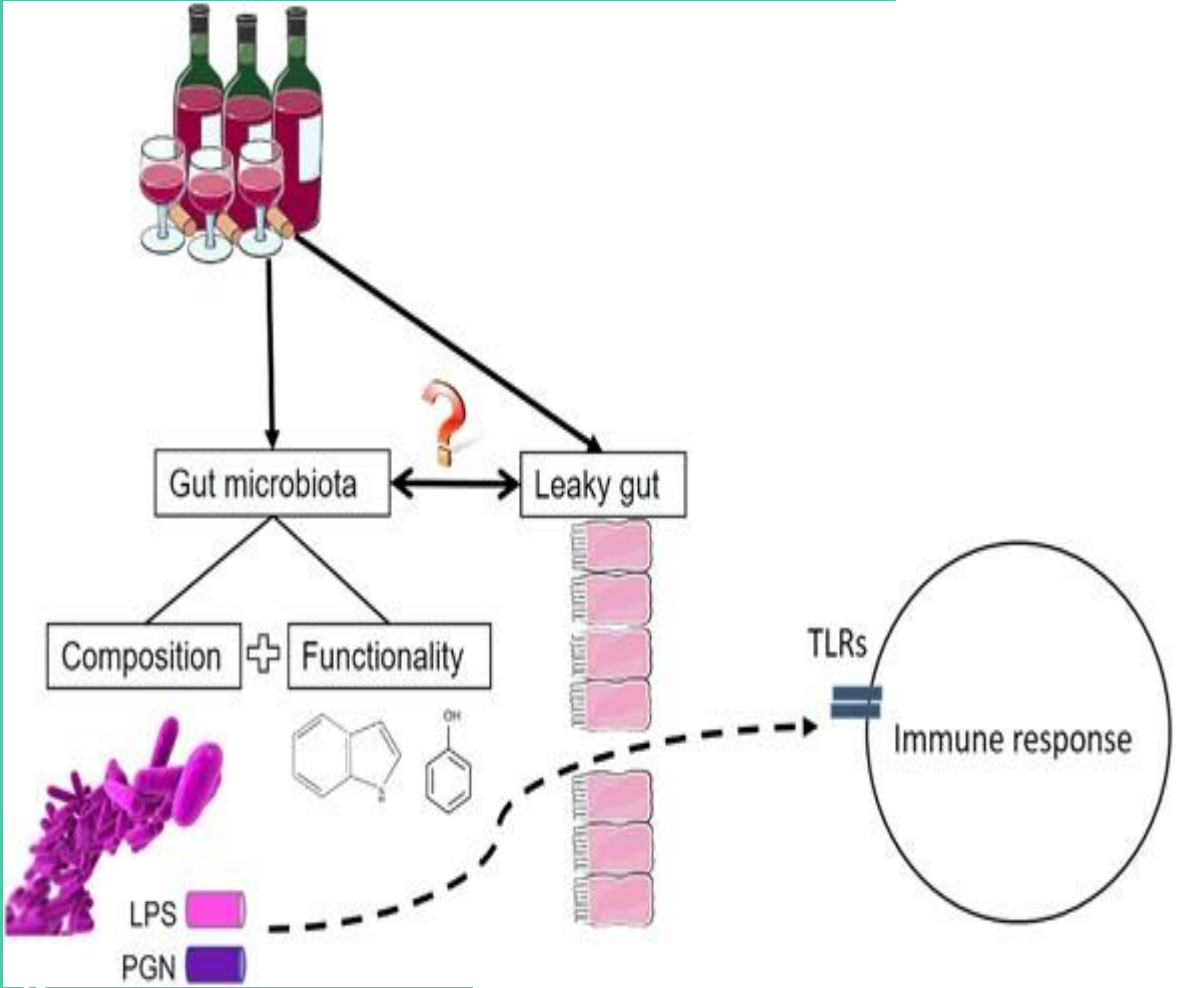
(Thomas et al., 2009)

Alcohol & Gut Permeability



- Heavy alcohol → ↑ endotoxins (LPS) → liver disease.
- Even moderate drinking disrupts microbiota.

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(Bode & Bode, 1997)

Practical Recommendations

Diet: 30g fiber/day, limit processed foods

Avoid Smoking, excessive alcohol.

Exercise: 150 min/week of moderate activity..

Stress: Mindfulness, adequate sleep (7–8h).



