Nutrition Misinformation

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Objectives

- Define misinformation versus disinformation as well as key elements of technology that impact how we receive information
- Identify key ways to spot misinformation online
- Learn how to access and interpret information to support or disprove claims
- Use discernment when making one's own nutrition choices

Social Media Check

Question 1: Do you use social media?

Question 2: Which apps do you use?

Question 3: Do you use social media as a source of news?

Identifying Misinformation

- **Misinformation** is false or inaccurate information
  - What is an example of misinformation you've heard or shared?
- **Disinformation** is false information that is deliberately intended to mislead.
  - Who is to gain from disinformation?
- **Algorithm:** a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer
- **AI (Artificial Intelligence):** the theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

Confirmation Bias

- People's tendency to process information by looking for, or interpreting, information that is consistent with their existing beliefs.
- Largely unintentional
- "Results in a person ignoring information that is inconsistent with their beliefs"
- "People are especially likely to process information to support their own beliefs when an issue is highly important or self-relevant."

About Info on the Internet

- From the American Psychological Association, **"Algorithms that track user engagement to prioritize what is shown tend to favor content that spurs negative emotions like anger and outrage."**
- 49% of social media users say they verify "almost always" before sharing, while 16% said they verify "rarely" or "never"(study of more than 1000 people by security.org)
- A study from Harvard of 2000 participants showed 14% of participants purposely shared misinformation (Harvard Kennedy School)
- Social media algorithms reward you for overall sharing, not just sharing of accurate information. (USC study)

How Do I Spot This?

- If it's too good to be true
- If it is selling a product
- Lack of credible sources (or using information based on memes or infographics alone)
- Using broad, generalizing statements such as foods being "good" or "bad" without explanation or overly sensationalized headlines

Remember: Not all misinformation comes from nefarious or "evil" sources! Some may come from anecdotes, mistakes, misquoting a statistic, or satire.

Let's Practice

- "Gwyneth Paltrow Wants People To Start Drinking This Instead Of Regular H2O"
  - An *Australian Women's Health* article about drinking alkaline water instead of regular H2O
- "How Eating Pizza Helps You Lose Weight"
  - A *Men's Health* article about how "cheat days" help people maintain diets in the long run

Let's Practice: What's Wrong with This Picture?

Let's Practice: Mystery Ingredient

- Used in many households as a cleaning agent
- Removes grease, mold, and mineral deposits
- Acidic! pH of 2-3 (neutral is 7!)
- Can cause irritation if it comes into contact with eyes and prolonged exposure to skin.
- What is it?

Credentials for Nutrition Professionals

- Registered Dietitians: Credentialing includes a board certified exam in addition to national and state licensure, continuing education and professional development.
  - 1000 hours of supervised practice hours with other certified professionals to sit for exam
  - Masters degree in related field required to sit for exam

- No formal credentialing process for nutritionists
- Other medical professionals may take 11 hours of nutrition training on average during an entire medical program. (Journal of Human Nutrition and Dietetics)

Finding Credible Sources

- Scholar.google.com
- Fact checking websites (snopes, factcheck.org)
- Websites ending in ".org, .gov, and .edu" (sometimes)
- Peer-reviewed print articles

Tips for Reviewing Research

- Check the author and their credentials
- Did the author cite any sources or references?
- Are the findings of a research study representative and relative?
- Is research replicable and transparent?
- Does it acknowledge limitations and need for future research?
- Funding sources and product sponsorship
- How to search within a document

A TikTok Case Study

- An MD who is a nutrition influencer on TikTok (shared to Facebook) states that oats are depleting nutrients from your body because they're full of phytic acid which chelates micronutrients like magnesium, zinc, calcium, and iron and prevents absorption. This TikTok doctor says oatmeal is actually bad for you!
  - One commenter says "This is true! Oats are animal feed. Ancient man didn't eat oats!" Another says "don't know who to trust nowadays." Many other commenters share their frustrations with not being sure how to interpret this information.
  - What is your first question when you review this information? Are you curious about any of the information presented in the video?
  - How would you look for information to support or contradict what is presented in the video?

Findings

- You start with a regular information search (Google)
- You look over the resources and find a link to an NIH article about oatmeal maybe?
- You then head to scholar.google.com and look for peer-reviewed information that is relative to your question.
- You search within the article to find information on phytic acid and conclusions regarding oats.

Findings Pt 2

- "Despite being good sources of iron and zinc, cereals have high phytic acid content (Table 3) that hinders their bioavailability. Studies using cereal porridges made from rolled cereals estimated iron absorption between 0.33% for oats and 1.8% for maize [83]. Removal of phytic acid resulted in a 3–12 times increase in iron absorption; specifically, absorption of iron from oats increased over 8-fold [83]. For the most part, commercially available oat products are not dephytinized, although some, such as oat groats, have lower phytic acid content due to the removal of the hull [84]. Additionally, many cereal products are fortified with iron. Other strategies that consumers may employ to decrease phytic acid content and thus increase iron and zinc availability include soaking oats overnight prior to consumption [85]. Unlike iron and zinc, copper absorption is not affected by phytic acid."

Findings Pt 3

- Additionally, the abundance of protein, as well as glutamine, an amino acid known for reducing infectious complications, support the consumption of oats for maintaining the pool of glutamine for immunity support. Oats are a renowned source of dietary fibers and β-glucans. While these molecules may directly modulate the immune system, they can also improve/maintain immunity through indirect mechanisms, such as modifying the gut microbiota composition and functions and increasing the production of SCFAs. Finally, polyphenolics, including ferulic acid and avenanthramides in oats, can help optimize the immune system by regulating inflammatory response, boosting the antioxidant defense system, and modulating the gut microbiota. Therefore, oats are a good source of numerous nutrients, including fiber (β-glucans), copper, iron, selenium, zinc, glutamine, and polyphenolic bioactives (ferulic acid and avenanthramides) that can help optimize the immune system and response to infections, including cold/flu viruses and other pathogens.

Finishing the Case Study

- What did you find important in this piece of information?
- What will you share about what you've learned?
- How does this information impact how you view the original video?
- What do you think are some barriers to reviewing research?
- Who do you think are most susceptible to misinformation?

In Summary

- Using trusting websites and not AI sources
  - Fact-checking sites or scholarly, peer-reviewed articles
  - For AI: Focus on details (teeth, fingers, “airbrushing”, etc.)
- Social media breaks
- Be critical of sources and obtain viewpoints from multiple sources (preferably those with opposing views)
- If it sounds too good to be true, it may be!
- Use research to form your own opinion

Sources

- https://www.ncsc.org/consulting-and-research/areas-of-expertise/communications,-civics-and-disinformation/disinformation/for-the-public
- https://www.apa.org/topics/journalism-facts/misinformation-disinformation
- https://www.apa.org/topics/journalism-facts/misinformation-disinformation
- https://womenshealth.com.au/gwyneth-paltrow-alkaline-water/
- https://www.menshealth.com/weight-loss/a19548060/cheat-day-helps-you-lose-weight/
- https://today.usc.edu/usc-study-reveals-the-key-reason-why-fake-news-spreads-on-social-media/
- https://www.security.org/digital-security/misinformation-disinformation-survey/
- https://www.security.org/digital-security/misinformation-disinformation-survey/
- https://www.bbc.co.uk/bitesize/articles/z6s4239
- https://research.com/research/top-10-qualities-of-good-academic-research#3
- https://pmc.ncbi.nlm.nih.gov/articles/PMC8063794/
- https://time.com/6282404/nutrition-education-doctors/
- https://www.britannica.com/science/confirmation-bias

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