

***PROFESSIONAL ETHICS,
LEADERSHIP AND
INTEGRITY: WHAT DOES IT
MATTER HOW OUR
RESEARCH IS USED?***

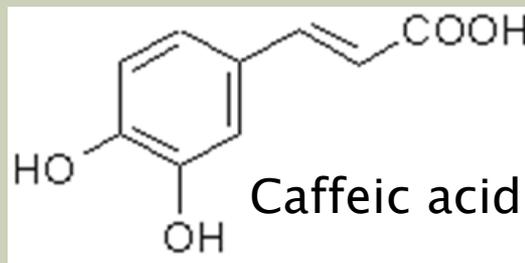
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LEARNING OUTCOMES

- Examine ethical implications of the research that you are engaged in
- Apply a framework to self-assess your ethical reasoning
- FSHN graduate learning outcome (proposed):
- Apply ethical reasoning within the discipline of food science, nutritional sciences or dietetics.

DIETARY PHENOLICS AND HEALTH

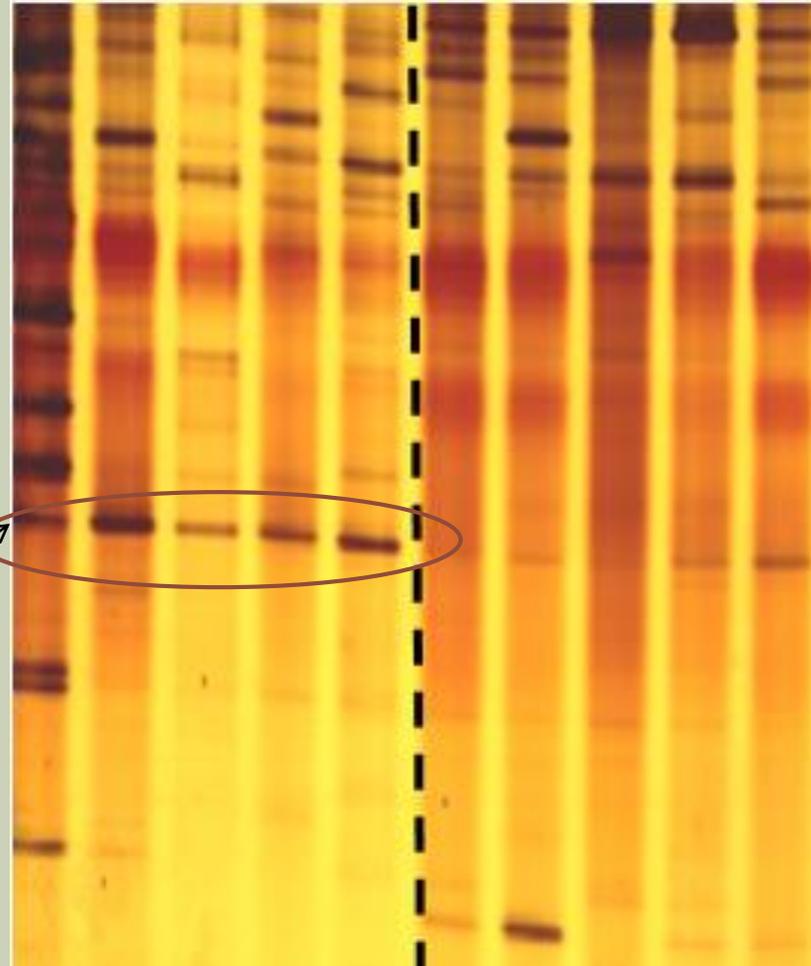
- ❖ Caffeic acid suppressed experimental colitis in mice (Ye et al. 2009, 2011)



- ❖ Can caffeic acid suppress other types of inflammation (e.g., periodontal disease)?

DGGE gel of caffeic acid disappearance rates associated with oral bacteria

High degrader Low degrader
9 4 18 6 16 20 14 10 13 19



1. Genomic DNA extraction from salivary samples
2. Bacterial 16S rDNA amplification
3. Denaturing gradient gel electrophoresis (DGGE) (Quantity one)
4. Sequence of PCR-amplified product from DGGE gel
5. Database:
Ribosomal Database Project
BLAST Assembled Genomes

Actinomycetales Order:

Streptomyces coelicolor /
Streptomyces avermitilis

Oral microbiota transplant to eliminate high caffeic acid degrader phenotype?

GOUGH ET AL. SYSTEMATIC REVIEW OF INTESTINAL MICROBIOTA TRANSPLANTATION (FECAL BACTERIOTHERAPY) FOR RECURRENT CLOSTRIDIUM DIFFICILE INFECTION CLIN INFECT DIS. (2011) 53 (10): 994-1002. DOI: 10.1093/CID/CIR632

- *Clostridium difficile* infection (CDI) is a gastrointestinal disease believed to be causally related to perturbations to the intestinal microbiota. When standard treatment has failed, intestinal microbiota transplantation (IMT) is an alternative therapy for patients with CDI. IMT involves infusing intestinal microorganisms (in a suspension of healthy donor stool) into the intestine of a sick patient to restore the microbiota. However, protocols and reported efficacy for IMT vary. We conducted a systematic literature review of IMT treatment for recurrent CDI and pseudomembranous colitis. In 317 patients treated across 27 case series and reports, IMT was highly effective, showing disease resolution in 92% of cases. Effectiveness varied by route of instillation, relationship to stool donor, volume of IMT given, and treatment before infusion. Death and adverse events were uncommon. These findings can guide physicians interested in implementing the procedure until better designed studies are conducted to confirm best practices.

CASE STUDY: FECAL TRANSPLANTS

- Colleen R. Kelly, M.D.
- gastroenterologist in the Center for Women's Gastrointestinal Medicine at the Women's Medicine Collaborative in Providence, Rhode Island, and assistant professor of medicine at The Warren Alpert Medical School of Brown University.
- Performed successful fecal microbiota transplant (FMT)
- Conducting FMT clinical trial
- Worked with FDA to obtain an Investigational New Drug (IND) permit for this trial
- What regulation is appropriate for FMT?
- FDA reconsiders the IND requirement: announces that they will exercise "enforcement discretion" regarding the IND requirement for FMT used to treat *C. diff* infection, provided that treating physicians obtain adequate informed consent, which should include a statement that FMT is investigational, as well as a discussion of FMT's potential risks.
- What ethical concerns?

ETHICAL REASONING ASSESSMENT

- Consider your research
- What questions about ethics relate to your research?
- What ethical problems are related to your research?
- What ethical reasons underpin your research?
- What decisions have you made related to your research based on ethical principles/reasoning?
- What ethical implications does your research have?
- What ethical reflections do you have on your research?

BASIC ETHICAL PRINCIPLES

- **What are key basic ethical principles?**
- **Do no harm.**
- **Act to benefit others.**
- **Respect autonomy.**
- **Promote justice.**
- **Be faithful.**

TWO ETHICAL THEORIES

■ Rights

■ Protected privileges

- Universally apply to everyone
- Inherent for human beings

■ Examples

- Right to life
- Right to self-determination
- Right not to be injured
- Right not to be exploited



Right to food?

TWO ETHICAL THEORIES



■ Utilitarianism

- Find the greatest good for the greatest number
 - Optimize happiness in society
 - while minimizing pain
- Example
 - FSHN degree programs at public universities
 - benefit the larger public