Article Title: Assessing the Quality of Complementary, Alternative, and Integrative Medicine Website Information for Cancer: A Cross-Sectional Survey and Analysis

Jeremy Y. Ng [1]§, Maheen Raja [1], Umair Tahir [1], Harmy Thakar [1], Sabrina L. Balkaran [1]

[1] Department of Health Research Methods, Evidence, and Impact, Faculty of Health Sciences, McMaster University, Michael G. DeGroote Centre for Learning and Discovery, Room 2112, 1280 Main Street West, Hamilton, Ontario, L8S 4K1, Canada

§Corresponding Author's Email Address: ngjy2@mcmaster.ca

ORCiDs:
JYN: http://orcid.org/0000-0003-0031-5873

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Highlights

•Cancer website quality on complementary, alternative, and integrative medicine varies.

•DISCERN scores are used to rate the quality of written health treatment information.

•Total mean DISCERN score across all 48 websites was 48.28 out of 75.00 (SD = 14.26).

•Mean DISCERN score for the overall quality of each website was 3.11 out of 5.00 (SD = 0.66).

•Healthcare providers should inquire about cancer patients' use and interest in CAIM.

Abstract

Introduction: Patients with cancer frequently utilize complementary, alternative, and integrative medicine (CAIM); prior to this, many seek information about these therapies online. Little is known about the quality of this web-based consumer health information. Our study aimed to address this paucity of research by evaluating the quality of CAIM consumer health information on websites discussing the treatment and/or management of cancer.

Methods: Six search terms were entered into Google across four English-speaking countries (Canada, United States, United Kingdom and Australia) on January 4, 2023. The first 20 results of each search were assessed and included if they contained CAIM consumer health information for the treatment and/or management of cancer. Eligible websites were assessed using the 16-item DISCERN instrument, designed to evaluate information quality.

Results: Of 480 identified websites, 393 were duplicates, and 48 fit the eligibility criteria and were assessed using the DISCERN instrument. Mean summed DISCERN scores across all websites was 48.28 (SD = 14.26), and mean scores of the overall quality of each website was 3.11 (SD = 0.66). Several website quality issues were identified, including a lack of transparency surrounding sources of information, areas of uncertainty regarding treatment, consequences of foregoing treatment, and treatment impacts on quality of life.

Conclusion: Healthcare providers should be aware that patients may use these websites for CAIM information. To facilitate informed decision-making, healthcare providers are encouraged to ask about patients' usage and interest in CAIM and direct them to credible and trustworthy resources.

Keywords: Cancer; Complementary and alternative medicine; Integrative medicine; Quality of information; Consumer health information; Information assessment; DISCERN

1. Introduction

Cancer is the second leading cause of death worldwide, with approximately 10 million fatalities in 2020 [1,2]. High symptom burden and costly treatments contribute to the significant physical, mental, and financial stressors that cancer imposes on patients and their families [2]. Treatments such as chemotherapy, radiation, surgery, and immunotherapy increase survivorship, however negative side effects ensue which can significantly decrease quality of life and interfere with recovery [3]. Symptoms of fatigue, nausea, hair loss and depressed mood are among the most debilitating and distressing effects of cancer treatment, often occurring in conjunction and exacerbating one another [3]. To reduce this physiological and psychological symptom burden, patients frequently seek information on, and utilize, complementary, alternative, and integrative medicine (CAIM).

According to the National Center for Complementary and Integrative Health (NCCIH), "complementary" medicine refers to non-conventional practices used in conjunction with standard medical practice, whereas "alternative" medicine refers to any treatment used in place of standard medical practices [4]. "Integrative" medicine coordinates and combines complementary and conventional health approaches, with a focus on holistic treatment of the individual [4]. In this study, this group of therapies will be collectively referred to as CAIM. CAIM is increasingly being used in parallel with conventional medicine for treatment and symptom management for patients with cancer [5]. CAIM therapies used by patients with cancer include massage therapy (11.9 %), homeopathy (5.7 %), osteopathy (5.2 %), herbal treatments (4.6 %), acupuncture (3.6 %), chiropractic (2.3 %), reflexology (1.7 %) and spiritual healing (1.3 %) [6]. Patients with cancer seek out CAIM for numerous reasons, with some finding them to decrease the severity of side effects caused by conventional treatments such as chemotherapy and radiation [7], [8], [9], [10]. Patients with cancer also employ

CAIM to augment their sense of control over their treatment regimen and to promote a greater sense of autonomy and choice [8,9,11]. Some of these patients believe that certain CAIMs increase immune function, thereby increasing the body's ability to combat the disease [7,9,10,[12], [13], [14]]. The widespread perception of CAIM as “natural” remedies leads some patients to believe that its use is consistent with their beliefs [7,15], however, it is well documented in the literature that some herbs and/or botanicals may cause negative interactions with conventional cancer treatment [16].

Although up to 87 % of patients with cancer have used at least one form of CAIM therapy, patients are often hesitant and do not disclose their use of CAIM to their healthcare provider (HCP) [4,17,18]. As a result, patients often and increasingly rely on the internet to gather information and answer questions about CAIM therapies [18]. Approximately 70 % of patients with cancer have been known to consult additional sources of information outside their HCP and treatment staff including the internet for health information [19,20], thus it is important to assess the quality of online health consumer information at the intersection of CAIM and cancer.

At present, only three studies have investigated website quality for CAIM information relevant to cancer [21], [22], [23]. However, two of these studies were conducted in 2004 [22,23] (since then the quality of information on many websites may have changed and new websites have been developed), while the most recent one published in 2021 only assessed eleven websites across one search jurisdiction (i.e., searches were conducted within a single geolocation) and focused exclusively on websites aimed at educating patients [21]. Our study aims to fill this research gap by providing an up-to-date, wide assessment of the quality of

CAIM website information for cancer to better capture search outcomes from a multi-country perspective.

2. Methods

2.1. Search strategy and screening

A search strategy was designed by JYN to identify websites containing information about CAIM for the treatment and/or management of any kind of cancer. The search terms were as follows: “alternative medicine for cancer”; “complementary and alternative medicine for cancer”; “complementary medicine for cancer”; “integrative medicine for cancer”; “natural remedies for cancer” and “natural therapies for cancer”. The strategy of incorporating six search terms within this design replicates consumers’ tendency to frequently rephrase their search terms after exploring the first few pages of the results to continue looking for health information [24]. These terms were searched on Google by UT on January 4, 2023, across 4 countries including Canada (Google.ca), United States (Google.com), United Kingdom (Google.co.uk), and Australia (Google.com.au). All searches were conducted on Google Chrome in incognito mode to prevent search results from being affected by previous browsing history. The geolocation was modified to align with each country of interest by adjusting the “region settings” in Google's configuration to match that of the desired country. Searches were solely conducted on Google as it comprises over 90 % of the search engine market share used worldwide as of January 2023, thereby including websites that are more likely to be accessed by patients [25]. Twenty search results (i.e., webpages) were identified for each search term, leading to a total of 480 search results that were screened independently for eligibility by MR and UT and then included by consensus. The first 20 search results for each term and country were only analyzed as users do not frequently review results past the second page of Google [26]. Additionally, given that the order of listed websites corresponds

to the most relevant sites, results after the second page of Google would not be accessed as often.

2.2. Eligibility criteria

The search results were reviewed, and all duplicates (i.e., same website or multiple webpages from the same website) were removed. For the purpose of this study, a website refers to a set of related webpages located under a single domain (i.e., the site as a whole), whereas a webpage is classified as a specific page result (i.e., URL linking to a specific page) on a website. The remaining websites were screened for eligibility and were included if they contained a minimum of one webpage that consisted of information on CAIMs for the treatment and/or management of cancer. In this study, CAIM therapies were identified based on an operational definition of complementary, alternative, and integrative medicine published in 2022 [27] which has been adopted by Cochrane Complementary Medicine [28]. Eligibility criteria included websites that were both published in English and were publicly accessible. Wikipedia, video hosting websites (e.g., YouTube), Google images, invalid addresses, peer reviewed articles, news articles lacking consumer health information, major online retailers (e.g., Amazon), and forums were excluded from this study's eligibility criteria.

2.3. Data extraction and website quality assessment

Data including the URL, website type (e.g., government, health portal, non-profit, professional), types of CAIM discussed, types of non-CAIM therapies discussed, and whether the website appeared in more than one search was extracted by MR and UT.

The quality of health information was assessed for the website in entirety, as opposed to assessing different webpages from a single website. All websites satisfying the eligibility criteria were assessed by the DISCERN instrument, a tool designed to help assess the quality of different sources regarding treatment options [29]. The DISCERN instrument has been found to be reliable and valid [29]. It consists of 16 key questions divided into three sections [29]. The first section involves questions addressing the reliability of the publication, while the second section includes questions focusing on details on the website regarding treatment choices [29]. Finally, the third section rates the overall quality of websites using a five-point Likert scale (e.g., 1 = low, 3 = moderate, 5 = high) [29].

To standardize the quality assessment process, the DISCERN instrument was pilot tested on three unique websites by all authors. Individual discrepancies were resolved through discussion among all authors, and then websites were assessed independently and in duplicate by MR and UT using the DISCERN instrument to assess the quality of consumer health information. Criterion represented by each question was rated on a five-point Likert scale ranging from 1 (no) to 5 (yes). The averages of MR's and UT's DISCERN scores were calculated for each question across all websites. An overall summed DISCERN score between 15 and 75 was calculated based on the scores for the first 15 questions. Moreover, a mean score with a standard deviation was provided for each DISCERN item, as well as a mean score for all 16 items. Means, ranges and standard deviations were reported to perform comparisons between each section of the DISCERN instrument and each scored webpage, which demonstrated the quality ranking of each website in relation to one another. All data extractions and website quality assessments were reviewed by all authors.

3. Results

3.1. Search results

A total of 480 webpages were reviewed, of which 395 were duplicates, and 85 were unique. Thirty-seven webpages were not eligible because they were either peer-reviewed journal articles (n = 28), news articles (n = 6), or presented no information about CAIM for cancer (n = 3). This resulted in 48 eligible websites which were assessed using the DISCERN instrument. A flowchart depicting this process is presented in Fig. 1.

3.2. General characteristics of eligible websites

Eligible websites were sorted into one of the following categories: government (i.e., "website created, managed or regulated by an official governmental body"); health portal (i.e., "website with a search function that contains health information on a variety of health topics"); non-profit (i.e., "organization with charitable/supportive/educational services that are not established for the purpose of profit-making"); and professional (i.e., "websites created by health professionals, experts and professional organizations") [19]. These categories were informed by a previously published study evaluating the quality of online information on breast cancer treatment options [19]. Websites operated by a governmental organization were categorized as government (n = 5). Websites containing a search function that allowed users to review health information on various health topics were classified as a health portal (n = 18). Non-profit websites included those that were associated with charities or non-profit organizations (n = 5). Lastly, websites affiliated with health experts, a university/hospital, or an authorized organization were classified into the professional category (n = 20).

The three most common CAIM therapies that were discussed among the 48 eligible websites were acupuncture (n = 26), massage therapy (n = 18), and herbal remedies (n = 12). Most websites also provided information on non-CAIM therapies such as chemotherapy, radiation therapy, surgery, immunotherapy, and hormonal therapy. Full details associated with the general characteristics of these eligible websites are shown in Table 1.

3.3. DISCERN instrument ratings

The total mean DISCERN score across all 48 websites for the sum of questions 1 through 15 was 48.28 (SD = 14.26) out of 75.00. The total mean score for question 16, which assessed the overall quality of each website was 3.11 (SD = 0.66) on a five-point Likert scale. The three websites which had the highest summed DISCERN scores were OncoLink (65.50), MacMillan Cancer Support (63.00), and the National Center for Complementary and Integrative Health (62.50). These websites generally scored above a three across the 15 questions in the DISCERN instrument. In contrast, the three websites with the lowest DISCERN scores were University College London Hospitals (34.00), Harvard Health Publishing (36.50), and Melbourne Integrative Oncology Group (38.00). These websites generally scored below a three across the 15 questions in the DISCERN instrument. Fig. 2 displays the summed DISCERN scores of all eligible websites, by category. Many websites categorized as ‘Professional’ appear at the top of the figure, indicating a lower summed DISCERN score. Websites under the ‘Health Portal’ category generally scored well, with most websites displayed in the middle or bottom of the figure. DISCERN scores for each individual question and website are provided in Table 2.

3.4. Trends identified across resources assessed

3.4.1. Section 1: is the publication reliable?

This section explored eight questions (question 1 through question 8) across all 48 websites. All 48 websites were assessed on a five-point Likert scale for each question. The first question asked whether the websites had clear aims and received a mean score of 3.43 (SD = 0.78). The second question asked whether the websites achieved their aims and received a mean score of 3.24 (SD = 0.71). Additionally, question 3 asked whether the information discussed on the websites was relevant. Most of the assessed websites fulfilled partial quality criterion and received a mean score of 4.07 (SD = 0.69). Question 4 asked whether the websites listed sources for the information they presented. The mean score was found to be 2.36 (SD = 1.54), with 32 websites scoring below a 3. Question 5 asked whether the information currency was disclosed. The mean score was found to be 2.66 (SD = 1.44), with 23 websites scoring below a 3. Question 6 asked whether the websites were balanced and unbiased and achieved a mean score of 4.20 (SD = 0.73). Question 7 asked whether the websites detailed additional sources of information and achieved a mean score of 3.36 (SD = 1.34). Lastly, question 8 asked whether the websites referred to any areas of uncertainty and received a mean score of 2.02 (SD = 0.72) with a total of 40 websites scoring below a 3.

3.4.2. Section 2: how good is the quality of information on treatment choices?

This section explored seven questions (question 9 through question 15) across all 48 websites. All 48 websites were once again assessed on a five-point Likert scale for each question. Question 9 asked whether the websites adequately described CAIM treatment mechanisms. The mean score for the websites was 3.68 (SD = 0.88). Question 10 asked whether the websites contained information pertaining to the benefits of each treatment and received a mean score of 3.52 (SD = 1.01). Additionally, question 11 asked whether the

websites contained information pertaining to the risks of each treatment and received a mean score of 3.01 (SD = 1.01). A total of 21 websites scored below a 3 for question 11 because the treatment risks were not discussed to the same degree as their benefits. Question 12 asked whether the websites described the effects of foregoing treatment. The mean scores were found to be 1.34 (SD = 0.77) because even though several websites described alternative treatment options, the effects of not pursuing any treatment were seldom reported. This was the lowest mean score calculated across all 16 questions, with a total of 45 websites scoring under 3. Similarly, most websites also scored low on question 13, with a mean score of 2.58 (SD = 1.06). Question 13 evaluated whether the websites described how treatment choices affect the overall quality of life. A total of 29 websites scored below a 3 on this question, because while they did adequately discuss how treatments alleviate pain and impact patient pathophysiology, discussions on the effects of treatment on quality of life were lacking. In contrast, question 14 asked whether websites disclosed that there were other treatment options available. The mean score was found to be 4.55 (SD = 0.61) as multiple forms of CAIM therapy for cancer treatment and/or management were discussed, often including acupuncture, supplements, and massage therapy. This was the highest mean score calculated across all 16 questions, with only 1 website scoring below a 3. Lastly, question 15 asked whether the websites provide support for shared decision-making. Similar to question 14, most websites performed well, with a mean score of 4.25 (SD = 0.97). Only 8 websites scored below a 3 as most websites provided disclaimers encouraging people to seek professional medical advice before starting CAIM therapies.

3.4.3. Section 3: overall rating of the publication

This section consisted of one question (question 16) in which the overall quality of the websites was assessed. The mean score was found to be 3.11 (SD = 0.66), with a total of 32 websites that scored above a 3.

4. Discussion

The purpose of this study was to assess the quality of CAIM consumer health information on websites discussing the treatment and/or management of cancer. The present study found that most eligible websites assessed were of 'fair' quality, with 32 websites (67 %, 32/48) receiving an overall score of 3 or higher out of 5. The total mean score of 3.11 (SD = 0.66) and average DISCERN score of 48.28 (SD = 7.32) suggests that most websites were slightly below adequate quality and require improvement in certain areas. Trends in data across multiple DISCERN items demonstrated that website quality varied considerably, with 5 (10 %, 5/48) websites scoring a high overall ranking of 4.0 or above, 37 (77 %, 37/48) websites scoring a moderate ranking between 2.5–3.9, and 6 (12.5 %, 6/48) websites scoring below 2.5, indicating poor quality. Considering that patients with cancer may visit these websites to seek information about CAIM, HCPs should be aware of how to differentiate between high- and low-quality information and be able to refer patients to appropriate resources.

4.1. Comparative literature

To our knowledge, few studies have evaluated the quality of consumer health information at the intersection of CAIM and cancer. The earliest study on this topic was published in 2004 [22], finding that the most popular websites on CAIM offered information of variable quality, similar to our findings [22]. Several other studies in the past have used the DISCERN instrument to evaluate the quality and safety of information present on the internet regarding

CAIM and have consistently reported poor quality [25,27] Furthermore, previous literature assessing the quality of online consumer health information (unrelated to CAIM) have also consistently reported poor quality web-based information for multiple forms of cancer [30], [31], [32], [33], [34]. Literature investigating breast cancer web-based information reported significant variability in the quality of information provided on different website categories [19,29,32]. Similar trends have been found across studies investigating the quality of online consumer health information about CAIM therapies for non-cancer related diseases [35,36]. One study investigated the quality of online health consumer information for CAIM treatments on multiple general health conditions [35]. While a number of websites provided sufficient data on the information ownership and currency, several websites did not frequently report authorship or reference any credible sources. It was also found that although most websites listed benefits of CAIM therapies, they failed to disclose harmful side effects. Furthermore, the quality of online consumer health information on CAIM therapies for low back pain [36] and hypertension [37] have also been evaluated. In both studies, it was determined that while websites consistently provided relevant information for the target audience, the risks of adverse side effects and treatment impact on patient quality of life were not adequately reported. Another study evaluated the quality of online CAIM information for arthritis and found that while most websites were ranked as slightly above 'fair' quality, there was a lack of transparency surrounding references that were used, and treatment risks were underreported [38]. Moreover, a study assessing the quality of websites providing CAIM information for type 2 diabetes found that the sources of information provided by over half the websites were unreliable [39]. Finally, websites describing the effects of CAIM on neck pain were revealed to adequately describe treatment options, benefits, and shared decision making, but inadequately described treatment risks, results of foregoing treatment, and treatment impact on quality of life [40].

Our study demonstrated that most websites providing consumer health information about CAIM therapies and cancer were greatly variable in quality, with several websites receiving low-moderate scores for overall quality. Several issues were identified, including a lack of transparency surrounding sources of information, areas of uncertainty with respect to treatment, consequences of stopping treatment, and treatment impacts on quality of life. All this considered, the mean score of the websites included in this study is still slightly higher than the results from previous literature. This discrepancy may be attributed to several factors, one of which being that the aforementioned literature may be outdated, as the quality of many websites may have improved over the years. As a result, this study was able to incorporate newly appearing websites that provide higher quality information in comparision to the information outlined by previous online consumer health information studies. Pre-existing websites included in this study may have been updated with higher quality information as more research on CAIM therapies and cancer treatment continues to be published in the medical literature, thereby increasing their quality ratings. This study identified commonalities with previous literature, including the variability in information quality across website categories, the inadequate reporting of consequences of forgoing treatment as well as the risks of CAIM usa. Twenty websites (42 %, 20/48) included in our study were classified as commercial. This may explain the lack of discussion surrounding risks and the effects of not continuing with CAIM treatment, because such websites aim to advance their interests by encouraging patients to purchase the treatments and/or service that they advertise [19,31]. Websites rarely reported information on the effects of CAIM treatment on quality of life, further exhibiting bias towards the treatments they offer and discuss.

4.2. Implications for practice

Past literature has indicated that patients with cancer seldom disclose their use of CAIM to HCPs [41,42] as they fear that HCPs will disapprove of their decision to use CAIM therapy [17,43]. HCPs rarely initiate conversations with patients about CAIM usage [44], and have limited knowledge of this clinical topic [45], [46], [47], [48]. As a result, patients increasingly rely on the internet for information about CAIM [49] and often feel overwhelmed when making independent healthcare decisions [43]. Addressing these issues requires a two-step response. Firstly, measures should be put in place requiring HCPs to ask patients with cancer about CAIM usage, to learn about their preferences, and to guide them as they navigate online resources. This practice would not only ensure respect for patient autonomy as a core aspect of patient centered care, but will also increase positive patient outcomes as it strengthens HCP-patient communication [50] by ensuring that patients access high quality, accurate, HCP-recommended CAIM resources to make an informed decision surrounding CAIM usage.

Secondly, HCPs should receive additional educational programming on CAIM as this will bridge their knowledge gaps and awareness of available evidence-based CAIM resources. Although some efforts have been made to educate HCPs about CAIM, much of the education and training initiatives are provided on an elective basis [51], [52], [53]. Until changes are made to medical education to improve training on CAIM, HCPs should increase their knowledge through published literature, such as CAIM recommendations in clinical practice guidelines [54], [55], [56], [57], [58], [59], [60], as well as other high-quality, evidence-based databases [61,62] so that they can directly address inquiries about treatment effectiveness. However, it should be noted that despite these sources, the evidence for CAIM use (particularly herbal compounds) is still often insufficient to confidently confirm (or deny)

safety profiles during cancer treatment [63], [64], [65]. This lack of quality evidence often results in HCPs feeling obligated to provide blanket recommendations that warn against the use of CAIM [66].

4.3. Future directions

Future studies could assess patient perceptions of website quality. Our results show that the quality of online information about CAIM therapies for cancer treatment varies. By first categorizing websites based on quality and then gathering patient feedback on the perceived quality/influence of these sites for treatment decisions (e.g., through a survey or interview methodology), research can examine if users can instinctively determine the quality of online information. If it is found that patients' perceptions do not accurately align with the quality of websites as determined by validated and reliable tools (e.g., DISCERN), HCPs could provide patients with user-friendly eHealth assessment tools and resources [67]. For example, patients may refer to the National Institutes of Health [68], MedlinePlus [69] National Center for Complementary and Integrative Health [70], and the World Health Organization [71] which provide recommendations for finding and evaluating online health information. Further, the Ensuring Quality Information for Patient tool is available for HCPs to determine the quality of online health information [72]. Additionally, website developers should consider undergoing accreditation procedures available that define sets of criteria that need to be fulfilled in order to get accredited as good-quality information. While achieving accreditation might initially be perceived as an inconvenience for website developers, it brings forth compelling advantages. Notably, it mitigates the potential hazards of patients accessing inaccurate or misleading information while concurrently elevating the reputation of websites [73,74]. Consequently, patients may be more likely to trust the website information which may garner increased traffic, reinforcing the website's standing in the digital landscape.

Examples of accreditation organizations include the Belgian Center for Evidence-Based Medicine [75] and Utilization Review Accreditation Commission [76], which offer accreditations for a wide range of healthcare entities, including health websites and health content providers.

4.4. Strengths and limitations

One strength of the present study is that the Google searches outlined in the methodology were conducted across four distinct English-speaking countries (Australia, Canada, the United Kingdom and the United States), which provided a broad sample of websites containing consumer information on CAIM and cancer. This multi-country representation of target websites increases the applicability of our findings to HCPs across the world. Another strength included the use of the DISCERN instrument, as it has been shown to be both reliable and valid when evaluating the quality of consumer health information [29,77]. An additional strength of this study was that a pilot test of the DISCERN instrument was conducted prior to applying it to the eligible websites. Both the piloted and full assessments were independently scored by MR and UT before all authors met to discuss and resolve any discrepancies, which decreased the likelihood of reporting bias. Finally, selecting Google as the sole search engine for our study was an additional strength due to its large market share and popularity.

However, given that online consumer health information is consistently being updated, the search results are reflective of a snapshot in time, and an attempt to replicate this study in the future may yield different findings. Additionally, less relevant online health consumer websites were not assessed since the search strategy in this study only included the first 20 websites for each search term, which limits the generalizability of our findings. Furthermore,

the search terms used in this study may not necessarily reflect real patient search behavior. This is acknowledged as a limitation because there are a lack of published studies examining the precise manner in which patients with cancer formulate their search queries when seeking health information online, specifically within the context of cancer and CAIM. Finally, the eligibility criteria only included websites that were written in English. As a result, relevant health consumer websites in other languages were excluded even if they contributed to an understanding of patient health-seeking behavior for CAIM use in cancer treatment and/or management.

5. Conclusions

The objective of the present study was to assess the quality of online CAIM consumer health information for the treatment and/or management of cancer. As the internet is increasingly used to obtain CAIM information, HCPs must be mindful of the quality of information that is consumed by patients with cancer. Following an assessment using the DISCERN instrument, the mean score for overall quality across the evaluated websites was found to be moderate yet suboptimal (3.11 out of 5). Multiple websites did not adequately discuss the risks of CAIM treatment and its effects on quality of life, suggesting that patients should consult additional resources and consistently check in with their HCPs prior to initiating CAIM treatment. These findings highlight the importance of HCPs inquiring about use and interest in CAIM among patients with cancer, which may lead to productive and honest conversations about appropriate CAIM therapies to ensure optimal health outcomes. To ensure the effectiveness of these interactions, addressing the current lack of HCP training in CAIM is also essential. HCP should not only gauge patients' interest in CAIM treatments/therapies, but they must also be equipped with sufficient knowledge to direct patients to credible CAIM resources to support informed decision-making.

List of Abbreviations

CAIM: complementary, alternative, and integrative medicine

HCP: healthcare provider

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CRediT Authorship Contribution Statement

Jeremy Y. Ng: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Writing – original draft. Maheen Raja: Data curation, Formal analysis, Investigation, Writing – review & editing. Umair Tahir: Data curation, Formal analysis, Investigation, Writing – review & editing. Harmy Thakar: Data curation, Formal analysis, Investigation, Writing – review & editing. Sabrina L. Balkaran: Data curation, Formal analysis, Investigation, Writing – review & editing.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Jeremy Y. Ng reports a relationship with European Journal of Integrative Medicine that includes: board membership.

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Data Availability

All relevant data are included in this manuscript.

Figures Legend

Figure 1: Web Information Search Strategy and Assessment Flowchart

Figure 2: DISCERN Scores by Website Categories

Tables Legend

Table 1: General Characteristics of Eligible Websites

Table 2: DISCERN Instrument Ratings

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Figures

Figure 1: Web Information Search Strategy and Assessment Flowchart

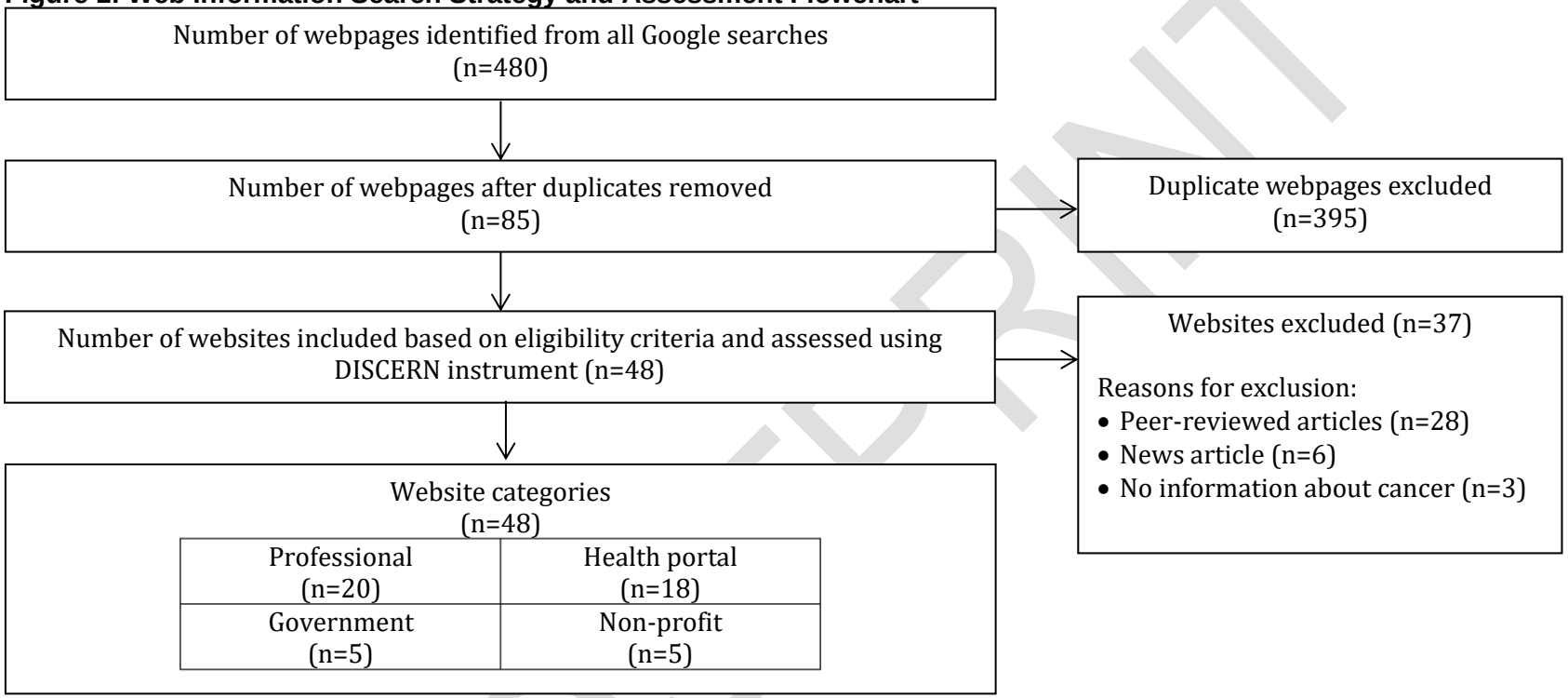
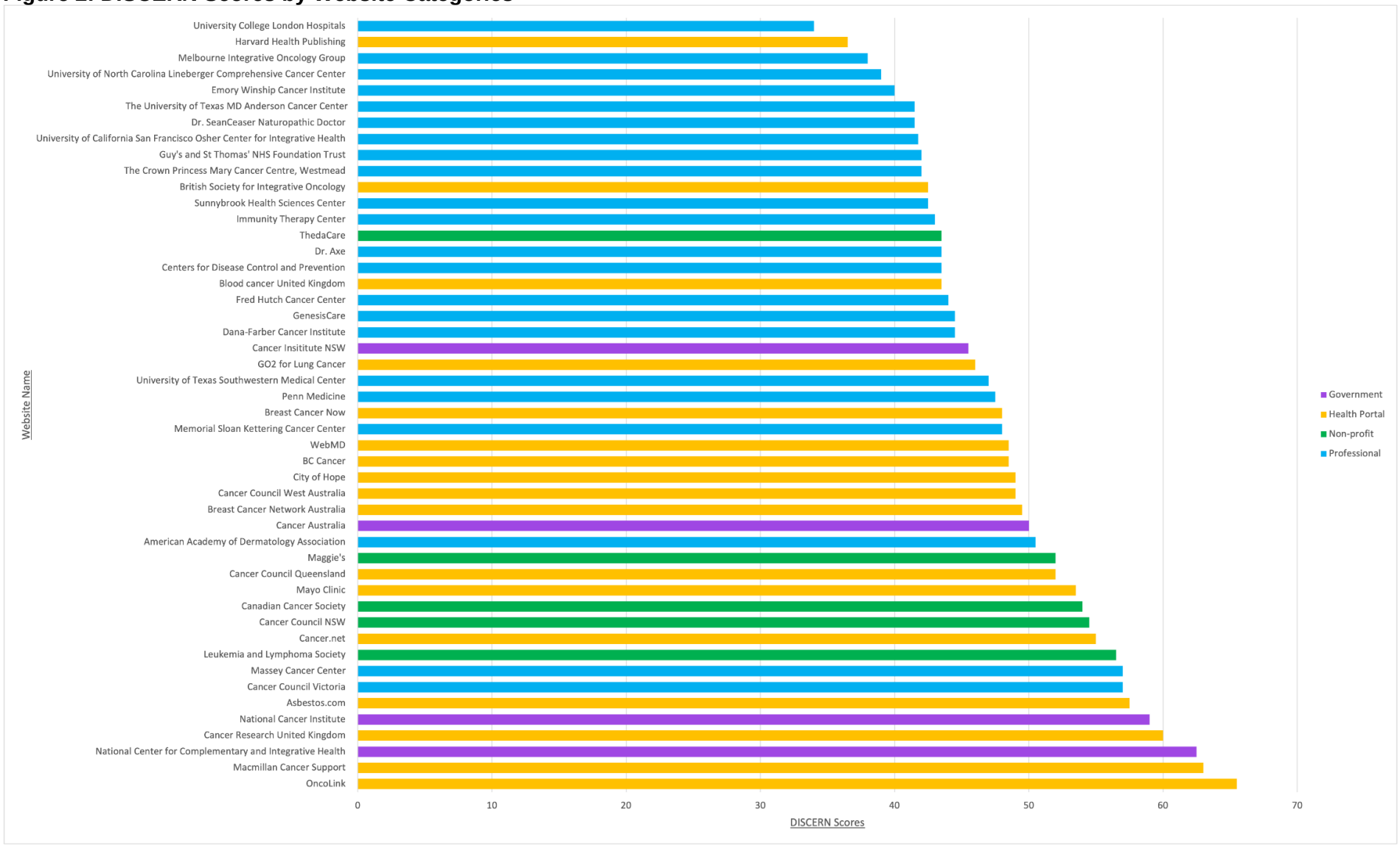


Figure 2: DISCERN Scores by Website Categories



Tables

Table 1: General Characteristics of Eligible Websites

Website Name	URL	Website Category	Types of CAIM Discussed	Types of Non-CAIM Therapies Discussed	Appeared in More than One Search?
American Academy of Dermatology Association	https://www.aad.org/public	Professional	Vitamins, minerals, and herbs	Chemotherapy, surgery, radiation therapy	Yes
Asbestos.com	https://www.asbestos.com/	Health portal	Herbal medicine, acupuncture, cognitive behavioral therapy, multimodal therapy, meditation, yoga,	Surgery, chemotherapy, radiation, immunotherapy, transcutaneous electrical nerve stimulation therapy	Yes
British Columbia Cancer	http://www.bccancer.bc.ca/	Health portal	Vitamins, minerals, herbs, cannabinoids, yoga, acupuncture, physiotherapy, massage therapy	Surgery, drug therapy, radiation therapy, palliative care	Yes
Blood cancer United Kingdom	https://bloodcancer.org.uk/	Health portal	Reiki, reflexology, aromatherapy, meditation, acupuncture, oils, exercise,	Chemotherapy, radiotherapy, stem cell transplants, immunotherapy, targeted therapies	Yes
Breast Cancer Network Australia	https://www.bcna.org.au/	Health portal	Vitamins, minerals, herbs, ozone therapy, essential oils	Chemotherapy, surgery, radiotherapy, targeted therapy, hormone-blocking therapy	Yes

Breast Cancer Now	https://breastcancernow.org/	Health portal	Acupuncture and reiki, aromatherapy, hypnotherapy, massage therapy, cognitive therapy, meditation, mindfulness therapy, herbs, homeopathy, yoga	Hormone therapy, chemotherapy, targeted therapy, radiotherapy, surgery	Yes
British Society for Integrative Oncology	https://www.bsio.org.uk/	Health portal	Yoga, mushrooms, acupuncture	None	No
Canadian Cancer Society	https://cancer.ca/en/	Non-profit	Acupuncture, aromatherapy, art therapy, hypnotherapy, massage therapy, medical cannabis, music therapy, meditation, reiki, reflexology, yoga	Surgery, chemotherapy, radiation therapy, hormone therapy, immunotherapy, targeted therapy, stem cell transplants, bisphosphonates, supportive drugs, cancer vaccines	Yes
Cancer Australia	https://www.canceraustralia.gov.au/	Government	Acupuncture, relaxation therapy and meditation, gentle exercise, guided imagery, music or art therapy, massage, aromatherapy, dietary therapies, support group programs.	Surgery, radiotherapy, chemotherapy, hormonal therapies, targeted therapies, stem cell transplant	Yes
Cancer Council NSW	https://www.cancercouncil.com.au/	Non-profit	Traditional bush medicine, massage and aromatherapy,	Chemotherapy, radiation therapy, immunotherapy,	Yes

			meditation, prayer, herbal medicine, acupuncture, art therapy, music therapy	surgery, targeted therapy, hormone therapy	
Cancer Council Queensland	https://cancerqld.org.au/index.php	Health portal	Meditation, counselling, art therapy, spiritual practices, massage, aromatherapy, acupuncture, yoga, hypnotherapy, nutrition, qi gong, tai chi, exercise	Surgery, chemotherapy, radiation therapy, targeted therapy	No
Cancer Council Victoria	https://www.cancervic.org.au/	Health portal	Homeopathy, acupuncture, reiki, art therapy, hypnotherapy, yoga, mindfulness meditation, music therapy, aroma therapy, reflexology, herbs	Chemotherapy, radiation therapy, hormone therapy, immunotherapy, targeted therapy, palliative care	Yes
Cancer Council West Australia	https://cancerwa.asn.au/	Health portal	Reflexology, massage, reiki, beauty therapy	Radiotherapy, chemotherapy, hormone therapy, immunotherapy, adjuvant therapy	No
Cancer Institute NSW	https://www.cancer.nsw.gov.au/	Government	Meditation, relaxation, aromatherapy, acupuncture, reflexology, massage	Surgery, radiation therapy, chemotherapy, hormonal therapy, targeted therapy, immunotherapy, palliative care	No
Cancer Research United Kingdom	https://www.cancerresearchuk.org/	Health portal	Acupuncture, antineoplaston therapy, aroma therapy, art therapy, chiropractic care, essence	Chemotherapy, surgery, radiotherapy, hormone therapy, stem cell and bone marrow transplant,	Yes

			therapy, Gerson therapy, herbal medicine, homeopathy, hypnotherapy, massage therapy, meditation, music therapy, osteopathy, reflexology, vitamins and diet supplements, yoga	immunotherapy, bisphosphonates, palliative treatment	
Cancer Net	https://www.cancer.net/	Health portal	Vitamins, herbal medicines, acupuncture, art therapy, yoga, meditation, music therapy, massage therapy	Chemotherapy, hormone therapy, anti-cancer vaccines, radiotherapy, surgery	Yes
Centers for Disease Control and Prevention	https://www.cdc.gov/	Government	Acupuncture, tai chi, yoga, vitamins, herbs, native traditional healing practices	Surgery, chemotherapy, radiation therapy, immunotherapy, hormone therapy, stem cell transplant	Yes
City of Hope	https://www.cancercenter.com/	Health portal	Medical cannabis, intermittent fasting, cognitive behavioral therapy, music therapy, art therapy, physical therapy, speech therapy	Surgery, radiation therapy, chemotherapy, precision medicine	Yes
Dana-Farber Cancer Institute	https://www.dana-farber.org/	Professional	Acupuncture, massage therapy, expressive arts therapy, meditation and mindfulness	Radiation, surgery, chemotherapy, stem cell transplant	Yes

Dr. Axe	https://draxe.com/	Professional	Gerson therapy, juicing, Budwig protocol, proteolytic enzyme therapy, vitamins essential oil therapy, probiotics, turmeric, curcumin, oxygen therapy, prayer, immune boosting mushrooms, keto diet	None	Yes
Dr. Sean Ceaser Naturopathic Doctor	https://drceaser.com/	Professional	Vitamin, ozone injection, prolotherapy, bee venom therapy, chelation therapy, hyperthermia, mistletoe therapy, neural therapy	Chemotherapy, radiation and surgery	Yes
Emory Winship Cancer Institute	https://winshipcancer.emory.edu/index.html	Professional	Dietary and herbal supplements, acupuncture	Radiation therapy, chemotherapy, surgery	No
Fred Hutch Cancer Center	https://www.seattlecca.org/	Professional	Dietary supplements, acupuncture	Blood and bone marrow transplant, immunotherapy, radiation oncology, surgical oncology, proton therapy, nuclear medicine	No
Genesis Care	https://www.genesiscare.com/uk	Professional	Reflexology, acupuncture, relaxation training, mindfulness meditation, exercise medicine	Radiotherapy, chemotherapy, theragnostic, hormone therapy, targeted therapy, immunotherapy	No

GO2 for Lung Cancer	https://go2.org/	Health portal	Massage, reiki, acupuncture, guided imagery, yoga, nutritional supplementation	Surgery, chemotherapy, radiation therapy, immunotherapy, targeted therapy, hospice care, palliative care, photodynamic therapy	Yes
Guy's and St Thomas' National Health ServiceFoundation Trust	https://www.guysandstthomas.nhs.uk/	Professional	Acupuncture, aromatherapy, massage, reflexology, reiki	Chemotherapy, radiation therapy, acute oncology service	Yes
Harvard Health Publishing	https://www.health.harvard.edu/	Health portal	Alternative remedies, physical therapy, cognitive behavioral therapy, mindfulness techniques, massage, acupuncture, chiropractic adjustments	Surgery, radiation treatment, chemotherapy, and/or hormone therapy	Yes
Immunity Therapy Center	https://www.immunitytherapycenter.com/	Professional	Vitamins and dietary supplements, pulsed electromagnetic field therapy, biomagnetic therapy, cryoablation therapy, dimethyl sulfoxide potentiation therapy (DPT), enzymatic cancer therapy, HALO therapy/biophotonic light therapy, hyperthermia	Chemotherapy, radiation therapy, anti-cancer vaccines, immunotherapy	Yes

Leukemia and Lymphoma Society	https://www.lls.org/	Non-profit	Therapeutic massage, acupuncture, meditation, yoga, art therapy and music therapy, ancient/traditional medicine, hypnosis, relaxation techniques	Chemotherapy, drug therapy, radiation therapy, immunotherapy, vaccine therapy, stem cell transplant, blood transfusion	Yes
Macmillan Cancer Support	https://www.macmillan.org.uk/	Health portal	Massage, herb and plant extract, mind-body therapies, acupuncture, cannabis oil	Chemotherapy, radiation therapy, immunotherapy, cancer drugs, surgery	Yes
Maggie's	https://www.maggies.org/	Non-profit	Acupuncture, aromatherapy, healing, herbal medicine, homeopathy, hypnosis, massage, meditation, reflexology, relaxation, shiatsu, yoga	Surgery, targeted therapies, stem cell and bone marrow transplant, chemotherapy, radiotherapy, immunotherapy, supportive treatments	No
Massey Cancer Center	https://www.masseycancercenter.org/	Professional	Art therapy, biofeedback, dance therapy, distraction, hypnosis, imagery, massage therapy, music therapy, physical exercise, yoga	Angiogenesis inhibitors, chemotherapy, radiation therapy, hormone therapy, laser therapy, liver transplantation, rehabilitation, surgery	Yes
Mayo Clinic	https://www.mayoclinic.org/	Health portal	Acupuncture, aromatherapy, cognitive behavioural therapy, hypnosis, massage, meditation, tai chi, yoga	Surgery, chemotherapy, radiation therapy, bone marrow transplant, immunotherapy, hormone therapy, targeted drug therapy, cryoablation	Yes

Melbourne Integrative Oncology Group	https://www.miog.com.au/	Professional	Naturopathy, nutrition and dietetics, massage, acupuncture, psycho-oncology services	None	Yes
Memorial Sloan Kettering Cancer Center	https://www.mskcc.org/	Professional	Acupuncture, massage, yoga, music therapy, mind/body therapies, dance/movement therapies, touch therapies	Chemotherapy, radiation therapy, immunotherapy, interventional radiology, surgery	Yes
National Cancer Institute	https://www.cancer.gov/	Government	Meditation, biofeedback, hypnosis, yoga, tai chi, imagery, vitamins, massage therapy, energy healing, ancient medicine	Biomarker testing, chemotherapy, hormone therapy, hyperthermia, immunotherapy, photodynamic therapy, radiation therapy, surgery, targeted therapy	Yes
National Center for Complementary and Integrative Health	https://www.nccih.nih.gov/	Government	Herbal supplements, other dietary supplements, meditation, spinal manipulation, and acupuncture, hypnosis	Chemotherapy, cancer drugs, radiation therapy	Yes
OncoLink	https://www.oncolink.org/	Health portal	Acupuncture, guided imagery, vitamins, reiki, medical cannabis, acupuncture, meditation, biofeedback, reishi mushrooms, mistletoe, saw palmetto, shark cartilage,	Bone marrow transplants	Yes

			green tea, lycopene, macrobiotic diet, the Revici method		
Penn Medicine	https://www.pennmedicine.org/	Professional	Acupuncture, aromatherapy, art therapy, meditation, massage therapy, reiki, yoga	Bone marrow transplant, chemotherapy, hormone therapy, immunotherapy, proton therapy, radiotherapy, surgery, targeted therapy, vaccine therapy	No
Sunnybrook Health Sciences Center	https://sunnybrook.ca/	Professional	Acupuncture, guided imagery, aromatherapy, hypnosis, art therapy, massage therapy, ayurveda, meditation, biofeedback, music therapy, chiropractic therapy, tai chi, energy therapies, yoga, aboriginal traditional healing, mind-body medicine, medical marijuana and cannabinoids, traditional Chinese herbal remedies, naturopathic medicine	Chemotherapy, radiation therapy, surgery	No
The Crown Princess Mary Cancer Centre, Westmead	http://www.sydneywestcancer.org/	Professional	Nutritional supplements, herbal medicines, vitamins	Chemotherapy, radiation therapy, supportive and palliative care, surgery	Yes

The University of Texas MD Anderson Cancer Center	https://www.mdanderson.org/	Professional	Acupuncture, yoga, massage	Surgery, chemotherapy, ablation therapy, immunotherapy, radiation therapy, cancer drugs, targeted therapy	Yes
Theda Care	https://thedacare.org/	Non-profit	Dietary supplements, cannabidiol, meditation	Biotherapy, brachytherapy, cancer surgery, chemotherapy, hormone therapy, integrative medicine, intensity-modulated radiation therapy, intraperitoneal therapy, lymphedema management, oral agent therapy, physical therapy, radiation therapy, radionuclide therapy, stereotactic radiosurgery, targeted therapy	Yes
University of California San Francisco Osher Center for Integrative Health	https://osher.ucsf.edu/	Professional	Nutrition, exercise, acupuncture, yoga, mind-body medicine, east Asian and ayurvedic medicine, biofeedback, manual therapy, natural products, traditional Chinese medicine	None	Yes
University of	https://unclineberger.org/	Professional	Massage therapy, yoga,	None	No

North Carolina Lineberger Comprehensive Cancer Center			acupuncture, mindfulness		
University College London Hospitals	https://www.uclh.nhs.uk/	Professional	Aromatherapy, massage, reiki, reflexology, relaxation	Radiotherapy, proton beam therapy	Yes
University of Texas Southwestern Medical Center	https://utswmed.org/	Professional	Herbal supplements, acupuncture, aromatherapy, meditation, tai chi, yoga, exercise	Surgery, radiation therapy, chemotherapy	No
Web MD	https://www.webmd.com/	Health portal	Acupuncture, exercise, massage, meditation, nutrition, yoga	Chemotherapy, radiation, surgery, stem cell transplant, hormone therapy, gene therapy, immunotherapy	Yes

Table 2: DISCERN Instrument Ratings

Section		SECTION 1 Is the publication reliable?								SECTION 2 How good is the quality of information on treatment choices?							SECTION 3 Overall Rating of the Publication		
DISCERN Question		**1. Are the aims clear?**	**2. Does it achieve its aims?**	**3. Is it relevant?**	**4. Is it clear what sources of information were used to compile the publication (other than the author or**	**5. Is it clear when the information used or reported in the publication was produced?**	**6. Is it balanced and unbiased?**	**7. Does it provide details of additional sources of support and information?**	**8. Does it refer to areas of uncertainty?**	**9. Does it describe how each treatment works?**	**10.Does it describe the benefits of each treatment?**	**11. Does it describe the risks of each treatment?**	**12. Does it describe what would happen if no treatment is used?**	**13. Does it describe how the treatment choices affect overall quality of life?**	**14. Is it clear that there may be more than one possible treatment choice?**	**15. Does it provide support for shared decision-making?**	**16. Based on the answers to all of the above questions, rate the overall quality of the publication as a source**	**Standard Deviation of Overall Score (Q16)**	**DISCERN Score (Sum of Q1-Q15)**
Onco Link	https://www.oncolink.org/	5.00	4.50	4.50	5.00	5.00	4.50	5.00	2.50	5.00	4.50	5.00	1.50	3.50	5.00	5.00	4.75	0.35	65.50
Macmillan Cancer Support	https://www.macmillan.org.uk/	4.50	4.50	4.50	5.00	4.50	5.00	5.00	2.50	5.00	3.50	4.50	1.50	3.50	5.00	4.50	4.75	0.35	63.00

National Center for Complementary and Integrative Health	https://www.nccih.nih.gov/	5.00	5.00	3.50	5.00	5.00	5.00	3.50	3.00	4.00	5.00	3.50	1.50	4.00	4.50	5.00	4.75	0.35	62.50
Cancer Research United Kingdom	https://www.cancerresearchuk.org/	3.00	2.50	5.00	5.00	5.00	4.50	4.50	3.50	5.00	3.50	4.00	1.00	3.50	5.00	5.00	4.25	1.06	60.00
National Cancer Institute	https://www.cancer.gov/	4.50	4.50	5.00	1.00	3.50	4.50	4.50	2.50	4.50	5.00	4.50	1.00	4.00	5.00	5.00	3.75	0.35	59.00
Asbestos.com	https://www.asbestos.com/	3.50	3.50	4.50	4.50	4.50	4.50	3.00	2.50	4.00	4.50	4.50	1.00	3.50	4.50	5.00	4.00	0.00	57.50
Cancer Coun	https://www.canc	4.50	3.50	4.50	4.50	5.00	4.50	3.50	2.50	4.00	3.00	3.50	1.50	3.00	5.00	4.50	3.50	0.71	57.00

cil Victoria	ervic.org.au/																	
Massey Cancer Center	https://www.masseycancercenter.org/	4.50	4.50	5.00	1.00	1.00	5.00	4.50	3.50	5.00	5.00	4.50	1.00	3.00	5.00	4.50	3.75	0.35	57.00
Leukemia and Lymphoma Society	https://www.lls.org/	4.00	4.00	4.50	1.00	1.00	5.00	4.00	1.50	4.50	5.00	4.50	5.00	2.50	5.00	5.00	3.50	0.71	56.50
Cancer.Net	https://www.cancer.net/	4.50	3.50	5.00	1.50	2.50	4.50	5.00	2.00	4.50	3.50	4.00	1.00	4.00	4.50	5.00	3.50	0.71	55.00
Cancer Council NSW	https://www.cancercouncil.com.au/	3.50	3.50	4.50	1.00	4.00	4.50	5.00	1.50	4.00	4.50	2.50	1.50	4.50	5.00	5.00	3.75	0.35	54.50
Canadian Cancer	https://cancer.ca/en/	4.00	4.00	5.00	5.00	3.50	5.00	2.00	2.00	3.50	2.50	3.50	2.50	2.00	4.50	5.00	3.75	0.35	54.00

Society																		
Mayo Clinic	https://www.mayoclinic.org/	2.50	2.50	4.50	5.00	5.00	4.50	1.50	2.00	5.00	3.50	3.50	1.50	2.50	5.00	5.00	3.00	0.00	53.50
Cancer Council Queensland	https://cancerqld.org.au/index.php	3.50	3.50	4.50	1.50	1.00	5.00	3.50	3.50	5.00	3.50	3.00	1.00	3.50	5.00	5.00	3.50	0.71	52.00
Maggie's	https://www.maggies.org/	4.50	2.50	5.00	1.00	4.50	4.50	5.00	1.50	3.50	2.50	2.50	3.50	2.00	4.50	5.00	3.00	0.00	52.00
American Academy of Dermatology Association	https://www.aad.org/public	3.50	3.50	3.50	5.00	4.50	4.50	1.50	2.00	3.00	4.50	2.50	1.00	2.00	4.50	5.00	3.25	0.35	50.50
Cancer Australia	https://www.canceraust	3.00	3.00	4.50	1.00	3.50	4.50	4.00	3.50	3.50	2.50	4.00	1.00	2.50	5.00	4.50	3.00	0.00	50.00

	ralia.gov.au/																	
Breast Cancer Network Australia	https://www.bcna.org.au/	3.00	2.50	5.00	1.00	1.50	3.50	5.00	2.50	5.00	3.00	5.00	1.00	2.00	4.50	5.00	3.00	0.00	49.50
Cancer Council West Australia	https://canceerwa.asn.au/	2.50	2.50	4.00	2.50	2.50	4.50	3.50	1.50	4.50	4.00	3.00	1.00	4.50	5.00	3.50	3.00	0.00	49.00
City of Hope	https://www.cancercenter.com/	3.50	2.50	3.50	2.50	3.50	4.50	2.00	3.00	3.50	3.50	3.50	1.50	2.50	4.50	5.00	3.25	0.35	49.00
BC Cancer	http://www.bccancer.bc.ca/	3.00	3.00	3.50	5.00	3.00	4.50	5.00	3.00	3.50	1.50	2.00	1.50	1.00	4.50	4.50	3.50	0.71	48.50
Web MD	https://www.webmd.co	4.50	4.50	4.00	4.00	3.00	4.50	1.50	1.50	3.00	3.50	2.50	1.00	2.00	4.50	4.50	3.00	0.00	48.50

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Memorial Sloan Kettering Cancer Center	https://www.mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine	3.00	2.50	4.50	3.00	3.00	4.50	1.50	1.50	4.50	3.50	3.00	1.00	2.50	5.00	5.00	3.00	0.00	48.00
Breast Cancer Now	https://breastcancernow.org/	2.50	2.50	4.00	1.00	3.50	4.50	3.50	2.50	4.50	4.00	3.00	1.00	1.50	5.00	5.00	3.50	0.71	48.00
Penn Medicine	https://www.pennmedicine.org/	3.50	3.50	4.50	1.00	1.00	4.00	3.50	1.50	3.50	3.00	2.50	1.00	5.00	5.00	5.00	3.00	0.00	47.50

University of Texas Southwestern Medical Center	https://utswmed.org/	2.50	2.50	5.00	1.00	3.00	3.50	2.50	2.50	3.50	3.50	3.50	1.50	2.50	5.00	5.00	3.00	0.00	47.00
GO2 for Lung Cancer	https://go2.org/	3.50	2.50	4.50	1.00	1.00	5.00	4.50	2.50	4.00	2.50	3.50	1.00	1.00	5.00	4.50	2.50	0.71	46.00
Cancer Insititute NSW	https://www.cancer.nsw.gov.au/	3.00	3.00	4.50	1.00	1.00	4.50	5.00	1.50	3.00	3.00	3.00	1.00	2.50	4.50	5.00	2.25	0.35	45.50
Dana-Farber Cancer Institute	https://www.dana-farber.org/	3.50	3.50	3.50	1.00	1.00	3.50	3.50	1.50	4.50	4.00	2.50	1.00	3.50	4.50	3.50	3.00	0.00	44.50
GenesisCare	https://www.genesiscare.com	3.50	3.50	3.50	3.00	2.50	3.50	2.50	1.00	3.50	3.50	3.00	1.00	3.50	4.50	2.50	3.00	0.00	44.50

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Fred Hutch Cancer Center	https://www.seattlecca.org/	3.00	3.00	3.00	1.50	1.00	4.00	5.00	2.00	4.00	3.00	2.50	1.00	3.00	4.50	3.50	2.75	0.35	44.00
Blood cancer United Kingdom	https://bloodcancer.org.uk/	2.50	2.50	4.50	1.50	1.50	4.50	2.50	2.00	3.50	1.50	2.50	3.50	1.50	5.00	4.50	2.50	0.71	43.50
Centers for Disease Control and Prevention	https://www.cdc.gov/	2.50	3.00	4.00	2.00	1.50	4.50	5.00	1.50	2.00	1.50	4.00	1.00	1.00	5.00	5.00	3.00	0.00	43.50
Dr. Axe	https://draxe.com/	3.50	3.50	3.50	3.00	3.50	2.50	1.50	1.50	3.50	5.00	1.50	1.00	3.00	4.50	2.50	3.00	0.00	43.50
ThedaCare	https://thedacare.org/	2.50	2.50	3.50	2.00	3.00	4.50	1.50	3.00	2.50	3.00	3.00	1.00	3.00	3.50	5.00	2.75	0.35	43.50

Immunity Therapy Center	https://www.immunitytherapycenter.com/	3.00	2.50	3.00	3.50	3.50	4.50	2.50	1.00	2.50	3.50	2.50	1.00	2.50	4.50	3.00	3.00	0.00	43.00
Sunnybrook Health Sciences Center	https://sunnybrook.ca/	3.00	3.50	4.00	1.00	1.00	5.00	2.50	1.50	3.00	3.00	3.00	1.00	1.00	5.00	5.00	2.50	0.71	42.50
British Society for Integrative Oncology	https://www.bsio.org.uk/	3.50	3.00	3.50	3.50	3.50	4.00	1.50	1.50	3.00	4.50	2.50	1.00	2.50	2.50	2.50	2.50	0.71	42.50
The Crown Princess Mary Cancer Centre,	http://www.sydnewestcancer.org/	2.50	2.50	4.50	2.00	1.50	4.50	5.00	1.50	3.00	1.50	1.50	1.50	1.00	5.00	4.50	2.50	0.71	42.00

West mead																		
Guy's and St Thomas' NHS Foundation Trust	https://www.guysandstthomas.nhs.uk/	3.50	3.50	4.00	1.00	1.50	2.50	3.00	1.00	3.50	4.50	2.50	1.00	2.50	5.00	3.00	2.25	0.35	42.00
University of California San Francisco Osher Center for Integrative Health	https://osher.ucsf.edu/	4.50	4.00	2.75	2.50	3.50	3.00	4.50	1.50	2.00	4.50	1.50	1.00	1.00	3.00	2.50	2.25	0.35	41.75
Dr. Sean Ceaser Naturopathic Docto	https://drceaser.com/	3.50	3.50	3.50	2.50	1.00	2.50	1.50	1.00	4.00	4.00	1.50	1.50	2.00	5.00	4.50	2.50	0.71	41.50

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The University of Texas MD Anderson Cancer Center	https://www.mdanderson.org/	3.00	3.00	3.50	1.50	1.00	4.50	2.50	1.50	4.00	3.50	3.50	1.00	1.50	4.50	3.00	3.00	0.00	41.50
Emory Winship Cancer Institute	https://winshipcancer.emory.edu/index.html	3.50	3.50	3.50	1.00	1.00	4.50	3.50	1.50	2.00	4.00	1.00	1.00	4.00	3.50	2.50	2.75	0.35	40.00
University of North Carolina Lineberger Comprehensive Cancer	https://unclineberger.org/	4.00	3.00	4.50	1.00	1.00	2.50	4.00	1.50	2.50	4.00	1.50	1.00	2.00	4.00	2.50	2.25	0.35	39.00

Center																		
Melbourne Integrative Oncology Group	https://www.miog.com.au/	3.50	3.50	3.00	1.00	1.50	3.50	1.00	1.50	3.00	5.00	2.00	1.00	2.50	3.50	2.50	2.75	0.35	38.00
Harvard Health Publishing	https://www.health.harvard.edu/	1.50	2.00	3.00	2.00	3.50	3.00	1.50	2.50	2.50	1.50	2.50	1.50	1.00	4.00	4.50	2.00	0.00	36.50
University College London Hospitals	https://www.uclh.nhs.uk/	2.50	2.50	2.50	1.00	1.00	3.50	4.50	1.50	2.50	3.00	1.50	1.00	1.50	3.00	2.50	2.25	0.35	34.00
Total Means		**3.43**	**3.24**	**4.06**	**2.36**	**2.66**	**4.20**	**3.36**	**2.02**	**3.68**	**3.52**	**3.01**	**1.34**	**2.58**	**4.55**	**4.25**	**3.11**	**0.33**	**48.28**
Total Standard Deviations		**0.78**	**0.71**	**0.69**	**1.53**	**1.44**	**0.73**	**1.33**	**0.72**	**0.88**	**1.01**	**1.01**	**0.77**	**1.06**	**0.61**	**0.97**	**0.66**	**0.29**	**7.32**