How to Sift Through Cancer and Nutrition Misinformation on Social Media

Articles with misinformation often get more clicks. Here are seven ways to help you spot potentially harmful stories about cancer.

September 27, 2021 By Mya Nelson at the American Institute for Cancer Research

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One in three of the most popular cancer treatment articles on social media contain misinformation, with the vast majority of these containing information that has the potential to cause harm, according to a recent study. The study, published in the Journal of the National Cancer Institute, also found that articles containing misinformation get more clicks and engagement than articles with evidence-based information.

The paper highlights the importance of social media users recognizing science-based information about cancer prevention and survival. Much of this information relates to diet and nutrition, AICR's area of expertise.

"We found misinformation is clearly prevalent in cancer articles on social media, and the vast majority of those pieces contain harmful information," said Skyler Johnson, MD, Huntsman Cancer Institute (HCI) physician-scientist at the University of Utah and lead author of the study. "Many of the articles that we encountered suggested delaying cancer screening, diagnosis, or treatment, and did so in favor of techniques or treatments that lacked scientific support."

The new study focused on cancer treatment overall and included well-shared stories about unproven diets and foods treating cancer. "These stories are ubiquitous on social media, and it's understandable that people are searching or finding them in their feeds," says Karen Collins, MS, RDN, AICR's Nutrition Advisor. "Diet is something everyone can relate to and people looking to prevent or treat cancer want to have a sense that they can exert control by doing something," says Collins.

"Because social media can feel so personal, we tend to trust the people or groups that we follow, and there's a tendency to be less of a critical thinker about what you see," said Collins. "As a health professional, I see this all the time. Because someone saw a click-bait headline on social media from a celebrity or someone they follow and trust, it sounds believable."

This study shows how important it is to differentiate sources of trustworthy information that can affect your health from reading for entertainment, she said.

Baking soda and other bad cancer nutrition info on social media

For the study, Johnson and his colleagues used software that pulls online data to find the 200 most popular English-language articles on social media sites related to four common cancers: breast, prostate, colorectal and lung. The articles were posted on Facebook, Reddit, Twitter or Pinterest.

Two cancer experts for each site then reviewed the articles, assessing whether its information was accurate and/or had the potential to cause harm. Causing harm included whether claims in the article could lead to someone delaying their medical treatment, potential toxic effects and be costly. For example, an article promoting that someone refuse traditional cancer treatment in favor of baking soda was categorized as harmful. (There is currently no clear evidence that baking soda or an alkaline diet is an effective cancer treatment.)

After analysis, 33 percent of the articles were categorized as containing misinformation. Out of this group, 77 percent contained information that could negatively influence patient outcomes. The median number of engagements for articles with misinformation was higher than for pieces that were science-based.

Is that post backed by science? Clues you can use

This study adds to a budding area of research on understanding and addressing misinformation on social media. (In 2020, the National Cancer Institute made this area a research priority.) A previous study focusing on Pinterest found that about a quarter of the posts/pins studied made a claim about how to prevent or treat breast cancer—and more than half contained misinformation. Much of that misinformation related to turmeric, green tea, vitamin D and other foods and supplements.

There is also a desperate need to study cancer misinformation on non-text social media platforms, such as Instagram, TikTok and YouTube, write the authors of a paper in a special American Journal of Public Health issue dedicated to the topic.

“There is a tendency to think that if some [food or nutrient] is good, more is better,” says Collins. “This is in contrast to the evidence showing the power of simple small diet and lifestyle steps that add up to lower cancer risk.”

For social media users coming across posts about nutrition and cancer, Collins and other experts cite seven ways you can spot tweets, posts and pins that are most likely to contain misinformation.

1. Look at the source. Note if the article is written by or cites a trusted and science-based

source—such as AICR or other respected health organizations, education institutions (.edu) or government sites (.gov). The .org url was originally intended for professional organizations, often non-profits, but anyone can register with this url, and their science accuracy may vary. Look for their "About Us" section to see where they get funding and what their health information is based upon. In general, if you do not recognize the source, find their website and read about how they came to the conclusions.

2. Go beyond the headline. Headlines are often the most hyped, the click-bait. Before you share or reach a conclusion, read the article critically. Look to see if that diet and cancer headline is referring to a single cell or animal study, which signifies early research. Note that the amount of a food or nutrient in a lab study may not be applicable for people.

3. Focus by using a folder. We usually consume social media by skimming, which can lead to missing misinformation clues. Place anything important enough to impact your health in a folder—paper or online—to read and consider when you have more time. This will also allow you to more readily compare it with similar information.

4. Spot the warning words. Watch our for terms such as "miracle" and "cure." Articles containing misinformation may emphasize extreme measures. If the article is leading you to a product, such as a dietary supplement, that is another warning the article may contain misinformation.

5. Note the date. Sometimes old articles and images get repurposed or shared for years. Science evolves and that information could be inaccurate. AICR, for example, updated their Cancer Prevention Recommendations in 2018 after a massive review of the global evidence. If you see a relatively old article making statements about nutrition and cancer—or any health claims—visit AICR or another trusted source to verify the article's content with current information.

6. Avoid the anecdotal. There is a good chance that anecdotal claims of miracle treatments that seem too good to be true are not true. For anecdotal stories in general, focus on the research behind the story.

7. Still have questions? Speak to your health practitioner. For cancer patients and survivors, it is especially important to speak to their health-care team about information from social media—or other sources—before consuming or doing something related to treatment, experts advise. Even if you receive the post from well-meaning family and friends, it may not be accurate or applicable to every individual.

"If what you eat is important enough to make a difference in your cancer risk—and that is what strong evidence shows—then it's not something to take casually and accept from sources that aren't providing a sound representation of good science," adds Collins.

"Organizations like AICR are important for not only funding quality research, but also for synthesizing evidence into an unbiased broad picture the public and health professionals can trust. And when these trustworthy sources share insights on social media, it's worth paying attention."

For more information about the science behind AICR's evidence-based Recommendations and guidance, visit this Research section; The JNCI study was funded in part by the Huntsman Cancer Institute.

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