

The Influence of Short-Form Social Media Platforms on Cancer Misinformation Exposure and Belief Among Generation Z High School Students: A Mixed-Methods Study

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ABSTRACT

Short-form social media platforms have become a major source of health information for adolescents, increasing concerns regarding the spread of cancer misinformation among younger audiences. This study examines the extent to which platforms such as TikTok and Instagram Reels influence the spread and belief of cancer misinformation among Gen Z students. A mixed-methods approach was used, combining a survey of 59 high school students in New Jersey with a content analysis of 50 cancer-related social media videos. The survey measured students' exposure to misinformation, perceptions of online cancer content, and responses to misleading posts. The content analysis evaluated the prevalence of misinformation, emotional appeal, promoted treatments, and engagement patterns within social media videos. Results showed that students frequently encounter cancer misinformation, particularly on TikTok and Instagram. Although most participants were able to identify misleading content, many expressed uncertainty regarding the accuracy of alternative cancer treatments and reported that they rarely challenge misinformation publicly. The content analysis demonstrated that a majority of analyzed videos contained unsupported or misleading claims, often using emotional language and promoting unverified treatments. These findings suggest that social media significantly contributes to the spread of cancer misinformation among Gen Z students and highlight the importance of media literacy education and evidence-based health communication.

Keywords: Medical and Health Sciences; Public Health; Cancer Misinformation; Social Media; Gen Z

INTRODUCTION

Social media has transformed the way health information is created, shared, and consumed. In recent years, short-form video platforms such as TikTok, Instagram Reels, and YouTube have become

increasingly popular sources of information, particularly among adolescents and young adults. Although these platforms provide opportunities to increase awareness and facilitate communication regarding important health issues, they have also contributed to the rapid spread of misinformation. Cancer-related misinformation is especially concerning because inaccurate claims regarding prevention, diagnosis, and treatment may influence health-related decisions and undermine confidence in evidence-based medicine (1). Unlike traditional forms of communication, social media platforms rely heavily on recommendation algorithms that prioritize content capable of generating

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high levels of user engagement. Emotional narratives, sensational headlines, and simplified explanations often receive greater visibility than scientifically supported information. Consequently, false or misleading claims may spread rapidly and become deeply embedded within online communities. Studies have shown that misinformation frequently promotes unproven therapies, exaggerated risk factors, and so-called “miracle cures” that lack scientific support (1, 2).

The consequences of cancer misinformation can be substantial. Previous investigations have demonstrated that exposure to inaccurate information may encourage individuals to delay, discontinue, or reject evidence-based treatments, potentially resulting in poorer health outcomes (3). In addition to physical consequences, misinformation may negatively affect trust in healthcare professionals and scientific institutions. Exposure to conflicting information has also been associated with increased uncertainty and lower confidence in progress toward curing cancer (4). Such findings demonstrate that misinformation not only influences treatment decisions but may also shape public perceptions of medical research and healthcare systems.

Despite these risks, social media is not exclusively harmful. Several studies have highlighted its ability to promote cancer awareness, encourage screening, and disseminate information regarding advances in cancer research. A considerable proportion of cancer-related posts are associated with awareness campaigns and educational initiatives that aim to improve public understanding and encourage preventive behaviors (5). When reliable information is presented in an accessible and engaging manner, social media platforms can serve as valuable tools for health communication and patient education. Consequently, these platforms represent both opportunities for public health promotion and potential sources of misinformation.

Adolescents and young adults are particularly vulnerable to misleading health information because they constitute one of the most active groups of social media users. Members of Generation Z frequently obtain information through digital platforms rather than traditional sources. However, the critical thinking skills required to evaluate the credibility of online information are still developing during adolescence. An analysis conducted by the Organization for Economic Co-operation and Development found that approximately one-fifth of students performed at the lowest level of critical thinking ability, suggesting that many young individuals may experience difficulty distinguishing

reliable information from misinformation (6). Repeated exposure to misleading claims during these formative years may influence future attitudes toward healthcare, disease prevention, and medical treatment.

Previous research has primarily focused on adult populations, cancer patients, and general social media users. Existing studies have examined the prevalence of cancer misinformation and its effects on treatment decisions and public trust, while other investigations have explored the linguistic and emotional characteristics that facilitate the spread of misleading content online (1, 3, 7). However, relatively little research has examined how high school students specifically encounter, interpret, and respond to cancer misinformation. Furthermore, limited evidence exists regarding the extent to which repeated exposure to cancer-related misinformation influences beliefs and behaviors among adolescents. Given that Generation Z represents a substantial proportion of social media users and increasingly relies on digital platforms for health information, this population warrants further investigation.

Therefore, the purpose of this study was to investigate the extent to which short-form video platforms influence the spread and belief of cancer misinformation among Generation Z students. A mixed-methods approach consisting of a survey of high school students and a content analysis of cancer-related videos on TikTok and Instagram Reels was used to examine patterns of exposure, perceptions of accuracy, responses to misleading information, and the prevalence of misinformation on commonly used platforms. It was hypothesized that Generation Z students exposed to cancer-related content on social media would frequently encounter misinformation, experience uncertainty when evaluating the accuracy of online claims, and rarely challenge misleading information publicly. By examining both user experiences and the content encountered on popular platforms, this study seeks to contribute to a greater understanding of how cancer misinformation affects adolescents and to highlight the importance of media literacy and evidence-based health communication.

METHODS AND MATERIALS

A mixed-methods approach consisting of a survey and a content analysis was employed to investigate the extent to which short-form social media platforms influence exposure to and belief in cancer misinformation among Generation Z students. The study was guided by the following research question: To what extent do short-

form video platforms influence the spread and belief of cancer misinformation among Generation Z high school students?

A mixed-methods design was selected because it enabled the examination of both students' experiences and the characteristics of the content to which they are exposed. Surveys have been widely used in misinformation research to evaluate exposure to cancer misinformation and attitudes toward misleading claims (6, 7). Similarly, content analysis has frequently been used to identify patterns and characteristics associated with health misinformation circulating on social media platforms (9, 12). By combining these approaches, a more comprehensive understanding of cancer misinformation among adolescents was obtained.

Alternative research designs, including interviews and experimental studies, were considered. However, interviews would have limited the number of participants and reduced the ability to identify broader trends. Experimental approaches were not pursued because intentionally exposing participants to misinformation could raise ethical concerns. Therefore, the combination of survey methods and content analysis represented the most appropriate approach for addressing the research question.

Participants and Sampling

Participants consisted of Generation Z students attending a high school in New Jersey. A total of 59 participants completed the survey. This population was selected because adolescents represent one of the most active groups of social media users and frequently obtain health information through digital platforms rather than traditional sources (10).

Convenience sampling was used to recruit participants. The survey was distributed through school networks, including teacher distribution, peer sharing, and social media promotion. The content analysis consisted of 50 social media videos, including 25 Instagram Reels and 25 TikTok videos. These platforms were selected because they were identified by survey respondents as the most frequently used platforms. Videos were identified using hashtags including "cancer cure," "cancer treatment," "cancer prevention," and "cancer." This strategy was intended to capture content representative of the information commonly encountered by Generation Z users.

Procedure

The research process occurred in two stages. First, the survey was distributed electronically to high school

students. Participants accessed the questionnaire through a link and completed the survey anonymously. Data collection continued until 59 valid responses were obtained. Responses were automatically compiled through Google Forms and exported into a spreadsheet for analysis.

The second stage involved content analysis. Videos were identified through searches using the selected keywords and hashtags. Each video was viewed individually and coded according to the established framework. Coding decisions were based on predefined criteria to minimize subjectivity and improve consistency. After all 50 videos had been analyzed, percentages were calculated to determine the prevalence of misinformation and to identify common characteristics across videos.

Data Collection Methods

Survey

The survey was designed to assess participants' exposure to cancer misinformation, social media usage patterns, perceptions regarding online cancer information, and responses to misleading content. The questionnaire consisted primarily of multiple-choice and scaled-response questions. Participants were asked about the frequency with which they encountered cancer misinformation and which social media platforms they used most frequently.

Students were also asked to rate the perceived accuracy of information regarding alternative cancer treatments on a scale from 1 to 10. In addition, a scenario-based question was included to evaluate participants' ability to recognize misinformation. A screenshot obtained from an Instagram Reels video containing cancer misinformation was presented, and respondents were asked whether they believed the content contained misinformation. Participants were subsequently asked to justify their responses through a short-written explanation. Scenario-based approaches have previously been used to assess recognition of misleading health information online (7).

Content Analysis

The second component of the study consisted of a content analysis of 50 social media videos. A coding framework was established prior to data collection on the basis of previous studies examining health misinformation on social media (9, 12).

For the purposes of this study, cancer misinformation was operationally defined as any statement regarding cancer prevention, diagnosis,

risk factors, or treatment that contradicted current scientific evidence or recommendations provided by authoritative organizations, including the National Cancer Institute, the American Cancer Society, the Centers for Disease Control and Prevention, and peer-reviewed literature. Any cancer-related claim that was unsupported by credible medical evidence, contradicted information from established health organizations, promoted unproven or alternative treatments as cancer cures, exaggerated cancer risks without evidence, or discouraged viewers from pursuing evidence-based medical care was characterized as misinformation. Each video was coded using predefined categories based on prior research and the goals of this study. Videos were coded for misinformation, emotional appeal, discussion of cures, discussion of risk factors, promotion of products or treatments, encouragement to avoid products or treatments, and indicators of credibility. Emotional appeal was identified when videos used fear-based language, personal tragedy, urgency, dramatic claims, or emotionally persuasive storytelling. Credibility was coded when the creator identified medical credentials, cited credible sources, or represented a recognized health organization. Product or treatment promotion was coded when a video recommended, sold, or encouraged use of a specific supplement, food, lifestyle practice, alternative therapy, or medical treatment. Coding categories were primarily predefined, but minor refinements were made during an initial pilot review to ensure that the categories matched the types of videos encountered. To improve reliability, videos were reviewed carefully and coded consistently using the same criteria, with claims checked against credible cancer information sources when accuracy was unclear. Each video was evaluated according to several characteristics, including the presence of misinformation, emotional appeal, discussion of cancer cures, discussion of cancer risk factors, promotion of products, recommendations to avoid products or treatments, and the establishment of credibility. Emotional appeal was defined as the use of fear, hope, testimonials, or highly dramatic language intended to evoke strong emotional responses. Credibility was considered established when videos referred to healthcare professionals, scientific studies, medical institutions, or professional credentials. Product promotion referred to direct or indirect recommendations of supplements, foods, or commercial products, whereas treatment promotion referred to claims supporting specific therapies or remedies. Engagement metrics, including the number of likes and comments, were also

recorded. Additionally, comment sections were examined to determine whether viewers predominantly supported or challenged the information presented. Because the study was conducted by a single investigator, intercoder reliability statistics were not calculated. However, a pilot coding process involving ten videos was performed before the full analysis, and coding criteria were refined to improve consistency across evaluations.

Descriptive statistics were calculated for all survey and content analysis variables. Frequencies and percentages were used to summarize categorical data. For the content analysis, 95% confidence intervals were calculated for the proportion of videos within each coding category. Differences between Instagram Reels and TikTok were evaluated using two-proportion z-tests. Odds ratios were also calculated to estimate the strength of association between platform type and the presence of selected coding characteristics. Statistical significance was assessed using a two-sided significance level of $\alpha = 0.05$. Because of the relatively small sample size, all inferential findings were interpreted with caution.

Data Management

All data collected through both the survey and content analysis were stored digitally in password-protected files. Survey responses were anonymous, and no personally identifiable information was collected. Responses were exported from Google Forms into Google Sheets for organization and analysis.

For the content analysis portion, information was recorded using a coding table documenting video characteristics and engagement metrics. Because only publicly available content was analyzed, no private information was accessed.

Ethics Statement

This study involved anonymous survey responses from high school students and was conducted in accordance with ethical principles for research involving human participants. Participation was voluntary, and informed consent was obtained electronically before survey completion. No personally identifiable information was collected, and all responses were de-identified prior to analysis. Because the study posed minimal risk and involved anonymous data collection, formal Institutional Review Board approval was not required. Participants were informed that survey completion was voluntary and that responses would remain confidential. Because no sensitive information was collected and no identifying information was retained, parental consent requirements

were waived. The content analysis component involved only publicly available social media videos and did not require interaction with content creators or access to private information.

LIMITATIONS

A significant limitation of the survey was that the participants represented only students from a single high school in New Jersey, limiting the generalizability of the findings to the broader Generation Z population. Furthermore, the use of convenience sampling may have introduced selection bias.

The survey included only 59 participants, and the content analysis examined 50 videos, both of which represent relatively small sample sizes. In addition, social media algorithms provide highly personalized content, meaning that the videos analyzed may not fully represent the experiences of all users.

Another limitation was that content coding was conducted by a single investigator. Although pilot coding and predefined criteria were used to improve consistency, the absence of intercoder reliability measures may have introduced subjectivity into the classification process.

Finally, the classification of misinformation required comparison with current scientific evidence and recommendations from authoritative organizations. Although credible sources were used, the evolving nature of medical knowledge means that some interpretations may be subject to change over time.

RESULTS AND DISCUSSION

The results of this study are based on two main sources: a survey of 59 high school students and a content analysis of 50 social media videos (25 from Instagram Reels and 25 from TikTok). Together, these findings provide a clearer understanding of how often students encounter cancer misinformation, how they respond to it, and how much misinformation is actually present on the platform they use.

Survey Results

A total of 59 Generation Z high school students participated in the survey. Participants reported varying frequencies of exposure to cancer-related misinformation on social media. The largest proportion of respondents (33.9%) indicated encountering cancer misinformation a few times per month, followed by 32.3% who reported rarely encountering such content. Additionally, 16.9%

reported never encountering cancer misinformation, whereas 13.6% indicated exposure a few times per week. A smaller proportion of participants reported encountering misinformation daily. These findings are summarized in Figure 1.

Another very significant finding from the survey relates to how students perceive the accuracy of alternative cancer treatments. One question asked students to rate how often information about alternative cancer treatment on social media is true on a scale from 1 to 10, 1 being never true and 10 being always true. The majority of the responses remained in the middle range, with 27.1% selecting 5, 23.7% selecting 3, and 18.6% selecting 4 (Figure 2).

The survey included a video screenshot which displayed cancer misinformation. Participants were asked whether or not they believed this video contained misinformation. The survey also included a link to a video which explained cancer misinformation and its

How often do you encounter cancer misinformation
59 responses

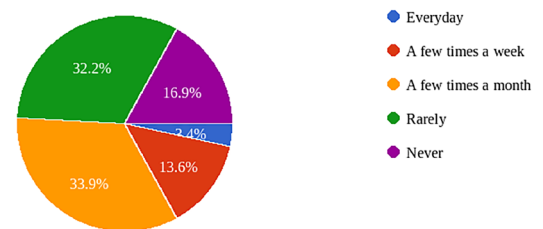


Figure 1. Frequency with which students reported encountering cancer-related misinformation on social media.

To the best of your knowledge, how often is information about alternative cancer treatments and cures shared on social media true?
59 responses

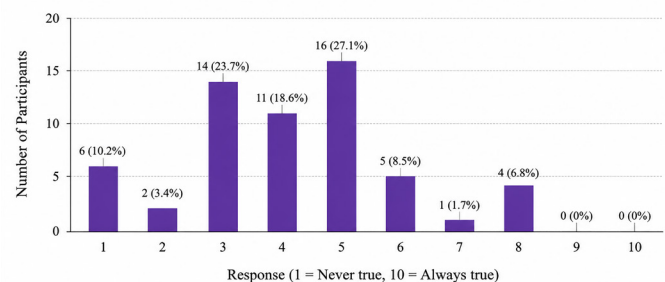


Figure 2. Student ratings of the perceived accuracy of alternative cancer treatment information on social media.

identification in order to minimize possible skews in data or biases due to lack of understanding. This ensured that all students were well aware of what to look for during their analysis of the screenshot. The results revealed that 78% of students were able to correctly identify the video as misinformation, while 22% believed it was accurate (Figure 3).

Most students, when faced with cancer misinformation online, simply keep scrolling. Figure 4 shows that 66.1% of students chose that they would ignore such posts entirely. Instead of staying silent, however, some take action. 23.7% say that they would flag the content for review. A smaller share, 20.3%, state that they would interact with the video in some way (commenting, sharing, etc.). Just under 12% indicated that they would leave a corrective comment. Most students tend to stay silent upon spotting cancer misinformation.

Cancer misinformation is false, inaccurate, or misleading information about cancer, contradicting medically proven facts. Please watch the following video to understand more about cancer misinformation and how to identify it:

[Cancer Misinformation Video](#)

The following image is a screenshot of a video on social media pertaining to cancer. Do you believe this video contains cancer misinformation?

59 responses

[Copy chart](#)

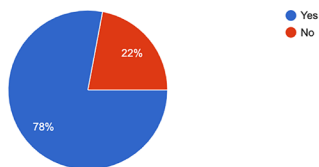


Figure 3. Student identification of misinformation in a cancer-related social media example.

If you were to see a post on social media which contains cancer misinformation, which of the following would you be most likely to do?

59 responses

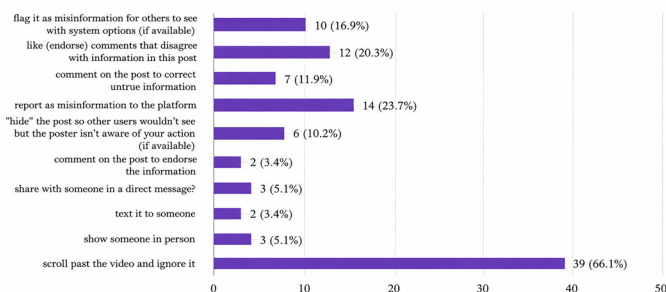


Figure 4. Student responses to cancer misinformation encountered on social media.

Content Analysis Results

Most of what circulates about cancer on social media turns out to be inaccurate. Nearly two in three Instagram clips studied spread misleading information, while TikTok had over three quarters of the videos analyzed containing misinformation. Among fifty total videos reviewed, a clear majority carried misinformation. Looking at the data, a few patterns stood out in how misinformation spread. Some clips pushed “natural fixes” such as detox, beverages, plant extracts, or herbal pills, as if they could defeat cancer. Instead of remedies, certain ones focused on diets: cutting out sugars entirely or sticking to strict eating plans. A number leaned heavily on alarmist tones, warning that routine items, such as microwave ovens, antiperspirants, even sunblock, may trigger disease. Occasionally, videos urged people to stay away from standard treatments like chemotherapy. What stands out is how these trends could sway the audiences toward risky behaviors, undermining trust in care backed by research.

The content analysis included 50 cancer-related short-form videos, consisting of 25 Instagram Reels videos and 25 TikTok videos. Videos were evaluated according to predefined coding categories, including the presence of misinformation, emotional appeal, discussion of cancer cures, discussion of cancer risk factors, product promotion, recommendations to avoid products or treatments, and credibility indicators.

As shown in Table 1, misinformation was identified in 64% of Instagram Reels videos and 72% of TikTok videos. This corresponded to approximately 16 of the 25 Instagram Reels videos and 18 of the 25 TikTok videos containing misinformation. Overall, 34 of the 50 videos analyzed (68%) were classified as containing misinformation.

Emotional appeals were identified in 68% of videos on both platforms, corresponding to approximately 17 Instagram Reels videos and 17 TikTok videos. Videos discussing cancer cures were identified in 44% of Instagram Reels videos and 40% of TikTok videos, while claims regarding cancer risk factors appeared in 56% of videos on both platforms.

Product promotion was observed in 32% of videos on both Instagram Reels and TikTok. Recommendations encouraging viewers to avoid certain products or treatments were identified in 52% of Instagram Reels videos and 36% of TikTok videos. Credibility indicators, including references to healthcare professionals, scientific studies, medical institutions, or professional credentials, were present in 60% of Instagram Reels videos and 44%

Table 1. Content analysis results comparing cancer-related videos on Instagram Reels and TikTok.

	Percentage of videos with misinformation	Percentage that contained emotional appeal	Percentage that talks about cures	Percentage that talks about risks	Percentage that promotes certain products	Percentage that informs to avoid certain products	Percentage that established credibility
Instagram Reels	64%	68%	44%	56%	32%	52%	60%
TikTok	72%	68%	40%	56%	32%	36%	44%

of TikTok videos.

Table 1 summarizes the frequency of each coding category across both platforms. To further compare the prevalence of coded characteristics between platforms, inferential statistical analyses were performed. Although TikTok contained a higher proportion of videos classified as misinformation than Instagram Reels (72% versus 64%), the difference was not statistically significant (two-proportion z-test, $p = 0.56$; odds ratio = 1.45). Likewise, differences in the prevalence of credibility indicators (60% versus 44%; $p = 0.26$; odds ratio = 0.52) and recommendations to avoid products or treatments (52% versus 36%; $p = 0.25$; odds ratio = 1.93) were not statistically significant. These findings suggest that the observed differences between platforms should be interpreted descriptively within the context of the present sample.

Discussion, Analysis, and Evaluation

The results of this study help explain how misinformation about cancer progresses through social media platforms, how teens come across them, and how they make sense of what they see. The survey shows how often students encounter misinformation, while the content analysis shows specifically what type of information they are being exposed to. This leads to a more holistic view of cancer misinformation and how it impacts teens.

Survey Findings

Surprisingly few learners recognize cancer misinformation right away, though many encounter them frequently on digital platforms, as the survey suggests. Over time, occasional contact still shifts how information feels correct - particularly alongside compelling images or dramatic storytelling (9). Previous studies share similar results, as they show that false cancer information consistently appears on people's social media pages, influencing their thoughts and beliefs (1).

Among surveyed students, misinformation about cancer most often appears on Instagram and TikTok. Because Gen Z often spend time there daily, contact with misleading content grows more likely - a pattern supported by earlier studies linking brief video apps to medical misinformation (1, 9). Rather than simply hosting posts, such networks actually influence how inaccuracies move through teen communities.

When teenagers come across questionable treatments promoted online - especially ones labeled as miracles or quick solutions - they often become uncertain or skeptical. Instead of dismissing or embracing information outright, many people hover in a gray area where doubt mixes with curiosity - allowing false ideas to seep into judgement without challenge. Because young learners frequently lack background understanding on medical matters, they face higher risks of being misled, especially since they turn so often to online networks for answers (1, 9).

Although most students were able to recognize a misleading video in the scenario based survey question, a significant portion could not, suggesting that misinformation can still appear convincing. Moreover, students indicated that they generally respond passively when encountering misinformation, rarely challenging or correcting it. This behavior supports prior findings that even when misinformation is recognized, many users feel uncertain about responding or doubt the effectiveness of intervening, allowing misinformation to persist and circulate online.

Content Analysis Findings

The content analysis showed that the majority of videos analyzed on TikTok and Instagram had cancer misinformation. A lot of these videos promoted unproven cures, discussed natural treatments, and instilled a fear of everyday products in the viewer. This is similar to the study conducted by Fridman *et al.*, which found that misinformation spreads more often when it uses

emotionally engaging content, simple stories, and absolute claims (9).

From analyzing the material, it was found that misleading claims tend to emerge through unconfirmed channels, while trustworthy clips usually come from certified health providers. That being said, a video with a confident speaker or claim can make false details seem believable, especially among younger audiences lacking experience in judging authority.

Implications

The findings of this study have several practical implications for health communication and public health education. As adolescents increasingly rely on short-form social media platforms for health information, there is a growing need to equip young users with the skills necessary to critically evaluate digital health content. Incorporating evidence-based media literacy into middle and high school curricula may strengthen students' ability to assess the credibility of online sources, recognize unsupported medical claims, and distinguish scientific evidence from anecdotal or promotional content.

Healthcare professionals and public health organizations may also benefit from expanding their presence on short-form social media platforms. Providing accessible, accurate, and engaging cancer-related information through these platforms may improve the visibility of evidence-based resources and help counter the spread of misleading claims. Presenting information in formats that are both scientifically accurate and appropriate for social media audiences may increase the likelihood that reliable content reaches younger users.

In addition, social media companies may play an important role in reducing the visibility of health misinformation. Continued improvements in content moderation, stronger verification of health-related accounts, and increased promotion of authoritative medical sources may help create a more reliable online information environment. Collaboration among educators, healthcare professionals, researchers, and technology companies may further strengthen efforts to improve the quality and accessibility of cancer-related information available to adolescents.

Ultimately, the findings highlight the importance of a multidisciplinary approach to addressing online health misinformation. Strengthening digital health literacy while improving the availability of trustworthy information may contribute to more informed health decision-making among Generation Z users.

CONCLUSION

This study contributes to the growing body of research examining the relationship between social media and health communication by providing a mixed-methods assessment of cancer-related content encountered by Generation Z high school students. By combining survey responses with a systematic content analysis of TikTok and Instagram Reels videos, the study offers insight into both the online information environment and how adolescents navigate it.

Several limitations should be considered when interpreting these findings. The study was conducted using a convenience sample from a single high school, which may limit the generalizability of the results to other populations. Additionally, the content analysis included a relatively small sample of videos and was conducted by a single investigator, and the dynamic nature of social media algorithms means that the content available to users may change over time.

Future research should examine more diverse populations across multiple geographic regions, include larger samples of social media content, and investigate additional platforms commonly used by adolescents. Longitudinal studies and evaluations of media literacy interventions may also provide valuable insight into how exposure to online health information influences knowledge, attitudes, and health-related decision-making over time.

As digital platforms continue to shape the way young people access health information, understanding the characteristics and dissemination of cancer-related content remains an important area of public health research. Continued collaboration among researchers, educators, healthcare professionals, and technology companies will be essential to improving the quality of online health information and supporting informed decision-making among future generations.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest related to this work.

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APPENDIX A

Survey

This portion of the Appendix contains the exact survey questions that were distributed to the participants.

Consent Form:

PRINCIPAL INVESTIGATOR

Aadhya Rakesh

PURPOSE OF STUDY

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

The purpose of this study is to determine the true proportion of Gen Z who have encountered and can identify cancer misinformation.

STUDY PROCEDURES

1. Offer the opportunity to participate in the survey to those who fit the requirements. Any student who has/has not encountered misinformation of cancer through social media fits the requirement.

2. Gather qualitative data from the surveys. This includes students' perspectives on cancer misinformation through social media, their encounters with this issue, how they have gone about this, and which platforms they encountered this specific type of misinformation. This all aligns directly with my topic, and will help me to find the effect of cancer misinformation through social media on high school students.

RISKS

There are no risks associated with this study. You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

BENEFITS

There are no benefits associated with responding to this survey.

CONFIDENTIALITY

Your responses to this interview will be anonymous.

Every effort will be made by the researcher to preserve your confidentiality including the following:

Not asking for personal, identifying information (ex. name, email address)

Assigning code names and numbers rather than using real names to identify participants

Participant data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk.

CONTACT INFORMATION

If you have questions at any time about this study, or you experience adverse effects as a result of participating in this study, you may contact the researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise that you do not feel you can discuss with the Primary Investigator, please contact the advisor Aadhya Rakesh at aadhyarakesh09@gmail.com

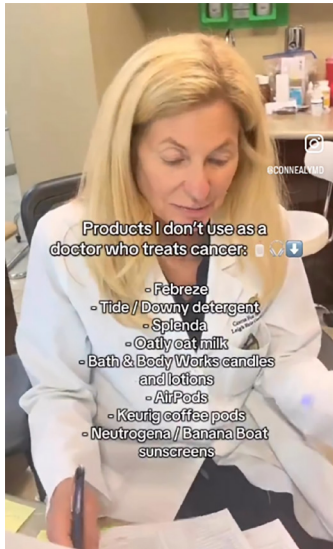
VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason.

CONSENT

I have read and understood the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

The following image is a screenshot of a video on social media pertaining to cancer. Do you believe this video contains cancer misinformation? Explain.



1. How often do you encounter cancer misinformation? *

- ☐ Everyday
- ☐ A few times a week
- ☐ A few times a month
- ☐ Rarely
- ☐ Never

2. What platforms, if any, do you spend the most time on? *

(Select all that apply.)

- ☐ TikTok
- ☐ YouTube
- ☐ Instagram
- ☐ Snapchat
- ☐ Facebook
- ☐ Reddit
- ☐ LinkedIn
- ☐ Discord
- ☐ None
- ☐ Other: _____

3. What platforms, if any, do you encounter cancer misinformation on the most? *

(Select all that apply.)

- ☐ TikTok
- ☐ YouTube
- ☐ Instagram
- ☐ Snapchat
- ☐ Facebook

- ☐ Reddit
- ☐ LinkedIn
- ☐ Discord
- ☐ None
- ☐ Other: _____

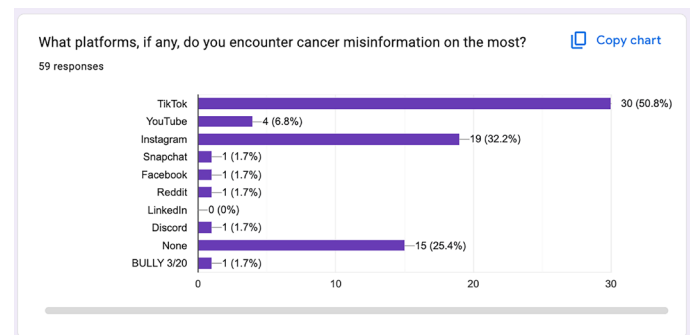
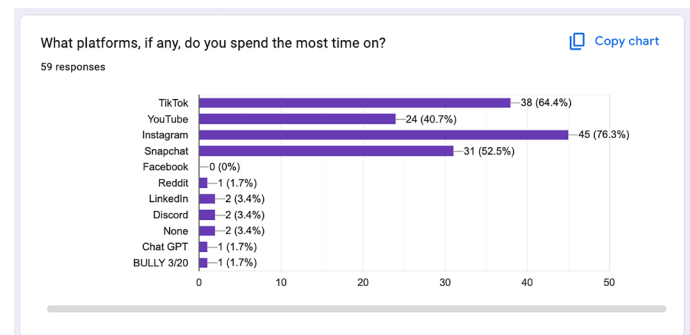
4. To the best of your knowledge, how often is information about alternative cancer treatments and cures shared on social media true? *

- Never 1 2 3 4 5 6 7 8 9 10 Always
- ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

5. If you were to see a post on social media which contains cancer misinformation, which of the following would you most likely do? *

(Select all that apply.)

- ☐ Flag it as misinformation for others to see with system options (if available)
- ☐ Like (endorse) comments that disagree with the information in the post
- ☐ Comment on the post to correct untrue information
- ☐ Report the post as misinformation to the platform
- ☐ "Hide" the post so other users would not see it, but the poster is not aware of your action (if available)
- ☐ Comment on the post to endorse the information
- ☐ Share the post with someone in a direct message
- ☐ Text it to someone
- ☐ Show someone in person
- ☐ Scroll past the video and ignore it



APPENDIX B

Content Analysis

The following is a chart of all the data collected in the content analysis of both platforms.

Video Number	What is this video about?	Does it contain mis-information?	Does it use emotional appeal?	Does it talk about cures for cancer?	Does it talk about risks for cancer?
Instagram #1	Explains how processed meats may increase cancer risk and encourages a whole-foods diet	no	yes	no	yes
Instagram #2	Claims certain herbal supplements can naturally cure cancer without medical treatment	yes	yes	yes	no
Instagram #3	An oncologist explains how chemotherapy works and the common side effects	no	no	no	yes
Instagram #4	Promotes alkaline water as a way to “stop cancer growth” and discourage chemotherapy	yes	yes	yes	no
Instagram #5	Claims high dose vitamin injections can eliminate tumors naturally	yes	yes	yes	no
Instagram #6	States microwaves release radiation that causes cancer	yes	yes	no	yes
Instagram #7	Detox tea advertisement claiming it removes cancer causing toxins from the body	yes	yes	yes	no
Instagram #8	Claims that nerds gummy clusters directly cause cancer	yes	Yes, it uses fear	no	yes
Instagram #9	Explains that sunscreen chemicals cause cancer and recommends avoiding sunscreen	yes	yes	no	yes
Instagram #10	Registered dietitian explaining evidence based diet recommendations for cancer prevention	no	no	no	yes
Instagram #11	Claims lemon water daily can prevent all cancers	yes	yes	yes	no
Instagram #12	Explains how smoking increases cancer risk using statistics from medical studies	no	no	no	yes
Instagram #13	Promotes mushroom extract supplement as a “natural chemotherapy replacement”	yes	yes	yes	no
Instagram #14	Explains early warning signs of skin cancer and encourages dermatologist visits	no	no	no	yes
Instagram #15	Claims plastic water bottles release chemicals that directly cause cancer	yes	yes	no	yes
Instagram #16	Promotes essential oils as a treatment that can destroy cancer cells	yes	yes	yes	no
Instagram #17	Explains that regular screenings can help detect cancer early	no	no	no	yes
Instagram #18	Explains the role of genetics in cancer risk	no	no	no	yes
Instagram #19	Claims intermittent fasting can completely cure cancer	yes	yes	yes	no
Instagram #20	Doctor explaining the importance of HPV vaccination in preventing cancer	no	no	no	yes
Instagram #21	Claims deodorant causes breast cancer due to toxins	yes	yes	no	yes
Instagram #22	Promotes turmeric pills as a natural cancer cure	yes	yes	yes	no
Instagram #23	Explains how UV exposure damages DNA and increases cancer	no	no	no	yes
Instagram #24	Claims sugar “feeds cancer” and must be completely eliminated to survive cancer	yes	yes	yes	no
Instagram #25	Promotes detox juice cleanse claiming it removes cancer cells from the body	yes	yes	yes	no

Video Number	Does it promote certain products?	Does it inform the viewer to avoid certain products?	Does it establish credibility from the author/creator? If so, is it reliable?	How many likes does it have?	How many comments does it have?	Do the comments mainly support/counter the video?
Instagram #1	no	Yes (tells the viewer to avoid processed meats)	Yes (claims to be a nutrition coach, not verified)	23.4k	812	The comments were mostly supportive
Instagram #2	Yes (herbal supplements)	no	Yes (claims to be a holistic doctor, but there is no proof)	41.2k	739	Mostly supportive comments, the viewers mainly believed the video
Instagram #3	no	no	Yes, licensed oncologist (credentials are in bio description)	9,872	145	The comments were supportive of cancer patients, and mainly believed what the author had to say
Instagram #4	Yes (alkaline water brand)	Yes (avoid chemotherapy)	There are no clear credentials	67.5k	3421	The majority of the comments were supportive, but there were some who refuted the claims and supported chemotherapy as a valid treatment
Instagram #5	Yes (vitamin injections)	Yes (avoid sugar entirely)	Claims to be medical researcher, but it is not verified	52k	2010	Many of the comments agree with the creator
Instagram #6	no	Yes (avoid microwaves)	No credentials	28.9k	744	The comments agree with this, with some even saying they are willing to give up their microwave
Instagram #7	Yes (detox tea)	Yes (avoid hospital treatment)	Claims naturopathic doctor (not verified)	75k	4500	The comments were mostly supportive
Instagram #8	no	Yes (nerds gummy clusters)	no	13.1k	407	The comments were mainly feeding into the fear, and claiming they were scared to eat this type of candy now
Instagram #9	no	Yes (avoid sunscreen)	No credentials	34.1k	921	Most comments support the claim and discuss avoiding sunscreen
Instagram #10	no	no	Yes (licensed dietitian)	11.4k	208	Comments are supportive and appreciative
Instagram #11	no	no	No credentials	27.6k	601	Comments mostly support the claim
Instagram #12	no	Yes (avoid tobacco)	Yes (public health educator)	8,341	144	Comments agree and discuss quitting smoking
Instagram #13	Yes (supplement)	Yes (avoid chemotherapy)	Claims holistic practitioner (not verified)	62k	1873	Comments mostly supportive
Instagram #14	no	no	Yes (dermatologist)	14.2k	266	Comments are supportive
Instagram #15	no	Yes (avoid bottled water)	No credentials	19.6k	452	Comments mostly agree
Instagram #16	Yes (essential oils)	no	No credentials	44k	998	Comments are mostly supportive
Instagram #17	no	no	Yes (hospital educator)	7.5k	121	Comments are supportive
Instagram #18	no	no	Yes (genetics researcher)	6.9k	104	Comments are supportive
Instagram #19	no	no	no	36k	889	Comments are mostly supportive
Instagram #20	no	no	Yes (physician)	12.8k	314	Comments supportive
Instagram #21	no	Yes (avoid deodorant)	No credentials	29k	774	Comments mostly fearful and supportive

Video Number	Does it promote certain products?	Does it inform the viewer to avoid certain products?	Does it establish credibility from the author/creator? If so, is it reliable?	How many likes does it have?	How many comments does it have?	Do the comments mainly support/counter the video?
Instagram #22	Yes (turmeric supplement)	no	Claims health coach (not verified)	47k	1602	Comments mostly supportive
Instagram #23	no	Yes (avoid excessive sun exposure)	Yes (medical researcher)	5,829	89	Comments are mainly supportive
Instagram #24	no	Yes (avoid sugar)	Nocredentials	33k	714	Comments are mostly supportive
Instagram #25	Yes (detox juice program)	no	Claims wellness influencer (not verified)	54k	2110	Comments mostly supportive

Video Number	What is the video about?	Does it contain misinformation?	Does it use emotional appeal?	Does it talk about cures for cancer?	Does it talk about risks for cancer?
TikTok #1	The video is explaining that moving and eating regularly can reduce cancer growth.	Yes	No	Yes	No
TikTok #2	This video talks about how having fevers, losing weight, and feeling tired means you have cancer.	Yes	Yes, it uses fear	No	Yes
TikTok #3	The creator explains things that she stopped to “cure” her cancer, such as sugar.	Yes	No	Yes	No
TikTok #4	The video depicts an AI generated cancer patient crying and asking the audience for sympathy (labeled as AI-generated on TikTok)	Yes	Yes	No	No
TikTok #5	Creator claims baking soda water cures cancer	yes	yes	yes	no
TikTok #6	Doctor explaining how chemotherapy targets rapidly dividing cells	no	no	no	yes
TikTok #7	Claims detox smoothies remove cancer cells	yes	yes	yes	no
TikTok #8	Explains how smoking damages lung tissue and causes cancer	no	no	no	yes
TikTok #9	Creator claims raw vegan diet alone cured their cancer	yes	yes	yes	no
TikTok #10	Explains the importance of mammograms for early detection	no	no	no	yes
TikTok #11	Claims wearing bras increases breast cancer risk	yes	yes	no	yes
TikTok #12	Explains that vaccines cause cancer	yes	yes	no	yes
TikTok #13	Promotes herbal tincture claimed to dissolve tumors	yes	yes	yes	No
TikTok #14	Explains warning signs of colon cancer	no	no	no	yes
TikTok #15	Claims aluminum cookware causes cancer	yes	yes	no	yes
TikTok #16	Explains how alcohol consumption increases cancer risk	no	no	no	yes
TikTok #17	Promotes CBD oil as a cure for cancer	yes	yes	yes	no
TikTok #18	Claims microwave radiation causes cancer	yes	yes	no	yes
TikTok #19	Doctor explaining cancer screening guidelines	no	no	no	yes
TikTok #20	Claims drinking celery juice detoxes cancer	yes	yes	yes	no
TikTok #21	Claims stress alone directly causes cancer	yes	yes	no	yes
TikTok #22	Explains link between HPV and cervical cancer	no	no	no	yes
TikTok #23	Promotes alkaline diet as cure for cancer	yes	Yes	yes	no
TikTok #24	Claims smartphones emit radiation that causes cancer	yes	Yes	no	yes
TikTok #25	Claims certain crystals can heal cancer energy	yes	yes	yes	no

Video Number	Does it promote certain products?	Does it inform the viewer to avoid certain products?	Does it establish credibility from the author/creator? If so, is it reliable?	How many likes does it have?	How many comments does it have?	Do the comments mainly support/counter the video?
TikTok #1	No	No	Yes, but not reliable (creator claims he is a doctor, but does not elaborate/provide actual evidence)	14.8k	397	The comments mainly oppose the video.
TikTok #2	No	No	Yes, but it is not reliable (creator claims he is a doctor, but does not elaborate/provide actual evidence)	115k	2047	The comments seem to endorse the video, and support its ideas. Some commenters seem fearful or scared.
TikTok #3	No	Yes	Yes, the creator claims that she is a cancer patient. It is unknown whether it is reliable.	1779	56	The comments seem to believe and support this video
TikTok #4	No	No	No, it is shown that it is AI generated, meaning the video was simply made for clout rather than pertaining to a real cancer patient.	48.5k	7194	The comments respond to the video as though it is a real person, and most people send their sympathies.
TikTok #5	no	no	No credentials	92k	2150	Comments mostly supportive
TikTok #6	no	no	Yes (verified oncologist)	24k	640	Comments supportive
TikTok #7	Yes (smoothie program)	Yes (avoid hospital treatments)	No credentials	61k	1320	Comments supportive
TikTok #8	no	Yes (avoid cigarettes)	Yes (public health educator)	18k	390	Comments supportive
TikTok #9	no	no	No credentials	73k	174	Comments supportive
TikTok #10	no	no	Yes (nurse practitioner)	16k	310	Comments supportive
TikTok #11	no	Yes (avoid bras)	No credentials	58k	1402	Comments are mostly supportive
TikTok #12	no	Yes (vaccines)	No credentials	22k	540	Comments are mostly supportive
TikTok #13	Yes (herbal product)	no	No credentials	67k	1880	Comments supportive
TikTok #14	no	no	Yes (doctor)	13k	250	Comments supportive
TikTok #15	no	Yes (avoid cookware)	No credentials	41k	890	Comments supportive
TikTok #16	no	Yes (avoid alcohol)	Yes (public health researcher)	11k	201	Comments supportive
TikTok #17	Yes (CBD oil)	Yes (avoid hospital treatment)	Claims wellness expert (not verified)	76k	987	Comments supportive
TikTok #18	no	Yes (avoids microwaves)	No credentials	34k	770	Comments supportive
TikTok #19	no	no	Yes (physician)	12k	220	Comments are supportive
TikTok #20	Yes (celery juice product)	Yes (avoid chemotherapy)	No credentials	49k	1103	Comments are mostly supportive
TikTok #21	no	no	No credentials	39k	848	Comments are supportive
TikTok #22	no	no	Yes (doctor)	9,629	180	Comments are supportive

Video Number	Does it promote certain products?	Does it inform the viewer to avoid certain products?	Does it establish credibility from the author/creator? If so, is it reliable?	How many likes does it have?	How many comments does it have?	Do the comments mainly support/counter the video?
TikTok #23	Yes (diet programs)	no	No credentials	57k	921	Comments are supportive
TikTok #24	no	Yes (avoid phones)	No credentials	46k	1020	Comments are supportive
TikTok #25	Yes (crystals)	Yes (avoid medical treatment)	No credentials	53k	783	Comments are supportive