“Let food be thy medicine”: The rhetoric of food-based cancer cures in online spaces

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Abstract

When the emotional weight of a cancer diagnosis coalesces with the limitations of mainstream oncology, cancer patients and their families may turn to online spaces, looking for answers and glimmers of hope. Through blogs and online columns, alternative medicine proponents entice this audience away from conventional treatments with the possibility of a cure that is hiding in plain sight: on their plates. Understanding the landscape of online information related to food-based alternative cancer cures can equip clinicians and health communicators with the background to understand dissenting voices and the persuasive techniques that may be compelling to them. This paper presents the results of a qualitative rhetorical thematic analysis of the writings of online food-as-(cancer)-medicine evangelists, revealing promises of empowerment, a natural restoration of order, and control over bodily health, all through the familiar medium of food.

Keywords

cancer, alternative medicine, rhetoric, food as medicine

Introduction & Literature Review

Food as Medicine for Cancer

“Let food be thy medicine, and medicine thy food” -attributed to Hippocrates, c. 400BC.

This quotation has been highly cited in both the scholarly and popular sphere as a poetic example of the wisdom of a venerable intellectual ancestor. While it has ultimately been determined to be a misquotation that falsely represents Hippocrates’ understanding of food and medicine (Cardenas, 2013), its widespread usage is indicative of the growing conversation around the linkages between diet and health. In particular, there is a substantial body of evidence that documents the relationship between diet and the development of cancer, with some diets showing great promise as a preventative ‘medicine’ (Buja et al., 2020; Dinu et al., 2018; Veettil et al., 2021).

Preventative medicine notwithstanding, the use of diet in cancer *treatment* occupies a boundary position between conventional oncology and complementary and alternative medicine (CAM). Sound nutrition and a healthy diet are acknowledged as being important complements for patients with a cancer diagnosis, and some specific diets have even shown preliminary potential for use in cancer treatment (Blackwood et al., 2020; Klement et al., 2020; Thompson et al., 2017). There is also a body of evidence documenting quality-of-life benefits from pursuing CAM therapies as part of an integrative approach to cancer treatment (Marchand, 2014). Nevertheless, some complementary diet and supplement regimes have been blamed for premature deaths and lessening the effectiveness of conventional care (Diorio et al., 2020; Vernieri et al., 2018).

Moreover, the use of diets as an *alternative* cancer cure, taken up in the place of conventional medicine (rather than simply a complementary adjunct) is particularly controversial.

"Cancer-cures" is an arena of CAM that has been historically rife with quackery, snake-oil salesmen and outright fraud; specialized diets or supplements make up a well-recognized class of unsubstantiated alternative cures that offer false hope to a vulnerable population (Cassileth & Yarett, 2012; Herbert, 1985). Some of the most persistent and common food-based alternative cancer medicines focus on plants and herbs, including Essiac herbal tea, Gerson therapy (coffee enemas and organic vegetarian diet), the Budwig protocol (cottage cheese and flaxseed oil), amygdalin (extract of bitter almond), curcumin, and medicinal mushrooms (*Individual Therapies*, n.d.).

The use of alternative therapies in lieu of conventional care has been shown to increase risk of death from curable cancers (Johnson et al., 2018a). Even cancer patients who engage with complementary therapies as an adjunct to their conventional care are similarly at increased risk of death due to delay or partial refusal of treatment (Johnson et al., 2018b). As such, it is important that people facing a cancer diagnosis, their clinicians and health communicators all have a full understanding of the forces that can sway cancer patients to refuse conventional treatments in favor of alternative paths.

Online Spaces, Cancer and Food Advice

While the promotion of food-based alternative cancer cures is hardly a novel phenomenon, the Internet is credited with shifting previously underground, unorthodox CAM cancer therapies into the mainstream (Cassileth & Yarett, 2012). This rise in online 'alternative cancer cure' claims intersects with the fact that consumers, including cancer patients, often turn to online sources for advice about nutrition and health (Hartoonian et al., 2014). Consumers are especially likely to seek online health information when their psychosocial and information needs are not being met by other sources (Lee & Hawkins, 2010). Online spaces can serve as sources of advice and support for cancer patients, particularly as spaces to create belonging and build personal connections in a time of psychological uncertainty and fear (Cheung & Zebrack, 2017; Pyle et al., 2020). However, in these online spaces, cancer patients and their caregivers are likely to encounter false or misleading claims that take advantage of their precarious emotional position (Chen et al., 2018; Moolla et al., 2019; Warner et al., 2020).

Topics related to nutrition are similarly vulnerable to misinformation. In online spaces, the complexity of nutrition advice converges with poor science reporting, the inherent familiarity of food, the allure of fad diets and the commercial drivers of influencer (micro-celebrity) culture to create a perfect storm of misleading claims (Garza et al., 2019; Rousseau, 2015; Wansink, 2005).

In contrast to factual health and nutrition messages, misinformation tends to spreads rapidly in online spaces, gaining traction in echo chambers of user-created content and social networks, even veering into conspiracy theories that sow distrust in medical institutions (Seymour et al., 2015; Swire-Thompson & Lazer, 2020). This spread of misinformation about health-related issues is particularly concerning, given how this digital information can have a real, physical impact on consumers' lives. The 'infodemic' surrounding COVID-19 has recently brought attention to this potential for harm; online misinformation and false claims about COVID-19 transmission and prevention have had a discernible effect on personal health decision making, resulting in unnecessary death (Cuan-Baltazar et al., 2020; Islam et al., 2020). As such, it is important to explore how health misinformation is conveyed and what elements of misinformation may be persuasive for consumers.

Online Rhetoric Related to Cancer, CAM and Nutrition

Modes of persuasion can be explored through the lens of classical rhetoric: appeals to *logos, pathos,* and *ethos*, where *logos* refers to persuasion based on logic, *pathos* describes appeals based on emotion and *ethos* denotes appeals based on the audience's presumed values, which are used to establish the character and credibility of the speaker (Enos, 2010). Blogs and user-maintained web pages operate as sites of persuasion, with online writers sharing texts that employ these classical elements of rhetoric, in conjunction with the unique features of online spaces, such as speed of information evaluation and personal control over identity formation (Zappen, 2005).

The use of *ethos*, the spirit of the speaker, is notable in the discussion of health information and experiences online, where the writer's credibility and stance is particularly relevant (Gurak & Antonijevic, 2009). There is a growing body of literature around the strategies and modes used to establish credibility in online spaces, particularly related to health and nutrition information. In the sphere of nutrition and health, credibility is commonly established by positioning oneself as a credentialed, well-versed expert, and/or as a lay person with valuable personal experience or knowledge (Cesiri, 2016; Huovila & Saikkonen, 2016; Lederman et al., 2014; Leenen & Penders, 2016).

Additionally, the use of personal narrative and testimony appears to be a compelling strategy in messaging regarding health and nutrition (Keer et al., 2013; Kreuter et al., 2007; Lockley, 2020). This understanding is significant regarding persuasive speech around complementary and alternative medicine; by and large, CAM modalities lack the substantial empirical evidentiary support of mainstream medical therapies, so there is a notable use of personal testimony as a persuasive tool (Arif & Ghezzi, 2018; Carey, 2006; Clark, 2013).

In relation to online messaging about cancer, rhetoric that appeals to the dual states of fear and hope is significant in establishing a persuasive argument (Dillard & Nabi, 2006; J. Wang & Wei, 2020; X. Wang et al., 2019), while discussions of alternative medicine are often couched in appeals to nature and distrust of conventional medicine (Derkatch, 2016; Kaptchuk & Eisenberg, 1998; Swartzman et al., 2002). Finally, there is a body of literature that relates food and dietary advice to themes of self-government, nature, control and personal responsibility (Hite, 2019; Jacobsen, 2004; Seiler, 2014).

Although there is literature that discusses online rhetoric related to these topics independently, there has not yet been substantial research into the rhetorical strategies and themes that are used to persuade cancer patients that food-based cures are a viable alternative medicine for cancer. Given the potential for harm associated with online misinformation, related to both nutrition and cancer treatments, and given the increased interest in nutrition as a CAM modality for treating cancer (Mazzocut et al., 2016), it is important to understand *how* online voices are able to create a persuasive argument for forgoing conventional cancer therapies in favor of diet-based alternatives. This paper aims to describe the nature of rhetorical appeals and messaging in those spaces in order to more fully characterize the persuasive quality of these voices.

Methodology

This paper will attempt to address this research question through a qualitative descriptive analysis of the latent and manifest meaning of the text from the blog posts and articles in which food is depicted as an alternative cancer treatment.

A purposive snowball sampling method combined with search engine keyword searches was used in order to identify websites and blogs where diet therapies are promoted as an alternative to conventional cancer treatments. In addition to following links embedded in the text of identified sources to locate similar sources, the search tools of similarsites.com (*About Us*, 2021) and Google's "related:" search operator (*Refine Web Searches*, 2021) were used.

To locate additional sources, Wikipedia's classification system was mined for any figures who were tagged as being "Alternative cancer treatment advocates" or "Pseudoscientific diet advocates. The online presence (blogs or websites) of contemporary individuals were screened for inclusion based on the inclusion/exclusion criteria (Table 1). Ultimately 116 documents were identified for analysis, sourced from 13 different websites (Table 2)

The included pages and posts were captured for qualitative data analysis using MaxQDA's Web Collector browser extension for GoogleChrome and the saved documents were loaded into MaxQDA. The textual content of the documents was coded inductively for themes and rhetorical strategies, with new codes being deduced and added as analysis proceeded. Codes were then organized into categories that reflect the basic functions of the classical modes of persuasion (ethos, pathos and logos).

Table 1: Data source inclusion/exclusion criteria

INCLUDE:	EXCLUDE:
• Articles or blog posts that make explicit, positive reference to the adoption of a specialized diet or specific food as a cancer therapy • Articles or blog posts that encourage readers to forgo conventional cancer treatments in favor of food-based alternatives	• Sites or blog posts where diet is framed exclusively as cancer prevention, or in the context of weight loss/general wellness • Sites that exist only as a landing page to point to traditionally published materials (books) • Sites that exist only as a landing page to point to physical cancer or wellness clinics • Sites or blogs that are behind any kind of login or require the creation of a personal account

Table 2: Summary of data sources identified for analysis

SITE	NUMBER OF DOCUMENTS INCLUDED
GettingHealthier.com	5
FoodMatters.com	11
TruthAboutCancer.com	15
Natural News Blog	5
Karen Berrios	9
Elissa Goodman	11
David Wolfe	6
Chris Beat Cancer	8
Cancer Tutor	7
Breast Cancer Conqueror	4
B Renewed	1
Beat Cancer	16
AntiCancerMom	18

See this supplementary material for a complete list of documents analyzed

Results

The data collection resulted in a heterogenous mixture of texts that prescribe diets and reports of specific foods that are purported to treat cancer. Examples of dietary protocols include raw, vegan juice diets, vegetarian diets, Gerson therapy (coffee enemas and organic vegetarian diet), the Budwig protocol (cottage cheese and flaxseed oil), the Brandt grape diet (fasting, grapes and water), ketogenic diet and the Jim Kelmun protocol (baking soda and maple syrup).

Examples of specific singular foods, herbs and extracts that are commonly mentioned included: amygdalin (extract of bitter almond), curcumin, medicinal mushrooms, Essiac herbal tea, ginger, soursop, turmeric, dandelion root, garlic, carrots, mistletoe and cruciferous vegetables.

Analysis of the identified texts where these “cures” are discussed reveals the presence of a number of themes and rhetorical strategies that have the potential to be persuasive to people facing a cancer diagnosis, which can be understood by their functions as appeals to logos, pathos and ethos. Common rhetorical strategies used in these spaces include: use of personal narratives and anecdotes, selective use of scientific citations and explanations and use of language that conveys certainty and confidence in the propositions being made.

Themes that cut across the texts include: distrust in modernity and traditional institutions (particularly in regards to a divide between natural and artificial, and corruption in medicine) and personal empowerment related to food and health. Taken together, these themes and rhetorical strategies appeal to the three classic elements of persuasion: *ethos, pathos* and *logos* (Figure 1) and suggest a connection to psychological factors that make consumers susceptible to fraudulent health claims.

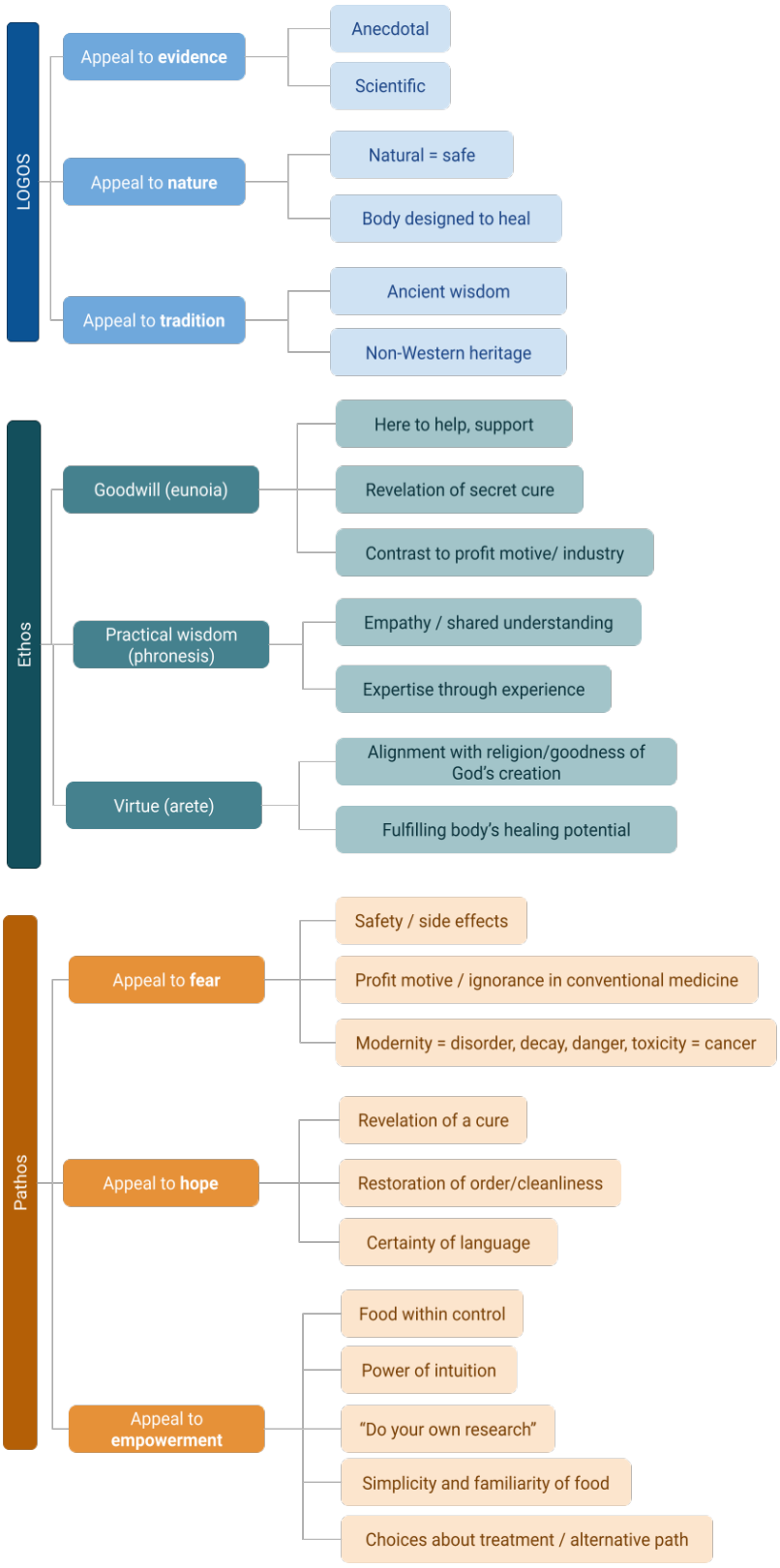

Figure 1: Appeals to ethos, pathos and logos present in the online writings of proponents of food-based alternative cancer cures.

Discussion

MacFarlane, Hurlstone and Ecker (2020) have recently proposed a taxonomy of the psychological drivers of consumer susceptibility to fraudulent health claims and how those drivers might resist intervention (see Appendix A). While all the drivers that they outline are relevant to food-based alternative cancer cures, the emergent rhetorical strategies and themes uncovered in this paper are particularly aligned with the psychology of visceral influence, irrational affect and nescience.

Rhetorical Strategies in Messaging

Use of Personal Narrative

The use of personal narrative is a hallmark rhetorical feature of the spaces where writers propose food as an alternative cancer treatment. The function of this technique is manifold: establishing a line of reasoning that relies on anecdotal evidence of efficacy, establishing the ethos of the writer as an empathetic, trustworthy voice and inspiring hope within the reader as they hear glowing stories of wellness and healing through food.

Reliance on anecdotal evidence to support claims is commonly found in online spaces promoting CAM modalities, where reliable scientific evidence is scarce, so it is unsurprising to see these writers employing this technique. Because there is not necessarily strong scientific evidence to make claims about the effectiveness about these food-based cures, these personal narratives are able to speak to the nescience of the consumers; lack of sufficient knowledge about a situation encourages a tendency to intuitively generate dubious cause and effect relationships (MacFarlane et al., 2020).

For example, when the 'Anti-Cancer Mom' writes something like "I began to notice the cancerous lymph node in my neck drastically reducing in size, almost to the point of non-detection after only a month on my new diet" (Campbell, 2016, para. 4) it is cognitively easy for the reader to observe this event as intuitive evidence of the diet's effectiveness. The reader registers a causal connection between diet and recovery and begins to feel positively about the potential usefulness of the diet, even if the causation is not actually clear.

Perhaps more importantly, personal narratives from cancer survivors speak to the unique emotional state of those grappling with a cancer diagnosis. Cancer patients often report feelings of psychological distress, particularly depression, anxiety, fear, feelings of discouragement and liminality (ambiguity, uncertainty and alienation) (Blows et al., 2012; Gundelach & Henry, 2016). Often, these alternative medicine proponents have gone through those difficult emotions themselves; they are able to share their personal struggle, expressing empathy and compassion, and ultimately the hope they found in a food-based cure.

There is evidence to suggest that not only are emotional appeals (appeals to pathos) effective rhetorical devices in general, but they are particularly effective when there is a 'match' between the emotions being conveyed in the message and the emotional state of the receiver (Teeny et al., 2021). This condition is met in these online writings, where readers can recognize their own fears and anxieties in the narrative, priming them to be more amenable to the implicit or explicit message: 'this diet cures cancer'.

(Selective) Use of Scientific Evidence

While these writers often give health advice based on personal experience, they also commonly cite scientific-seeming explanations of cancer biology and offer citations from medical journals to support their advice. While the use of citation is *de rigueur* in academic settings, reliance on citations is also evident in informal online spaces, like blogs and forums, as a credibility establishing technique, used to develop the ethos of the writer as a trustworthy source (Lederman et al., 2014).

The use of scientific-sounding explanations and vocabularies also serves as a logical appeal to the authority of science, suggesting that if a cure can be explained "scientifically", it is more compelling. As a reader is gathering information about their condition and treatment options, the use of medical explanations and scientific citations may put their mind at ease, allowing them to accept the proposed cure as an alternative, but still scientifically validated, treatment path.

Furthermore, these quasi-scientific biological explanations offer readers a surface level familiarity with the important vocabulary and concepts related to cancer. But in doing so, they may lead readers to overestimate their understanding of the phenomena at hand, creating an illusion of knowledge (MacFarlane et al., 2020). This illusion interferes with readers' abilities to critique the logic of the claims they encounter; consumers come to use an oversimplified mental model to evaluate detailed health claims, the validity of which can only be fully assessed in the context of a more complex model of cancer biology and oncologic medicine.

These appeals to science become even more problematic when it becomes apparent that the studies that are being cited are individual papers that have been selectively chosen support the appeal; these 'cherry-picked' studies may be of low methodological quality, or present early-stage animal, lab-based findings, with limited applicability to human subjects. The use of these scientific claims in these spaces represents a misappropriation of the processes of science, presenting individual studies as more significant than community-wide consensus.

For instance, a post (Desaulniers, 2021) on the website TruthAboutCancer.org cites a single, *in vitro* study (Todorova et al., 2017) as evidence that amygdalin (extract of bitter almond) is an effective cure that has been suppressed. All the while, that argument ignores the preponderance of clinical evidence that indicates consensus among dozens of studies that laetrile has no demonstrated clinical effectiveness, but does carry risk of harmful side effects (Milazzo & Horneber, 2015). In these writings, the use of scientific citations appears to superficially function as a credibilizing strategy, but only insofar as the reader is not concerned or acquainted with the tenets of evidence-based medicine (e.g. reliance on consensus following multiple, rigorous studies).

Use of Certain, Superlative Language

Much of the language use and construction of claims in these writings employs substantive phrasing and superlative descriptions of the power of these food-based cures. For instance, holistic healing advocate Elissa Goodman (2015) writes:

> "Pineapple is true medicine. Why? Because it's one of the richest sources of the supernatural healing enzyme bromelain. Bromelain's ability to treat such a wide range of health problems is incredible. I'm blown away by its natural cancer fighting powers in addition to a long list of other benefits...bromelain's anti-tumoral effect is superior to an agent used in chemotherapy, 5-fluorauracil" (paras. 1-6).

Descriptions like this convey a confidence and certainty in food's healing power that may function as an appeal to pathos, inspiring hope in the reader, an attractive emotional state to a reader who is experiencing the psychological distress of a cancer diagnosis. Additionally, conveying certainty and enthusiasm works to establish the ethos of the writer, capitalizing on the tendency of people to interpret confidence as a signal of trustworthiness or knowledge. MacFarlane et al., (2020) note that the overconfidence of some alternative health advocates can undermine consumers' ability to accurately evaluate the content of their messaging; the certainty and confidence with which a claim is made is taken to indicate its truth value, obscuring the potentially faulty logic that underpins the claim itself.

The degree of confidence and enthusiasm conveyed by these online writers is particularly striking in contrast to how the medical and scientific community communicates with patients about their condition and treatment options. The language of science and medicine tends to be more hedged, cautious, and based on professional consensus, especially when it comes to giving actionable advice to patients. Doctors must adhere

to professional standards and are ethically constrained against giving false hope in complex medical situations; they tend to discuss prognosis in more cautious terms of statistics, ratios and “likelihoods”. Advice-givers on the internet, whether they are sharing their personal stories or citing studies, have no such ethical constraints, and are free to make substantive and superlative claims about the power of food, misrepresenting the complexity and nuance of the relationship between cancer biology and nutrition.

Themes in Content of Messaging

Distrust in Modern Society & Traditional Institutions

Natural vs. Artificial

Running throughout these writings are common themes that portray food as a safe, natural solution to an illness that is caused by, or at least worsened by, modern society. There is a pervasive message, subtle in some writings and explicit in others, that cancer is a product of the decayed state of modern life: poor diet and alienation from nature’s inherent goodness. For example, a post on NaturalNewsBlogs claims:

> Our giant food industry processes out the life-giving properties from most of the food you buy from your modern supermarket, aka the food cemeteries, leaving it dead. The life-giving chemicals and enzymes from pure, natural, alive food keeps your blood stream pure. But, when you continually consume denatured, devitalized, preserved, pasteurized, additive-laden junk food, your bodily system becomes poisoned beyond bodily toleration, and guess what? Cancer symptoms appear. (Goldstein, 2020, para. 21)

In contrast to the ills of modernity, (and the toxic tools of chemotherapy, surgery and radiation) food-based medicine is painted as unquestionably safe, representing a return to a more natural state of being, closer to God. These frequent contrasting depictions (natural is safe, good and divine; man-made is disease-causing, toxic and corrupt) create a line of argument such that if a solution is found in nature, it is necessarily safe and good. Not only is the ‘appeal to nature’ a common logical fallacy (Shatz, n.d.), these irrational affective associations are often employed by alternative health advocates to support their messaging. The associations (“natural is good; artificial is bad”) turn into heuristics that consumers use to evaluate health claims, creating a barrier to critical evaluation of the information (MacFarlane et al., 2020). Indeed, the use of these symbolic associations is emblematic of the tendency of alternative medicine adherents to rely on intuitive, heuristic based reasoning to assess health claims (Lindeman, 2011).

The portrayal of food within the rhetoric of natural/artificial appears in these writings in a way that speaks to the dual states of hope/fear in cancer patients: fear that the man-made treatment is worse than the disease and hope that it is possible to heal more gently and live more cleanly, closer to God. In some ways, these messages extend beyond the bounds of medical advice and begin to offer a degree of order and coherency that conventional medicine cannot. For example, Chris Wark (2019), of ChrisBeatCancer writes:

> Nature exists in perfect order.
> The human body, just like nature, is Intelligently Designed to work in perfect order.
> You have trillions of cells in your body, each cell is more complex that anything man has made!
> Do you think that these trillions of cells work together in perfect harmony on accident, by chance?
> Cancer is the body’s NATURAL response to overwhelming toxicity and suppressed immune function.
> It is the body’s brilliant attempt to save your life.
> The earth was created for us by God.

> Everything the body needs to thrive and heal can be found in nature, specifically whole plant and animal foods from the earth (sec. 17).

There is a metaphysical element to cancer and these food-based cures are discussed. It offers comfort and a sense of alignment during a dark and difficult time. As Alan Jay Levinovitz (2021) describes it:

> When you're sick, you want to get well, but that's not all. You also want to feel safe, that your body and your world will not betray you again, and that you have some agency over avoiding further betrayals. In these vital moments of need and crisis, modern medical science offers little empowerment. It doesn't tell us stories about a harmonious world and the power of our agency within it (p. 5)

Online writers, like Chris Wark and others, offer a narrative that capitalizes on this failure of modern medical science to address the psychosocial or even spiritual elements of cancer; they promote a cure that won't just heal cancer, but will eliminate the toxicities of modern life and bring a person back into harmony with the natural world.

Modern Medicine & Conspiracy

In many of these writings, distrust in the artificial and the man-made extends beyond the specifics of treatments and into distrust of modern medicine as an institution. Alongside claims about the safety of natural food-based cures, there are references to allopathic medicine as a corrupt behemoth, preying on the sick for profit and power: the American healthcare system. For instance, the Breast Cancer Conqueror posts:

> Unfortunately, Health Insurance companies have not kept pace with the science behind natural healing. In an effort to retain their portion of the massive profits of the conventional cancer industry, they have joined sides with the controlling forces of our day:
>
> The American Medical Association with its monopoly of currently accepted treatments, the giant drug industry – deriving huge profits from symptom suppression not curing, the major media (which is dependent on the advertising dollars of the drug cartel), and our own Federal Government (including its public watchdog groups). These forces deny American families critical information about treatment efficacies and funding to cover naturopathic costs (Ellis, 2020, sec. 2)

While it is hard to deny that the US healthcare system is severely flawed, writers like this one take that self-evident truth one step further. They suggest a vast conspiracy between hospitals, medical societies and pharmaceutical companies to subject cancer patients to expensive, painful and ineffective treatments, while reaping profits and suppressing affordable, safe food-based cures. Cancer doctors are painted as either knowing participants or gullible patsies in this system. Conspiratorial ideation has been identified as a serious barrier to combating the spread misinformation around health claims, as conspiracy theories tend to be 'self-sealing', where attempts to refute the theory are taken as proof of the theory's validity (MacFarlane et al., 2020).

Moreover, conspiracy theories often gain traction from the grains of truth that they embody (Miller, 2021). In the case of food-as-a-cancer-medicine, it is true that diet affects health; there are well-researched links between dietary patterns and the development of cancer. It is true that pharmaceutical and insurance companies have a troubling degree of influence over the practice of medicine in the United State (DeAngelis & Fontanarosa, 2008). It is true that compounds 'found in nature' may form the basis for future cancer treatments (X.-J. Wang et al., 2020). It is true that there is a need for increased attention to nutrition during cancer treatment (Thompson et al., 2017) and a need for patients to be involved in their own treatment

decisions (Goerling & Mehnert, 2018). But those facts get distorted and stretched online to create an alternative reality in which mainstream oncologists are bad actors who cannot be trusted, the natural solution is necessarily the best solution, and a "cancer healing diet" is more effective and safer than conventional cancer care.

This messaging has the potential to inspire fear among cancer patients and their loved ones; their oncologists are either ignorant of the power of nutritional cures, or do not have their patients' best interests at heart and are willing to subject them to the painful side effects of an ineffective cure. Fear-based appeals tend to be particularly potent, appealing to a visceral drive to avoid pain (MacFarlane et al., 2020). This visceral influence not only affects consumers' ability to reason through claims, but may prime readers to be more receptive to considering an alternative path. Indeed, negative initial experiences with and perceptions of mainstream medicine have been shown to be associated with pursuit of alternative medical treatments (Citrin et al., 2012) while belief in medical conspiracy theories is closely related to refusal of conventional medical advice (Oliver & Wood, 2014).

Into this context, these bloggers insert themselves as revelators of secret, ancient, sometimes suppressed cures, a common theme that works on several levels rhetorically. First, by claiming that these special foods/diets have long been used in ancient, Non-Western traditions of medical treatment, the writers make a logical appeal to tradition, the notion that because a practice has existed for a long time, it must therefore be superior to modern practices (Michaud, 2018).

Moreover, by positioning themselves as a truth-telling revealer of long-kept secrets, the writers establish their own ethos by claiming goodwill (*eunoia*); their claimed motivation is simply to share the truth. This technique represents an attempt to cultivate a relationship of trust with the audience. Finally, in sharing these ancient dietary medicines, the writers act to allay their readers' anxieties and fears, offering hope that the answers to their complex medical issues have already been answered by the wisdom of tradition. This message is a comforting one, countering the uncertainty of a cancer diagnosis with assurances that the answer has been in nature all along, ignored by modern medicine, but available to anyone.

Personal Empowerment & Control

Within the narrative that conventional medical systems are corrupt and uncaring, it makes sense that an emphasis would be placed on personal empowerment and control over treatment decisions. It is well-documented that a cancer diagnosis can inspire feelings of anxiety, fear and hopelessness; empowerment of cancer patients is a regular topic of research into the psycho-social experiences of cancer patients, and practitioners recognize that empowerment is an important feature of a successful treatment experience (Goerling & Mehnert, 2018).

With that said, entrance into a complex medical treatment regime and environment can be disorienting and alienating for cancer patients and their families (Edvardsson et al., 2006; Norberg & Boman, 2013); it is not uncommon for patients to turn online for support and information when the conventional institutions are not meeting their needs (Lee & Hawkins, 2010). Patients who experience a need for empowerment may encounter alternative cures in online spaces, such as the ones documented in this paper. In these spaces, they receive the message that they should not listen to their doctors, but should do their own research and discover that the best treatment is simple, intuitive and entirely within their power to understand and enact. For instance, Karen Berrios (2017) writes about her thyroid cancer:

> I suddenly found myself taking quite a bit of responsibility. I was rejecting the standard advice that most doctors give, and educating myself about other options. I had started learning more about the body and nutrition, and taking a holistic view of what the body needs to be healthy...What I came to realize is that there are so many factors that affect my health, and I really am in control of many of them. To a larger degree, I'm in charge (para. 5).

In contrast to the potentially foreign world of oncology, every person has a language and experience of food to draw upon when 'educating themselves' about dietary cures. The simplicity and familiarity of food is empowering when diets are framed as medical treatment; they create the sense that one does not need to be a medical professional or have detailed knowledge of biology to have control over their own health. This message is combined with the message that the body has the power to heal itself, if only it is given the correct, naturally aligned, pure, clean nutrition. As Levinovitz (2021) describes it: "*What can be done?* A great deal, it turns out, and it is within your control. You can make your body whole, balanced, purified and renewed with ingredients from your pantry" (p. 6).

Conclusion

The online writings that claim the power of food as an alternative cancer cure do so in a way that brings together themes and persuasive strategies that have been documented in other contexts independently: distrust in modern society and traditional institutions, personal empowerment through food, and the rhetorical use of personal narrative, scientific evidence and confident language. The research presented in this paper demonstrates how these elements converge to create a compelling message that is directed towards cancer patients, many of whom may be grappling with the emotional fallout of recent diagnosis.

The appeals to *ethos*, *pathos* and *logos* that are present in these texts speak to the common psychological drivers that impact beliefs and decision making: the visceral appeal of the messaging, the lines of reasoning that intersect with the nescience of the readers, and the match between the affective content of the messaging and the emotional state of the readers.

Portraits of safe and potent natural treatment are especially compelling when they're placed in contrast to conventional medical treatment options and institutions. While conventional oncology has made great strides in recent decades towards humane and participatory treatment decision making, it is still reckoning with a past in which patients were positioned as passive bodies, to be injected and excised at will. That legacy combines with differences in the ways that medical professionals and bloggers can speak to cancer patients. Medical professionals are ethically constrained to rely on the tenets of evidence-based medicine and convey factual, unbiased prognostic information to individual patients. Bloggers have no such constraints. They can offer cherry-picked scientific studies, impassioned personal anecdotes and unbridled promises of safe, gentle and effective cures - messages that are likely to be well-matched with the emotional states of the cancer patients who are reading them. In extreme cases, the messaging in these spaces exemplifies the use of conspiracy ideation to promote dubious health claims. The veins of these conspiracy theories find their power in the grains of truth about health and nutrition that they embody; those grains of truth are magnified, distorted and misconstrued to lend credence to the rest of the message.

Limitations & Implications

While the themes and strategies that have emerged in this paper are supported by existing research, the findings are limited by the constraints of the methodology. Specifically, the analysis was conducted by a single researcher, on a relatively small sample of online texts; further research, conducted by a team, would be necessary to minimize the potential for bias and validate the findings. Furthermore, the discussions of the persuasive quality of the texts are predicated on certain assumptions about the target audience (cancer patients who are open to alternative cures and have turned to online information sources). The research would be strengthened by additional investigation into the audience and reactions to these texts, particularly how these messages are perceived by actual users.

The themes and rhetorical techniques documented here are significant for medical professionals, cancer patients and their loved ones, and health communicators because they pull back the curtain on the messaging that may persuade a patient to reject or delay potentially lifesaving cancer treatment. Understanding the landscape of online information related to food-based alternative cancer cures can equip clinicians with the background to understand dissenting voices and the persuasive techniques that may be compelling to them. Armed with this better understanding, medical professionals can be prepared to engage with these messages and consider how their own messaging can employ similarly persuasive rhetoric that speaks to the same themes of empowerment, hope and restoration.

Additionally, there is emerging research that demonstrates the usefulness of 'inoculation' against misleading claims and rhetoric as an intervention to reduce the spread of misinformation online (Lewandowsky & Linden, 2021). The rhetorical characteristics of the messages described in this paper could ultimately be useful for designing well-tailored 'inoculation interventions' related to misinformation around food-based alternative cancer cures.

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Appendix A: Taxonomy of Psychological Drivers Of Consumer Susceptibility To Fraudulent Health Claims
Adapted from (MacFarlane et al., 2020)

PSYCHOLOGICAL DRIVER	BARRIERS TO INTERVENTION
Visceral influence "cues that can elicit strong psychological responses and thus impair cognitive abilities" (p. 2).	● Illusion of attention ● Emotional motivators
Affect "the emotive quality of 'goodness' or 'badness' that becomes associated with an action or item" (p. 5).	● Positive affect (associated with natural alternatives) ● Negative affect (associated with conventional medicine)
Nescience "the absence of knowledge or awareness [that] makes consumers susceptible to health fraud because people intuitively generate, or uncritically accept, spurious causal associations between actions and outcomes" (p. 6).	● Illusion of causality ● Illusion of confidence ● Illusion of knowledge
Misinformation False information that "makes it difficult to distinguish between evidence based medicines and fraudulent remedies" (p. 8).	● Continued influence effect ● Motivated reasoning ● Conspiratorial thinking
Norms "rules or standards about how members of a community should behave" (p. 10)	● Misperceived norms ● Logical fallacies ● Resistant social structures