A new study published online today in the Journal of the National Cancer Institute reports that one third of the most popular cancer treatment articles on social media contain misinformation. Further, the vast majority of that misinformation has the potential to harm cancer patients by supporting approaches that could negatively impact the quality of their treatment and chances for survival. The study also showed that articles containing misinformation garner more attention and engagement than articles with evidence-based information.

The internet is a major source for health information, and misinformation is growing among many types of health conditions. This is an urgent challenge because it can result in patients making decisions detrimental to their survival or outcomes.

Skyler Johnson, MD, Huntsman Cancer Institute (HCI) physician-scientist and assistant professor of radiation oncology at the University of Utah (U of U), headed the study. Johnson's interest in this area was piqued after work he completed earlier in his career showed higher risk of death among patients who used unproven approaches to treat cancer as an alternative to conventional, evidence-based treatments. That research led Johnson to several discussions with patients, physicians, researchers, and journalists. In the course of these conversations, Johnson found a recurring theme about the role that online media, particularly social media, played in disseminating inaccurate cancer information. Further, in his clinical practice at HCI where he cares for people with cancer, Johnson often heard from patients who had questions about articles they saw on social media.

He and the research team set out to better understand the quantity and nature of cancer information on social media. The research team included experts in cancer care, health outcomes, and communications. They convened medical expert panels to review and assess the claims presented in 200 of the most popular articles on social media sites. For this study, the researchers focused on articles related to breast, prostate, lung, and colorectal cancers.

"We found misinformation is clearly prevalent in cancer articles on social media, and the vast majority of those pieces contain harmful information," says Johnson.

The team's findings showed just how common it is for cancer patients to receive misinformation. Of 200 articles analyzed, 33% contained misinformation. Of those, 77% contained information that could negatively influence patient outcomes. Johnson noted that after reviewing articles, he has major concerns about how one could distinguish between which articles are reliable and which are not.

Johnson says he understands why patients seek information online, including through social media platforms. "Having cancer is a unique and vulnerable situation. Patients are dealing with a new disease. They want to feel in control over their
own health and do everything possible to maintain hope. They experience a deluge of new information as they are diagnosed, including through social media. Some patients seek out information, and some information is shared with patients by well-intentioned family and friends."

He advocates for physicians to maintain open communication channels with their patients. In his practice, he lets patients know they are likely to encounter misinformation about their cancer online. He encourages his patients to talk to him if they have questions about information they see related to their cancer online or through social media.

Johnson hopes that this research is just the start. He wants to identify predictors of misinformation and harm on social media in order to help physicians and patients better understand and navigate this challenging issue.

"We need to address these issues head on," Johnson says. "As a medical community, we can't ignore the problem of cancer misinformation on social media or ask our patients to ignore it. We must empathize with our patients and help them when they encounter this type of information. My goal is to help answer their questions, and provide cancer patients with accurate information that will give them the best chance for the best outcome."

**More information:** Skyler B Johnson et al, Cancer Misinformation and Harmful Information on Facebook and Other Social Media: A Brief Report, *JNCI: Journal of the National Cancer Institute* (2021). DOI: 10.1093/jnci/djab141

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